



# The 14th SANORD International Conference

## Theme

**Finding Solutions: The Nexus Between Sustainable Development Goals (SDGs) and South-North Partnerships: Prospects, Challenges, and Successes during the COVID-19 Era.**

**05-07 December 2022**

University of Limpopo, Polokwane, South Africa





## VISION:

To be a leading African University focused on the developmental needs of its communities and epitomising academic excellence and innovativeness

## MISSION:

A University which responds actively:

- To the development needs of its students, staff and communities,
- Through relevant and higher quality education and training, research and community engagement, and
- In partnership and collaboration with its stakeholders.

## VALUES:

- Accountability
- Transparency
- Integrity
- Academic Freedom
- Excellence and Professionalism

# 2022 SANORD LOCAL ORGANISING COMMITTEE

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Thembinkosi Mabila

## SECRETARIAT

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Buliswa Msana  
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## BRAND AND MARKETING

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## GRAPHIC DESIGNER

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Mr Hlabane	Alfred Sipho
Ms Jithoo	Divinia
Prof Kufaine	Noel Prof
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Ms Kagaigai	Alphoncina Kagaigai
Mr Christopher	Mbotwa
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Mr Jairous	Miti
Ms Karen	Ferreira-Meyers





# Preamble

**Prof Mahlo Mokgalong**  
Vice-Chancellor and Principal -  
University of Limpopo

Not only are we proud to bring together think tanks under one roof, but the theme of this gathering resonates well with our ambition to internationalise our University while remaining relevant in our environs. This simply means that we are tackling Africa's most pressing issues, which have a global impact.

But here's how our narrative goes, which is replete with bittersweet, watershed moments. We are a University that was founded in 1959 as a University College of the North as part of the apartheid regime's policy of separate ethnically-based institutions of higher learning. The College then served marginalised Sotho, Venda, and Tsonga communities. Despite the fact that it was established for segregation purposes, the diversity has since shaped unity among these groups, which were later collectively identified as Sovenga— the first two letters of Sotho and Venda words, as well as the last three letters of Tsonga.



Since then, we have come to embrace diversity and take a multifaceted approach to our daily interactions in academia. Against this backdrop, hosting this prestigious conference as a University validates our audacious vision of *"Finding Solutions for Africa."* We recognise that our geographical location in the far north of the country, in the second poorest province, challenges us to go above and beyond in our academic endeavour. As a result, our core business involves community engagement in order to improve our engaged research and include the voice of our communities in our quest for a better South Africa.

The theme of this conference, *"Finding Solutions: the Nexus between SDGs and South-North Partnerships: Prospects, challenges and successes during the COVID-19 era."* fits perfectly with our drive to become a world-class African university that is deeply rooted in finding globally sound solutions. We hope that by attending this conference, we will be able to expand our collaborations and participation as SANORD, and that we will be able to find protracted solutions together. As I welcome you to this part of the global south, the African proverb "He who does not know one thing knows another" rings true.

Everyone knows something, but no one knows everything. The global nature of the Sustainable Development Goals (SDGs) demonstrates that the world is facing similar challenges regardless of where one is on the compass.

We are all confronted with and grappling with issues such as inequality, insufficient energy storage, poor access to clean water and sanitation, decent work, sluggish industrialisation, and climate change. This is a time and chance to exchange solutions over the next three days, but it should not be the end of your discourse; instead, go on to create strong partnerships. "Rain does not fall on one roof alone," as Africans say, we need one another. This conference's proceedings are a festival of South-North innovation, and I want to believe they will resonate with Henry Ford's words that "coming together is a beginning, staying together is progress, and working together is success."

Welcome to sunny South Africa and the ever-diversified Limpopo Province, especially the Capricorn region. In both a literal and academic sense, the setting has positioned the University as a gateway to and from Africa. Our province literally shares borders with three countries: Mozambique, Zimbabwe, and Botswana. Again, we share borders with three provinces: the North-West, Gauteng, and Mpumalanga. Academically, we have grown into an integrated top-tier centre of excellence, having been the first institution in South Africa to establish a medical school since the country's democracy in 1994. This complemented our engaged research of over two decades of longitudinal studies on disease burdens, which now reaches over 100 000 people per year.

Our new Water and Sanitation programme was established in response to water challenges, and it is intended to directly contribute to the government's efforts to provide clean water to all of its citizens. We also launched a cathode materials centre - South Africa's first pilot plant in manganese beneficiation - which is a R30 million investment to tap into the manganese ore reserves and energy storage. South Africa possesses 80% of the global high-grade manganese ore reserves; this resource is a huge potential contributor to mineral beneficiation in the country.

Equally making notable strides is our Centre for Climate Change and Sustainability, which continues to engage in groundbreaking research in the pursuit of positive climate action. This is just a subset of a concerted effort towards sustainable development.

Another African proverb says, "If you want to know the end, look at the beginning." We see this conference as the beginning of a long-term exchange of innovation with our South and North counterparts. As a University, we look forward to engaging with all of you and exchange expertise that will shed light on the path to the SDGs' Agenda 2030 targets.

Have a wonderful time in the City of Stars!



# Foreword



**Dr Thembinkosi Mabila**

Chairperson: Local Organising Committee

Welcome to the 14th SANORD International Conference, hosted by the University of Limpopo (UL). This year's conference will have the theme *"Finding Solutions: The Nexus Between Sustainable Development Goals (SDGs) and South-North Partnerships: Prospects, Challenges, and Successes during the COVID-19 Era."*

The COVID-19 pandemic exacerbated and comprised the previously existing inequalities: hunger, poverty, unemployment, and quality education, to mention a few.

Nonetheless, the University continued to conduct cutting-edge research that advances the knowledge project and contributes to the resolution of African and global challenges, including COVID-19.

This is part of ensuring that UL's new and existing international partnerships (particularly with other African states) are optimised in order to infuse intercultural and global dimensions to teaching and learning, research and community engagement in order to give meaningful

expression to our motto, *"Finding Solutions for Africa."* For instance, the University has recently formed strategic partnerships with Sussex University, Nottingham Trent (UK), the University of Bern (France), and the University of Makerere (Uganda); purchased and installed ultra-high performance liquid chromatography-MS/MS (UHPLC-MS/MS); and received the SAMRC award for research on TB Drug Discovery Hit to Lead Optimization.



The University has established new research chairs, including the SENTECH Research Chair, MRC- NRF Research Chair in Mental Health and Society, and the UL-NRF Research Chair in Schools as enabling environments.

More than that, the University also uses several facilities and research centres such as an experimental farm, greenhouses, laboratories, an agro-food processing station, Centre for Rural Communities Empowerment, an aquaculture facility, and a GIS laboratory, which strive to provide quality education and are aligned with the SDGs.

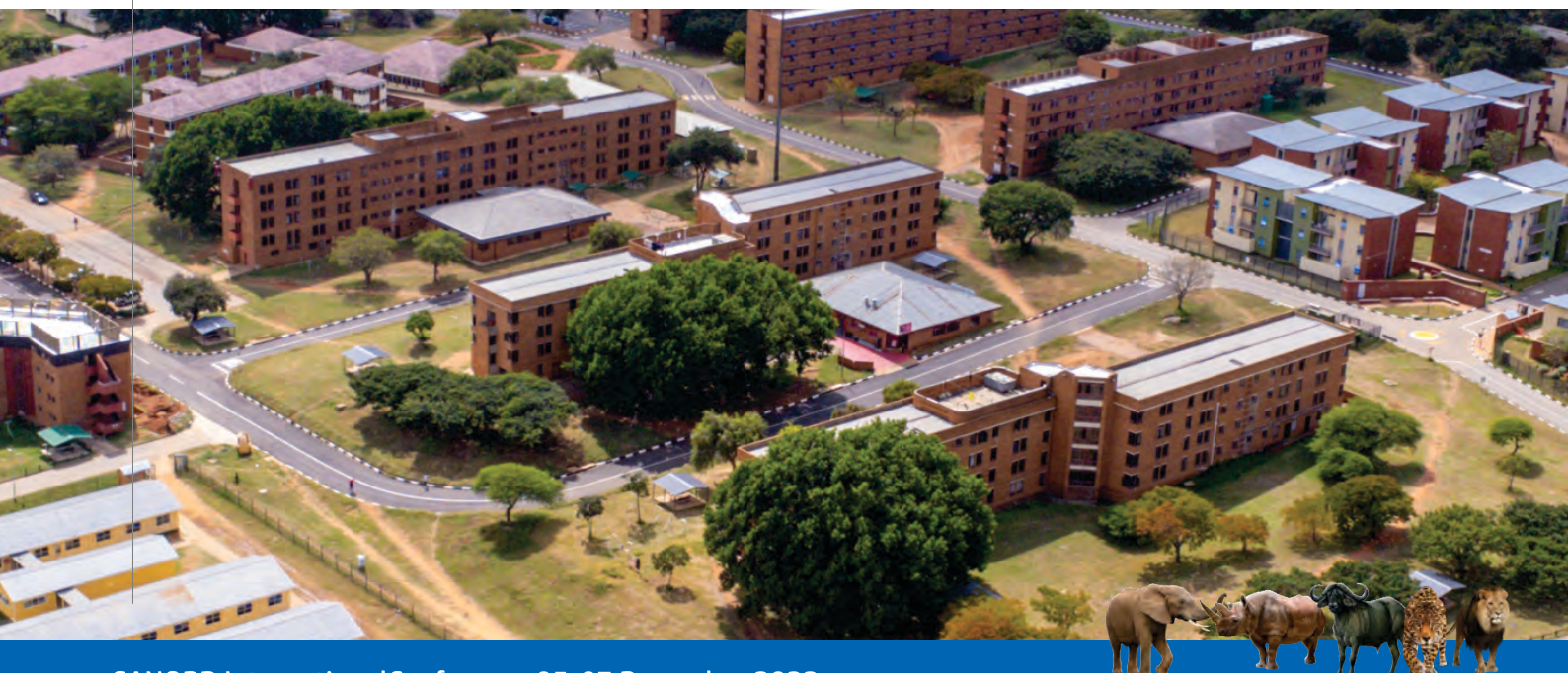
This year's conference brings over 150 participants, coming from different countries across the globe, to address sustainable development and the United Nations' SDGs through joint activities of research, education, and other activities relevant for the member institutions.

This is also part of SANORD's mission, which is to stimulate multilateral research and innovation. This is achieved through researchers who team up across institutional, disciplinary, and national boundaries. The researchers identify academic fields and research topics where sharing of resources and expertise will expand the capacity and achievements of each member.

Through this platform, the University strives to solidify its position as a member of this dynamic organization and allow UL researchers involved in specialty areas connected with SANORD's focus areas to closely explore new areas of collaboration and partnerships.

Most significantly, we hope that during your stay at this conference, emerging researchers who in the past struggled to gain access to international platforms will have the opportunity to interact with a diverse range of scholars from the Southern African Community as well as those from Nordic countries.

Once again, welcome to the 14th SANORD international conference. We hope that this conference will result in the formation of new partnerships and collaborations necessary to catalyse societal needs.



# Message from Central Office



**Pro Rector Gro Anita Flaten**  
SANORD Chair



**Umesh Bawa: Director**  
SANORD Central Office

Welcome to the 2023 SANORD Conference in Limpopo, South Africa. It is a distinct honour for us to host you for deliberations, robust engagements, and conversations in this beautiful part of the country.

The 2022 SANORD Conference extends the boundaries of collaboration between the Nordic and Southern African research and scholarly communities.

SANORD's focus on the UN Sustainable Development Goals (SDGs) extends its mission of bringing together a diversity of minds in pursuit of a common goal for the public good. This aligns with the vision of a just world and a healthy, sustainable planet.

The privilege and opportunity to meet and share knowledge, experience, and comradeship in the service of humanity after a long pandemic cannot be underestimated.

Universities play a central role in our societies, and as scholars, we have the responsibility to encourage a better life for all.

In SANORD, we embrace this fact and investigate ways of working together to widen our perspectives and enhance our impact.



The questions we want to address at this conference concern how the challenges we face can be met with evidence-based actions and knowledge that is globally owned and shared, where there is equity in all domains and a respect for difference and universal human rights.

Over SANORD's long history, it has epitomised a confluence of commitment and mutual respect across continents and cultures. It has trumpeted its opposition to oppression and any attempt to foreground differences across race, sexuality, gender, and class lines in a principled and ethically clear manner.

It continues to champion sustainability, affability, collegiality, and solidarity in all its engagements.

SANORD has a strong foundation that can be further built upon to drive an agenda of hope beyond adversity, excellence beyond intellectual obfuscation, and a compassionate collaborative ethos sorely needed in this sometimes intolerant and inhospitable world.

Even though we have all lost so much during the pandemic, we have still managed to hold onto the hope of a better and fairer future. Let us continue to inspire the next generation of academics, researchers, and scholars to meet the challenges of the future with vigour, thoughtfulness, and kindness. Together, we can do this with much success.

**Do enjoy the conference and our time together.**





# PROGRAMME

## 2022 The 14th SANORD International Conference

### Theme

**Finding Solutions: The Nexus Between Sustainable Development Goals (SDGs) and South-North Partnerships: Prospects, Challenges, and Successes during the COVID-19 Era.**

**05-07 December 2022**

University of Limpopo, Polokwane, South Africa



University of Limpopo @ULVarsity



<b>Sunday, 4 December 2022</b>		<b>Venue</b>		
14h00-18h00	<b>REGISTRATION</b>	<b>Makhulu Hall</b>		
14h00-15h30	<b>SANORD LOC + CENTRAL OFFICE MEETING</b>	<b>Day Lily</b>		
16h00-18h00	<b>SANORD STRATEGY MEETING</b>	<b>Excalibur</b>		
<b>Monday, 5 December 2022</b>		<b>Venue</b>		
8h00 - 9h00	<b>Registration of Delegates</b>	<b>Makhulu Hall</b>		
9h00 - 9h25	<b>Welcome and Opening of Conference</b> <b>Chair:</b> Prof R.J Singh, DVC: Research Innovation and Partnerships, University of Limpopo <b>Opening Address:</b> <ul style="list-style-type: none"> <li>• Prof Mahlo Mokgalong, Vice-Chancellor – University of Limpopo</li> <li>• Gro Anita Foness Flatten, SANORD BOARD Chairperson</li> <li>• Umesh Bawa, SANORD Central Office</li> <li>• Thembinkosi Mabila, SANORD LOC Chairperson</li> </ul>			
9h30 - 11h00	<b>Panel Discussion</b>  Finding solutions: the nexus between SDGs and South-North partnerships –Challenges and Successes: During the covid-19 era  <b>Moderator:</b> Dr Henri-Count Evans  <b>Panelists:</b> Hopi Mboweni, Johannes Maree, Sten Hagberg, Jussi Jauhiainen, Vibeke Vågenes	<b>Makhulu Hall</b>		
11h00 - 12h00	<b>3MT Competition</b> <b>Chair:</b> Irinja Paakkanen <ul style="list-style-type: none"> <li>• Vulnerabilities of African digital platforms in the wake of rapid internationalization - <b>IA Ochieng</b></li> <li>• Monitoring dustiness on gravel roads - <b>K Mbiyana</b></li> </ul>			
<b>Venue</b>	<b>Merlin 2</b>	<b>Georgian</b>	<b>Garden</b>	<b>Day Lily</b>
12h05-13h30	<b>Workshop 1</b> South-North Collaboration : Teaching climate and climate change – how should we do it? – <b>E Eidsvik &amp; S Manik</b>	<b>Workshop 2</b> Tools for intercultural learning – <b>E Kvaale, K Frydenlund, D Jithoo, L Samuels &amp; T.S Kittelsen</b>	<b>Workshop 3</b> The multiplicity of mathematical and artistic concepts and transdisciplinary creativity evidenced in students' works created for South African Mathart Competition – <b>K Fenyvesi, P Burnard, W Olivier, C Steyn, C.S Brownell &amp; Z Lavicza</b>	<b>SANORD Contact Persons Meeting</b>



13h30-14h15	<b>LUNCH: Safari Hall</b>			<b>13h30-15h00 Excalibur boardroom</b>	<b>Rector's/VC's Lunch - by invitation</b>	
Venue 14h15-17h35	<b>Makhulu Hall</b> <b>Chair:</b> Dr S Bhebhe	<b>Merlin 2</b> <b>Chair:</b> Mr S.A Hlabane	<b>Georgian</b> <b>Chair:</b> Ms D Jithoo	<b>Garden</b> <b>Chair:</b> Prof N Kufaine	<b>Day Lily</b> <b>Chair:</b> Ms L Liebenberg	<b>Rose Room</b> <b>Chair:</b> Dr Y Malele-Kolisa
14h15-14h35	Behind digital innovations - <b>M.J Svensson</b>	Supporting students and advisors with thesis process digitalisation - <b>S David, A Lagstedt, I</b>	African Higher Education: Focus on local context - <b>G.Y Abraham</b>	Innovation and collaboration in electric vehicles, energy systems, and charging	Second-hand clothing: Thrifting, cosmopolitanism and sustainable development in South Africa -	Food safety knowledge and attitudes of consumers of street-vended food in Thulamela municipality,
		<b>Leite &amp; C Da-Costa</b>		infrastructure - <b>J.K Leijon</b>	<b>Seedat A.A &amp; Becker H</b>	South Africa - <b>M.A Mathaulula, J Francis, M Mwale &amp; A.I.O Jideani</b>
14h35-14h55	Zambian higher education as a contributor to solutions for global change? A civic education perspective - <b>G Muleya &amp; A Haugen</b>	Developmental origins of Adult Health and Disease (DOHaD): A cohort study comparing weight gain as a cardiometabolic risk factor in children exposed to smoking and alcohol in utero, in low socioeconomic setting in South Africa - <b>T.M Nyamurowa</b>	Building international collaborations that are resilient and sustainable: How the Swedish-South African collaboration SASUF increased collaborations to jointly find solutions in line with the sustainable development goals - <b>H.B Kartal</b>	Global energy transition – search for research collaboration in the field of renewable fuels and energy conversion - <b>M Lundgren</b>	Sustainable development in sport schools - <b>T.R Petersson, L Leach, S Talien &amp; P Wollmer</b>	Short-scale variability characterization of solar irradiation in conditions of intermediate-sky - <b>F. V Mucomole</b>
14h55-15h15	When should countries discontinue intermittent preventive treatment against malaria in pregnancy? A cost effectiveness analysis - <b>A.T Chamani, A Mori &amp; B Robberstad</b>	The impacts of peri-urban expansion on municipal and ecosystems services: Experiences from Makhado Biaba Town - <b>N Ekelund, E Ingwani, L.R Gurero, T, Gumbo, V Nel, M Thynell &amp; P Schubert</b>	Education, health and gender-menstruation as barrier for girls' education? A case from Tanzania - V Vågenes, C Grevstad & M Stave	The role of professional development in the diffusion of steam in the South African schools - <b>C Steyn, T Morar &amp; W Olivier</b>	Nurses' antiretroviral therapy prescribing practices in children initiated and managed in public primary health care clinics, Mopani district, Limpopo province – <b>L.N Mabila</b>	Public-Private Partnerships for infrastructure projects in Africa - <b>R Owusu</b>



15h15 – 15h40	<b>Tea break: Safari Hall</b>					
<b>Venue</b> 15h40-16h55	<b>Makhulu Hall</b>  <b>Chair:</b> Mr J Mesuwini	<b>Merlin 2</b>  <b>Chair:</b> Ms A Kagaigai	<b>Georgian</b>  <b>Chair:</b> Mr C Mbotwa	<b>Garden</b>  <b>Chair:</b> Mr C Sichimwa	<b>Day Lily</b>  <b>Chair:</b> Ms P Maija	<b>Rose Room</b>  <b>Chair:</b> Mr J Miti
15h40-15h55	Incorporating Ubuntu Principles in the Tutor Training Programme to Promote Academic Success and Wellbeing - <b>S.A Hlabane</b>	Discourses of sustainability, migration and culture production in South African geography textbooks - <b>L Leer</b>	Creating enabling environments in Sweden and in South Africa for children in care. A report from a joint workshop on children's participation in October 2021 - <b>M.L Lindahl &amp; L Mossberg &amp; P Nykänen</b>	Finland-Africa Platform for innovation (SDG 9): Innovative South-North Collaborations - <b>P Le Grand &amp; J Jauhiainen</b>	Drivers and challenges for the implementation of new diagnostic technologies for bacterial infections in different healthcare settings in Southern African and Nordic countries - <b>C.O Lindahl</b>	Indigenous coping strategies on water provision towards the impacts of erratic rainfall in the rural community of Moletji, Limpopo province, South Africa - <b>T.R Modise</b>
16h15-16h35	In-service teachers' perceptions towards the use of indigenous materials and activities in the teaching and learning of Secondary School Mathematics - <b>N Mkwelie &amp; Z Zanamwe</b>	Technical teacher professional development strategies: Mediating 4th Industrial Revolution - <b>N Kufaine</b>	Can indigenous medicines be a catalyst toward achieving SDG3? Communities' construction and appropriation of indigenous medicines during the covid-19 era in Eswatini – <b>V Mthembu</b>	Mapping AI-driven period tracking transnational ecosystem and stakeholder participation in Zimbabwe - <b>D Munetsi</b>	Co-innovation of an affordable and effective cardiopulmonary (CPR) resuscitation training solution for Africa - <b>S Salantera, D.T Kahsay, M Tommila &amp; L.M Peltonen</b>	Developing students entrepreneurial learning adaptability through cross-cultural learning – <b>I.B Pettersen, E Kubberod, E van der Lingen, B.W Amo, J.J, Bragelien &amp; K.H Voldsund</b>
16h35-16h55	Integrating indigenous knowledge systems: possibility or illusion? - <b>S. Morobolo, C. Molebatsi &amp; O. Romice</b>	Student - teachers perceptions of the benefits of an internship abroad programme – <b>A Lee, G Stordal, H Følstad &amp; A Mosling</b>	Learning Narrative Competence: Qualitative Evaluation of Social Work and Health Care Professionals' Experiences of Participating in A Reflective Writing Intervention – <b>E.T Renko &amp; J Valtonen</b>	Research funding support role for enhancing North-South Cooperation - <b>V Myllynpää</b>	Exploring students' value creation and contribution to sustainable development in an internship course – <b>J.J Bragelien, K.H Voldsund, &amp; I.B Pettersen</b>	The impact of global influence on higher education in South Africa - <b>M.S Rabodiba</b>



17h05-18h50	<b>SANORD Board Meeting: Excalibur Boardroom</b>
18h50-20h30	<b>WELCOME COCKTAIL/NETWORKING SESSION Lapa (Pool)</b>

<p><b>Programme Director:</b> Mr Victor Kgomoewana, Director: Marketing and Communications, University of Limpopo</p> <p><b>Welcome Address:</b> Mr Nape Nchabeleng, Director-General: Limpopo Province</p> <p><b>UL Representative:</b> Prof RN Madadzhe, DVC - Teaching and Learning</p>
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Tuesday 6 <sup>th</sup> December 2022						
7h30-8h00	Registration of Delegates					Makhulu Hall
08h00 - 08h45	<p><b>Plenary:</b> Can collaboration replace competition: the role of higher education institutions in contributing to impacting society through SDGs</p> <p><b>Speaker:</b> Prof Jose Frantz, DVC: Research and Innovation, University of the Western Cape</p> <p><b>Chair:</b> Prof Omphemetse S. Sibanda, Executive Dean: Faculty of Management and Law, University of Limpopo</p>					
Venue : 08h50 - 10h10	Makhulu Hall Chair: Mr A Seedat	Merlin 2 Chair:Ms. A Chamani	Georgian Chair: Mr N Mkwelie	Garden Chair: Mr T Modise	Day Lily Chair: Dr N Mabila	Rose Room Chair: Dr L Muthelo
8h50 – 9h10	En route to a sustainable future through quality education – <b>S David</b>	Temporal Local Variability of Solar Energy in Short Scale – <b>F.V Mucomole</b>	Language and popular culture in After Tears, Room 207 and Coconut - <b>N. T Nichols</b>	Dirisan+: A multinational-collaborative project on improving undergraduate student learning experiences in post COVID-19 era – <b>A.L Vainio, E Abbe, A Duplessis, S Lipinge, H Burger &amp; O Kortekangas-Savolainen &amp; M Erasmus</b>	TVET lecturer learning through industry meetings: Work-integrated learning experience - <b>I Mesuwini &amp; K. L Thaba-Nkadimene</b>	Technology integration into in-service teacher professional development in higher education institutes in South Africa and Eswatini - <b>S Bhebhe</b>



9h10 – 9h30	Efficient SDG fulfillment for regions in transition: Linking society to research addressing development challenges - <b><i>P Sundin, R Waters, P Sävblom, M Cedercrantz, D Bergquist, S Urenje, B.O Turesson, U Ouline</i></b>	Integrating indigenous knowledge systems into environmental conservation policies and programmes: A missing sustainable environmental resources conservation approach for Lesotho – <b><i>T.A Rantšo</i></b>	Assessing the role of indigenous climate forecasting systems in building farmers' resilience in Nkayi District, Zimbabwe – <b><i>D Nyathi</i></b>	Blended learning in higher education in the era of Covid-19 and implications for 4IR: The case of a selected state University in Zimbabwe - <b><i>S Naidoo</i></b>	Higher Education for Sustainable Development: Actioning agenda 2030 global goals in policy and curriculum – <b><i>G Shava</i></b>	Global collaboration in research and higher education within Dentistry-challenges and experiences - <b><i>M Nordström, U Lindmark, A Kearney, Y Malele-Kolisa, D Mtyongwe, TRMD Ralephenya &amp; P Sodo</i></b>
9h30 – 9h50	Discourses of development as markers of national identity: a Tanzanian educational perspective - <b><i>A.D.F Haugen</i></b>	Mapping research on sustainable development goals and higher education: A bibliometric analysis - <b><i>E Henri-Count &amp; T.E Mabila</i></b>	Social Protection in Africa: A Focus On Gender Equality And External Shocks - <b><i>S Atkins, J Tiitto, J Pajula, E Kervinen, J Miti, P Nhassengo. M Perkiö &amp; M Koivusalo</i></b>	Innovative pedagogical m-learning practice for teaching mathematics with geogebra applets - <b><i>W.A Olivier</i></b>	Teaching for social justice and health in 'life orientation' and physical education and health' – a comparative study - <b><i>K Schenker, A Kitching, S Linner, G Gerdin, K Lundin &amp; L Botha</i></b>	The conservative and modern traditional health practitioners (THPS): An Indigenous Knowledge System (IKS) perspective from Vhembe District, Limpopo Province of South Africa - <b><i>T.M Risimati</i></b>
9h50-10h10	Breaking the Norm: Conducting a needs analysis for a literacy intervention strategy, Capricorn District - <b><i>E.S Chuene, K.N Maswanganyi, T.W Molotja &amp; S Ndlovu</i></b>	Decolonizing research methodologies: joint field research and re-imagined South-North collaboration - <b><i>S Hagberg</i></b>	The role of foreign cultural institutes in higher education in Africa - <b><i>L.R.K Laakso</i></b>	Keeping participants involved in the cote programme – <b><i>K. Ferreira-Meyers</i></b>	Instructional leadership in literacy in the foundation phase of primary schools during Covid-19 pandemic, Capricorn district, South Africa: A needs analysis.- <b><i>M.W Seshoka, L.T Mabasa &amp; M.L Mahlatji</i></b>	Sustainable entrepreneurship, identity and context: A case study of Norwegian and South African entrepreneurs  <b><i>O.C Rykkje I.B Pettersen &amp; Ø.S Høvig</i></b>



<b>10h10 - 10h30</b>	<b>Tea break: Safari Hall</b>					
<b>10h35 - 11h25</b>	<b>Plenary:</b> “Knowledge for action -knowledge driven action. How can SANORD contribute to the UN sustainable agenda”. <b>Panelists:</b> Are Straume and Tor Halvorsen <b>Chair:</b> Prof Tebogo Mothiba, Executive Dean: Faculty of Health Sciences, University of Limpopo <b>Makhulu Hall</b>					
<b>Venue 11h30 - 13h10</b>	<b>Makhulu Hall</b> <b>Chair:</b> Dr N.V Mthembu	<b>Merlin 2</b> <b>Chair:</b> Prof G Muleya	<b>Georgian</b> <b>Chair:</b> Dr M.A Mulondo	<b>Garden</b> <b>Chair:</b> Dr L Samuels	<b>Day Lily</b> <b>Chair:</b> Mr E. Tapera	<b>Rose Room</b> <b>Chair:</b> Prof G.T Tati
<b>Tuesday 6<sup>th</sup> December 2022</b>						
11h30-11h50	Student mobility to and from Norway and Zambia, the role of an international student analysed by critical intercultural theories including white privileges - <b>A Bergersen &amp; P.B Massao</b>	Exploring the potential of the sharing economy for start-ups and early-stage business development: A Norway, South Africa comparative study - <b>K.W Ivankovic &amp; I.B Pettersen</b>	Open distance e-learning: the impetus for shaping the future of higher education in the context of Zimbabwe. - <b>A Mangena</b>	Catastrophic health expenditure and voluntary health insurance: Can community-based health insurance scheme reduce catastrophic health expenditure in rural Tanzania? - <b>A.P Kagaigai, A Mori, A Anaeli &amp; S Grepperud</b>	The prevalence of food insecurity at an institution of higher learning: The quantitative responses - <b>M.E Mashabela, M.E Rapetsoa &amp; B.M Selepe</b>	Hospitality sector: An analysis of hotel chains in Zimbabwe - <b>N Shereni, J Saarinen &amp; C.M Rogerson</b>
11h50-12h10	Age and sex dependent variability of type 2 dopamine receptors in the human brain: A large-scale PET cohort. - <b>T.K Malén</b>	Collaborative and online learning: Integrating decolonial cultures into hybrid forms of learning and mobility - <b>J Peter</b>	Pre-service teachers and their construction of diversity in the Araucania region - <b>L Leer</b>	Collaboration on mobile platforms for student and staff – self-help apps - must or need? Case study of NUST - <b>J.E Frans</b>	Gender and active citizenship: the analysis of teacher education - <b>P.B Massao, B.A Sheshe &amp; B.T Mkenda</b>	Higher education solutions for global change recruiting low-literate immigrants to a research project –lessons from Norway  <b>L Grinden &amp; L Botha</b>



12h10-12h30	Sustainable Development Goals and tourism: Research and education needs on sustainable tourism in Southern Africa – <b><i>J Saarinen, N Moswete, E Kavita &amp; D Abrahams</i></b>	Multicultural practicum groups. Internationalisation at home and away – <b><i>J Klein &amp; G Wikan</i></b>	Lecturers' understanding on the use of open educational resources (OER) in teaching and learning at the three South African universities  <b><i>R.J Setshedi</i></b>	Health resilience factors among dental carries-free adults in low socio-economic areas in South Africa; Pilot Project Plan - <b><i>Y Malele-Kolisa, TRDM Ralephenya, P Sodo, A Kerney, D Ntyongwe, M Nordström &amp; U Lindmark</i></b>	Evaluation of rural teachers use of technology in classrooms as a strategy towards bridging learners' technology underexposure  <b><i>I.N.K Senyatsi</i></b>	Covid-19 Rapid Impact Assessment on Domestic Workers In Zambia - <b><i>J Miti &amp; T Mponda</i></b>
12h30-13h20	<b>Lunch: Safari Hall</b>					
13h30-16h30	<b>Excursion</b>					
17h00-18h30	<b>SANORD Council Meeting: Day Lily</b>					
19h00-21h00	<b>Cultural Dinner: Bush</b> <b>MC:</b> Mr Moses Moreroa Speakers: Gro Anita Fonnes Flaten, SANORD Board Chairperson Prof Nonceba Mbambo-Kekana					



### Wednesday 7<sup>th</sup> December 2022

<b>7h30-8h00</b>	<b>Registration of Delegates</b>					
<b>08h00-09h00</b>	<b>Plenary: One Ocean Conversations: Reflections and Experiences</b>  <b>Moderator:</b> Umesh Bawa, University of the Western Cape, South Africa <b>Panelists:</b> Elin Kvaale, Malmö University Gro Anita Flaten, Western Norway University of Applied Sciences Norway Erlend Eindvik, Western Norway University of Applied Sciences, Norway Umesh Bawa, University of the Western Cape, South Africa  <b>Chair:</b> Prof Suzan Dippenaar, Department of Biodiversity, University of Limpopo					
<b>09h05-10h05</b>	<b>Makhulu Hall</b>	<b>Merlin 2</b>	<b>Georgian</b>	<b>Garden</b>	<b>Day Lily</b>	<b>Rose Room</b>
	<b>Chair:</b> Ms K Ferreira-Meyers	<b>Chair:</b> Ms M Mashabela	<b>Chair:</b> Ms M.S Rabodiba	<b>Chair:</b> Ms I.N.K Senyatsi	<b>Chair:</b> Mr A Mangena	<b>Chair:</b> Dr D Mtyongwe
9h05-9h25	Health system response during the covid-19: A comparison between Finland and South Africa – <b>H.M Tiirinki &amp; I.S Tenza</b>	Student teachers' experiences and cognitions on being an English teacher: A South African-Norwegian comparative study – <b>H.E Rimmereide</b>	The concept of sustainable development in Tanzanian and Norwegian education policies – <b>Ø.K Mellingen</b>	<i>Home Education In Soweto: Understanding The Context And Experiences Of Parents</i> – <b>R Ramroop</b>	Contribution of Zambian women in tourism to attainment of SDGS 1 and 5. – <b>C Sichimwa &amp; P Sakala</b>	Virtual technology for student active learning abroad – <b>A Lee, G Stordal, G lee &amp; M</b>
9h25-9h45	Treatment of flue gas desulfurization waste water with freeze crystallization – <b>A.L Tau, J.P Maree, A Adeniyi &amp; M.S Onyango</b>	Attempting at learning from indigenous knowledges to expand Cultural-Historical Activity Theory (CHAT) – <b>L Botha &amp; A Sannino</b>	The capacity development needs of research ethics committee administrators in South Africa: A survey – <b>M. A Mulondo</b>	Assessing the Impact of COVID on the SME Tourism Sector of Windhoek Using the Sustainable livelihoods Framework – <b>L Liebenberg &amp; I Green</b>	"Of mergers and integration of indigenous knowledge systems and scientific knowledge in the era of global neoliberalism: A recipe for epistemicide?" – <b>C.O Molebatsi, S. Morobolo &amp; G. Lethugile</b>	Mitigating and adapting to climate change impacts from an African perspective: The complementary role of climate science and local knowledge systems – <b>G Tati</b>



9h45 - 10h05	Storybooks Zambia and storybooks Norway: Multilingual digital stories for language and literacy learning – <b><i>D.S Mwanza, A M Danbolt &amp; E Stranger-Johannessen</i></b>	“There is death in the Pot”: Exploring African Indigenous Medicine Usage in the There is death in the Pot”: Exploring African Indigenous Medicine Usage in the Treatment of Diseases in the Vhembe Biosphere Reserve, Limpopo Province of South Africa - <b><i>SL Kugara &amp; TM Risimati,</i></b>	Recovery of CaCO <sub>3</sub> , Na <sub>2</sub> CO <sub>3</sub> and MgO from alkali earth metals - <b><i>C.P Mokgohloa</i></b>	Kindergarten adoption - A different internship! - <b><i>O.B Lysklett</i></b>	Implementing a Public Policy to extend social security to informal economy workers in Zambia - <b><i>J Miti &amp; M Perkiö, A.M.S Atkins</i></b>	Fostering Narrative Competence In Clinicians: A Course In Close Reading And Reflective Writing For Healthcare And Social Work Professionals – <b><i>J Valtonen</i></b>
10h05-10h20	<b>Tea break: Safari Hall</b>					
10h25-11h25	<b>Plenary:</b> Prof Mahlapahlapana Themane, Professor of Education: Enabling Schools Projects  <b>Chair:</b> Umesh Bawa, Director: SANORD Central Office/International Affairs Office, University of the Western Cape  <b>Venue: Makhulu Hall</b>					
11h30-12h30	<b>Makhulu Hall</b> <b>Chair:</b> Dr F Mucomole	<b>Merlin 2</b> <b>Chair:</b> Dr S Naidoo	<b>Georgian</b> <b>Chair:</b> Dr D Nyathi	<b>Garden</b> <b>Chair:</b> Ms T Ralephenya	<b>Day Lily</b> <b>Chair:</b> Prof T.A Rantšo	<b>Rose Room</b> <b>Chair:</b> Prof G Shava
11h30-11h50	Towards the Adoption of Indigenous Traditional Games in The School Curriculum, the Transition to Achieve Education for Sustainable Development in Education, the Zimbabwean Experience. – <b><i>E.M Tapera</i></b>	Student Teachers Professional Development and Identity During an Internship Abroad - <b><i>A Lee, G Stordal ,A Lyse, W Melvold &amp; K Nordaune</i></b>	One Ocean: Joining forces in the Classroom-  <b>E Eidsvik</b>	Decolonizing research methodologies: the question of language in international collaborations – <b><i>A.S.O Makkonen</i></b>	Academic remediation in medical education: A measure of equity and inclusivity: clinical educators perspective – <b><i>A.E Ugwuanyi, R Cooke, P Sodo &amp; S Pillay</i></b>	Case study of Namibian student-teachers' experiences of teaching – <b><i>G Wikan, C Alexander &amp; E Kirchner</i></b>



11h50-12h10	Diabetes health information kiosk for self-management education: A conceptual design - <b>C.J Orre, G Voster, D Boucher &amp; T Lindrotch</b>	Looking Back in Order to Move Forward in Driving The SDG 2030 Agenda: The UiB and UWC Partnership Experience - <b>K Svartveit &amp; L Mdleleni</b>	<i>Prevalence of Covid-19 vaccine hesitancy in a rural setting: A case study of DIMAMO Health and Demographic Surveillance site, Limpopo province of South Africa – L Muthelo</i>	Development's Disappearance: A Metaphor Analysis of Sustainable Development in Norwegian Core Curriculum - <b>I Tollefsen</b>		
12h15-13h00	Conference closure: Makhulu Hall					
13h00	Lunch and departure: Safari Hall					

<b>POSTER VIEWING</b> <i>The posters will be displayed/presented/viewed in the tea rooms (Safari Hall)</i>	
MONDAY	TUESDAY
Sharing is caring: A common digital resource pool for teaching about the sustainable development goals – <b>F Bengtsson &amp; S, Brokop</b>	Land Cover Classification of the Peri-Urban Expansion of Makhado Biaba Town, South Africa. - <b>M. Thynell, P. Schubert, N.G.A. Ekelund, E. Ingwani, L.R. Gurure, T. Gumbo &amp; V. Nel.</b>
Treatment of acid mine drainage with ROC process for the recovery of drinking water and saleable products - <b>M.H Moloto, J.P Maree, T.M Mogashane, M Mujuru &amp; M.M Mphahlele-Makgwane</b>	The capacity development needs of research ethics committee administrators in South Africa: A survey - <b>Mulondo M.A, Tsoka-Gwegweni J, LenkaBula P &amp; Chikobvu P</b>
Water-energy nexus and renewable energy sources for desalination: innovation for access to freshwater - <b>Leijon J.K</b>	El Sistema in Finland: behind the scenes – <b>Maija P</b>
Innovation incentives to promote equitable access to new antibiotics across different countries and healthcare settings - <b>Lindahl C.O</b>	Problematization of laboratorial teaching of the measurement of basic constants: weight, length and time - <b>Mucomole F.V, Tomo F, Massimbe G, Macassa E, Ubissee B, Matsinhe B &amp; Sultane V</b>



## PROGRAMME FOR SIGs

Venue: Makhulu Hall

Monday 5th December 2022	
12h00 – 13h30	<b>SIG 1- STEP: SANORD Teacher Education Partners:</b> Gerd Wikan, Erlend Eidsvik, Arorisoe Sibanda
14h00 – 15h30	<b>SIG 2- Equity, Africa and collaboration for the SDG's in the global South:</b> José Frantz, Roseanna Avento, Umesh Bawa
15h30 – 17h00	<b>SIG 3- Industry, Innovation and Infrastructure:</b> Pia le Grand, Jussi Jauhianen

Tuesday 6th December 2022		
08h00-09h30	<b>SIG 4: Capacitation, Empowerment and the Next Generation Scholar:</b> Irinja Parkinnen	
09h30 – 11h30	<b>SIG 5: Administration of Internationalisation: Best Practice:</b> Elin Kvaale	
11h30 – 13h00	<b>SIG 6: Tourism and the SDG's:</b> Jarkko Saarinen	
09h00 – 10h30	<b>SIG 7: School Meals Programmes- Zero Hunger and Quality Education:</b> Roseanna Avento	<b>Workshop 4</b> An inclusive approach to driving SDG's: Redefining the role of administration in higher education – <i>J Frantz &amp; E Kvaale</i>
11h30 – 13h00	<b>SIG 8: Creating an enabling environment for student innovation and sustainable enterprise development in the era of digitisation:</b> Mr Jimmy Mohale, Mr Thabo Lebelo	





# 2022 The 14th SANORD International Conference

## PANEL MEMBERS



# Department of Pedagogy, Religion and Social Sciences (HVL - Western Norway University of Applied Sciences)

Vibeke Vågenes, Associate  
Professor Geography  
Department of Pedagogy,  
Religion and Social Sciences  
(HVL - Western Norway  
University of Applied Sciences)

Associate Professor Vibeke Vågenes' research interests include education, girls, and menstrual health management in Tanzania; education for sustainable development; implementation of new knowledge in education; and Norwegian teacher students' practice teaching in the Global South, on which he has published nine book chapters and three articles. Coming from human geography and focusing on gender and development, primarily in eastern Sudan, Prof Vågenes moved to studies of development in a constructivist perspective at the University of Bergen. After a period at UoT, the Arctic University of Norway, with a research interest in local community development, Vågenes moved to teacher education at HVL, the Western Norway University of Applied

Sciences. At HVL, Prof Vågenes developed a focus on Tanzania. One perspective that links her activities in Tanzania is seeing society through education. Bringing Norwegian teacher students to Tanzania, including teaching practicum and practical studies of the local communities, is a central responsibility.

From 2017 to 2022, Prof Vågenes was leading the social science work package in a large research project funded by the Research Council of Norway. The project was a collaboration between HVL and the Patandi Teacher College of Special Needs Education, in Arusha, Tanzania. The project included competence building in the field of vision, vision problems, and children's learning. The social science WP followed and

reported on the implementation processes and how the new competences were implemented on different levels of the educational system.



**Vibeke Vågenes,**  
**Associate Professor Geography**





**Dr. Jussi S. Jauhiainen**  
Professor of Geography  
(University of Turku)

Dr. Jussi S. Jauhiainen is Professor of Geography at the University of Turku, Finland, and Visiting Professor at the University of Tartu, Estonia. His current research interests are innovations, sustainability and Metaverse. He

has published a book "Innovation for Development in Africa (Routledge, 2020, with Dr. Lauri Hooli) and articles about innovation systems, policies and indigenous innovations in Africa.



**Hopi Mboweni**  
Coordinator for Teaching,  
Learning and Assessment:  
Faculty of Humanities  
(University of Limpopo)

Hopi Mboweni, a Teaching Advancements at Universities (TAU) Fellow, is the Coordinator for Teaching, Learning and Assessment in the Faculty of Humanities at the University of Limpopo. His interests include tentacular teaching, rhizomatic learning and assessment, multi-modal just pedagogies, pedagogies of early childhood development, co-construction of safe and caring child-friendly environments, and pre- and in-service teacher education programme

development. He develops teaching and learning programmes. He conceptualised and led the development of the newly implemented BEd (Foundation Phase Teaching) programme. Currently, as the Faculty Coordinator for Teaching, Learning and Assessment, he works with different academics to review the BA programmes in the Faculty of Humanities. Mboweni and a New Generation Academic Programme (nGAP)-appointed lecturer recently developed a new BA (Gender Studies and History).





## Sten Hagberg

Professor of Cultural Anthropology  
Director of Forum for Africa Studies  
(Uppsala University)

Sten Hagberg is Professor of Cultural Anthropology and Director of the Forum for Africa Studies at Uppsala University. His more recent research concerns political culture, municipal democracy, local development, and popular struggle.

Since 2012, Sten Hagberg has led Uppsala University's Forum for Africa Studies, an interdisciplinary centre that aims to support higher education and research collaborations in, on, and with Africa. In that capacity, he was chairing the organising committee for the SANORD Conference at Uppsala University in September 2016.

Currently, Hagberg leads research programmes in Mozambique and numerous programmes in West Africa, most recently Burkina Faso (2018–22), Citizen Perspectives on Societal Challenges in Mali (2022–27), and Decolonizing Research Methodologies (2022–2025).

He is an associate senior fellow at the Stockholm International Peace Research Institute and a member of the Advisory Group of the Swedish International Centre for Local Democracy.

He is one of the Editors-in-Chief of *Kritisk etnografi*, the Swedish Journal of Anthropology, and Series Editor of Uppsala Studies in Cultural Anthropology of the Acta Universitatis Upsaliensis and of Uppsala Papers in Africa Studies. Moreover, Sten Hagberg is the founding Director of the Laboratoire d'Anthropologie Comparative, Engagée, et Transnationale (LACET), a research initiative founded by Burkinabe, Malian and Swedish colleagues to create a common research environment around engaged anthropology



## Prof Johannes Maree

Full Professor in water in the Department of Water  
(University of Limpopo)

Prof Johannes Maree is a Full Professor of water in the Department of Water. He worked at CSIR from 1976 to 2007, where he focused on the development of processes in the fields of neutralisation, chemical sulphate removal, and by-product recovery. Several publications, patents and full-scale plants resulted from his research. He retired in August 2015 after serving as the Rand Water Chair in Water Utilization at Tshwane University of Technology (TUT).

Prof Maree's name has become synonymous with the professions of chemistry and chemical engineering due to his outstanding contribution to science, engineering, technology (SET), and innovation over a nearly three-decade career.

After his career at CSIR and TUT, he founded the company ROC Water Technologies, where the focus was on the processing of mining wastes with the aim to recover drinking

water and saleable products such as magnetite, calcium carbonate, magnesium hydroxide, and sodium sulphate. The ROC (reverse osmosis/cooling) process is used for treatment and is protected by two patents (ROC process and magnetite recovery). In August 2018, he was appointed as Professor, Department of Water and Sanitation, University of Limpopo.

His current projects include (i) a WRC project where the ROC process needs to be demonstrated. During this project, iron-rich acid mine water is treated with the aim of recovering clean water and pigment. He is also involved in the THRIP project, where the focus is on the thermal processing of sodium sulphate, the waste product of the ROC process, to sodium carbonate, the raw material in the ROC process.





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# SANORD Conference 2022: Panel

Theme: *Finding Solutions: The Nexus between SDGs and South-North Partnerships - Challenges and Successes During the COVID-19 Era*

**Moderator: Dr Henri-Count Evans, University of Eswatini**

## Abstract

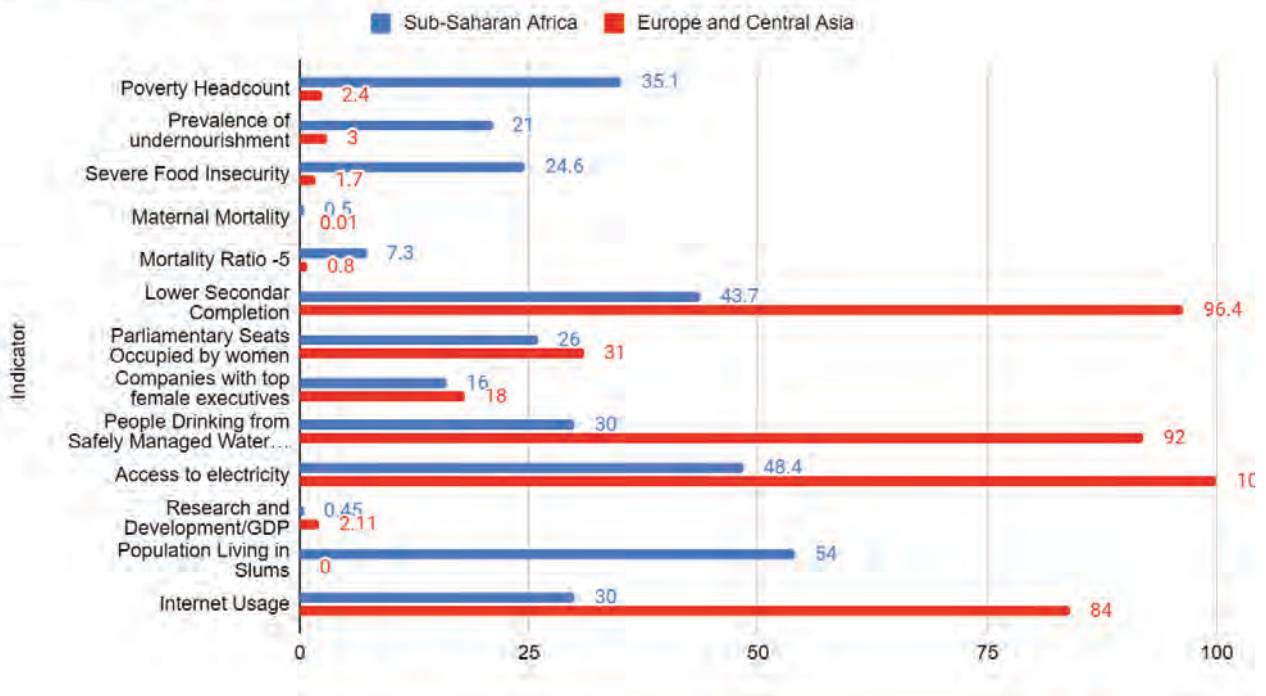
In September 2015, the United Nations adopted the Sustainable Development Goals (SDGs) as a successor to the Millennium Development Goals implemented between 2000 and 2015. The SDGs' ambition, consisting of 17 individual goals and 169 targets, seeks to address several developmental aspects, ranging from hunger, poverty, gender inequality, access to education, environmental concerns, and climate change. The emergence of the COVID-19 pandemic in 2020 delayed the race towards achieving SDG targets by 2030. The COVID-19 pandemic that has ravaged the world since February 2020 has scaled down economic development worldwide. Most developing countries had zero or negative GDP growth between 2020 and 2021 due to worldwide shutdowns of human movement and workplaces. These developments negatively impacted the achievement of the SDGs' ambition, noting that we only have eight years left to implement and achieve the goals. To rebuild global momentum and find solutions to global challenges, there is a need to discuss available avenues for accelerating sustainable development, primarily through south-north partnerships. Goal 17 asks for action meant to "strengthen the means of implementation and revitalise the Global Partnership for Sustainable Development." In this context, the UN realised that sustainable development could not be achieved with countries working in silos. Rather, tangible action towards achieving the other sixteen SDGs could only be taken through global partnerships and collaboration. In particular, Goal 17's target 17.6 puts the responsibility on higher education institutions as enablers of sustainable development through innovation, knowledge generation, and transfer.

Our 14th SANORD Conference theme speaks to the need for "finding solutions" to global challenges through South-North partnerships. This panel discusses what kinds of solutions are desirable for achieving global goals. Goal 17 puts higher education institutions at the centre of the SDGs. More importantly, if higher education institutions are to become the living-learning laboratories for our society, they need to be the engine through which solutions to all the SDGs are to be found. Universities have a central role in the implementation and achievement of SDG targets through innovative research, teaching, and community service. What can south-north partnerships do to scale up the implementation of the SDGs? Further, what is the role of higher education institutions in finding these solutions? How can partnerships between higher education institutions in southern Africa and their counterparts in northern Europe be used to find solutions and achieve the SDGs' ambition?

Data from the World Bank shows that least-developed countries, especially in sub-Saharan Africa, still face critical developmental challenges, including higher poverty levels and increased hunger, which are worsened by climate change and the COVID-19 pandemic. The chart below compares SDG indicators for sub-Saharan African, European, and Central Asian countries.



## Sub-Saharan Africa and Europe and Central Asia



### Healthcare and Education: Prof Vibeke Vågenes, Western Norway University of Applied Sciences, Norway

- Access to good healthcare, well-being and quality education are key indicators of sustainable development. World Bank data shows that richer countries have higher levels of access to quality healthcare and well-being, while countries in sub-Saharan Africa seem to be struggling with providing for these. For example, sub-Saharan Africa has higher mortality rates than more prosperous countries.
- With eight years to 2030, what should be done to accelerate access to quality healthcare and well-being?
- Education drives economic growth through innovation and building a solid human capital base. Further, as more people get educated, they also get more meaningful and well-paying jobs, thus lifting them out of poverty. Countries with higher education rates also have higher per capita GDP ratios for employed people.
- Goal 4 seeks to increase the number of children who complete primary, secondary and higher education worldwide.
- However, data from the World Bank shows that lower secondary education completion levels in sub-Saharan Africa are around 44 per cent compared to 96 per cent in Europe and Central Asia.
- In your view, why do we have these significant differences?
- With Covid-19-induced lockdowns that forced many schools to close, we have seen several studies pointing to poor adaptive frameworks in most African countries resulting in many students dropping out of school. The impacts of Covid-19 on education are tremendous.
- What solutions are available to enable more children in sub-Saharan Africa to complete their secondary education?
- Can south-north partnerships be the solution? What form and shape should these partnerships take?

### Re-imagining South-North collaborations in the era of the Fourth Industrial Revolution - Prof. Jussi Jauhiainen, University of Turku, South Africa

- Technological development and digital transformation are at the centre of global development. Goal 17 on partnerships targets to "enhance North-South, South-South, and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing".
- However, from the 1960s New World Information and Communication Order (NWICO) and the New World Economic Order (NWECO), European countries, as part of the global North, were accused by developing countries of systematically orchestrating neo-imperialism and the underdevelopment of 'periphery' nations that were dependent on the more prosperous countries for technology, knowledge and finance.
- These concerns are alive today regardless of the different



historical times. How can we charter new partnerships and collaborations that are truly mutual and based on relations of interdependence and respect?

- In the context of Southern African and Northern European countries, how can these two regions partner and collaborate in knowledge exchange and access to science and technology on mutually beneficial terms?
- What should be the form and nature of these partnerships?

**Teacher Education: towards generation 4.0 - Mr MJ Mboweni, University of Limpopo, South Africa**

- Modes of production and those of education are changing. The levels of change have remained scalar and differentiated mainly by the level of economic development.
- It has been suggested that to achieve many SDGs; countries need to leapfrog towards the Fourth Industrial Revolution (4IR).
- A relatively new term has entered the educational discourse, i.e., Education 4.0. What is it, and what does it mean for the world and teacher education?
- What is the level of 4IR in teacher education in the world today?
- There remain disparities between high-income and low-income countries concerning the levels of education innovation. Can education 4.0 be a catalyst for sustainable development in southern Africa?
- What is the role of higher education institutions in accelerating Education 4.0?
- Can south-north partnerships provide a platform for bridging the educational divides? How can this be done?

**Innovation and commercialisation - Prof J Maree, University of Limpopo, South Africa**

- According to the World Bank, countries in sub-Saharan Africa spend only 0.45 percent of their GDP on research and development. Contextually, one would argue that governments in the sub-region face extensive budgetary constraints, hence the meagre allocations towards research and development.
- With this in mind, what are the opportunities opened up by south-north collaborations in research, knowledge sharing and development?
- Can these partnerships cover the gaps?
- It has been argued that countries that will succeed in attaining sustainable development have embraced digital transformation and the Fourth Industrial Revolution (4IR).
- What is technological innovation's role in accelerating SDG implementation and achievement?
- Can innovation be the driver towards eliminating hunger, eradicating poverty, providing access to clean water and sanitation services, increased access to clean energy and quality healthcare?
- How do you innovate for sustainable social change putting people ahead of profit? Are there models that work?
- Over the past decade, there have been growing voices for de-development and de-growth, both loosely defined. What models of development should southern countries follow to achieve development?

**Indigenous knowledge systems: merging epistemologies - Prof Sten Hagberg, Uppsala University, Sweden**

- For decades, indigenous knowledge has been at the periphery and sometimes discarded for lacking scientific rigour and, therefore, being invalid. However, over the past two decades, there have been robust debates in higher education and policymaking regarding the role and place of indigenous knowledge in developing societies. Some universities have established departments and research units dedicated to indigenous knowledge systems.
- What is indigenous knowledge?
- How can this knowledge be tapped and utilised to achieve sustainable development?
- In the context of COVID-19, we saw Madagascar introduce the COVID-19 herbal drink. However, the World Health Organization and many key health regulatory bodies worldwide described the "herbal drink" as ineffective because it did not follow strict scientific ways of developing drugs. Amid a pandemic without a vaccine and known working medication, many communities and individuals in southern Africa resorted to traditional medicines and concoctions.
- These are indeed philosophical debates on what is known and how we get to know it, where particular worldviews are valorised at the expense of tacit and indigenous knowledge that is regarded as unscientific and, therefore, unreliable. Drawing from COVID-19 experiences, do you see this as a turning point in how we view traditional medicine?
- Can the south-north partnerships catalyse the validation of indigenous knowledge in pursuit of sustainable development?





# 2022 The 14th SANORD International Conference

## PLENARY LECTURES



## Education as a driver of sustainable development



**Prof Mahlapahlapana J Themane**  
Department of Education Studies  
(University of Limpopo)

This paper presents an argument that education has the potential to contribute towards sustainable development goals if schools create safe, equitable, and engaging environments. The paper advances three arguments.

Firstly, I argue that children and youth need safe and supportive schools if they are to succeed in school, develop a healthy lifestyle, and thrive. Secondly, there is a need for schools to align the subjects that they teach with the Sustainable Development Goals

(SDGs). This can be achieved by using a pedagogy that is amenable to the SDGs and taking the needs of vulnerable children into consideration. This includes children who struggle with trauma, the adversities of poverty, and the challenges of racism, ethnocentrism, religious prejudice, and disability. Thirdly, I want to show that to achieve the SDGs, there is a need for comprehensive approaches to school safety and supportive learning environments.



**Are Straume**  
MA in European politics from the University of Lund in Sweden

In May 2022, UNESCO launched a report at the World Higher Education Conference in Barcelona called "Knowledge-driven Actions: Transforming Higher Education for Global Sustainability." The University of Bergen contributed to the making of this report. This report gave the global university sector a guide for further actions towards the creation of a sustainable world.

In particular, it emphasised how suppressed or forgotten knowledge of the global South now

is needed for us to find new common solutions to our global challenges. This is also a main reason universities collaborate through SANORD, which, at its 10th anniversary, made the SDGs its overarching goal. With the UNESCO report as a background document, the panel will focus on how we can make SANORD a better tool for the promotion of knowledge relevant for the SDGs.



**Prof José Frantz**  
Deputy Vice Chancellor Research and Innovation  
(University of the Western Cape)

The task for Higher Education Institutions and the role they play in contributing to achieving the SDGs remains a challenging one. Higher Education Institutions (HEIs) have a threefold role to play, which includes achieving their own targets regarding SDG 4, contributing to learning quality and inclusion for the whole education system, and serving (through interdisciplinary, collaborative approaches in education and research programmes) to achieve all the

SDGs. It is clear that a collective effort is needed in order for higher education institutions to play this meaningful role. However, against the backdrop of systems and governance structures that promote competition rather than collaboration, is HEI going to be able to make a valuable contribution? As we continue to hear the words "re-imagine and rethink higher education post-COVID-19," can we start to change the narrative to focus on collaboration rather than competition?



# One Ocean Expedition

The One Ocean Expedition is an initiative that brings the impact of climate change and a focus on the role of the ocean for sustainable development into a global perspective. It brings together young people, scientists, and international leaders to build new knowledge about the ocean. It co-creates knowledge through shared learning in education, technology, and science for global dissemination.

The Norwegian longship Statsraad Lehmkuhl will sail around the world, visiting 36 ports worldwide. It will showcase collaborative research around the ocean with the many global partners focused on the SDGs.

It will visit Maputo, Mozambique, in December, and Cape Town, South Africa, in January 2023. SANORD will be hosting activities and regional meetings on board during its berth at these ports.

This session will bring together SANORD members who have been on the boat during its voyage to share personal reflections, issues of concern, lessons learnt and the experience of the ocean. The audience is encouraged to engage interactively in this informative and informal sharing of knowledge and experience.

**Panelists:** Elin Kvaale, Gro Anita Flaten, Erlend Eidsvik  
**Moderator:** Umesh Bawa



**Prof José Frantz**  
Deputy Vice Chancellor  
Research and Innovation  
(University of the  
Western Cape)

Prof Jose Frantz is responsible for the strategic vision of research and innovation. Prior to this position, she held other leadership positions such as Dean of the Faculty of Community and Health Science and Deputy Dean of Research and Postgraduate Studies. Her strategic interests include the promotion and advancement of research for impact through knowledge exchange and capacity building in health professions education and faculty development.

She has secured research funding both nationally and internationally to continue research, do capacity development in the field of health professions education, and develop emerging researchers. Her commitment to human capacity development is reflected in the number of capacity development programmes she has designed and implemented successfully. Driving the SDG agenda is key to what Prof Frantz is currently engaged in.



**Are Straume**  
MA in European politics  
University of Lund  
Sweden

Are Straume has extensive experience in international research, innovation, higher education politics, and collaboration. He was an adviser and later a senior adviser in the Danish Ministry for Research and Education from 2006–2012, where he worked with EU and international research and innovation policy.

He was then employed by the Norwegian Government as a Special Envoy for research and higher education at the Norwegian Embassy in Washington, D.C.,

and at the same time was accredited to Canada. After almost three years in the USA, he took over as Special Envoy for research and innovation at the Norwegian Mission to the EU in Brussels – a position he held for four years. In 2019, Are Straume came to the University of Bergen (UiB) and was employed as a Senior Adviser for EU strategic affairs at the Research and Innovation Department at UiB. From January 2021, he took over the position as Head of the International Cooperation Section at the same department at the University of Bergen.





# WORKSHOPS

## 2022 The 14th SANORD International Conference

### Theme

**Finding Solutions: The Nexus Between Sustainable Development Goals (SDGs) and South-North Partnerships: Prospects, Challenges, and Successes during the COVID-19 Era.**

**05-07 December 2022**

University of Limpopo, Polokwane, South Africa



University of Limpopo @ULVarsity



#SAN018

## PANEL/WORKSHOP: SOUTH-NORTH COLLABORATION: TEACHING CLIMATE AND CLIMATE CHANGE-HOW SHOULD WE DO IT?

Panel Organiser: **Erlend Eidsvik**, Professor in Sustainability and Climate Education

Institution: Western Norway University of Applied Sciences

Country: Norway

The climate is complex. Still, the scientific processes governing the global circulation system are well established and go beyond the typical climate disciplines. We also know the diverse factors and feedback mechanisms involved in global warming and the role of increased levels of certain greenhouse gases. Last year, the UN General Secretary announced "Code Red" for the planet when launching the alarming scholarly findings and predictions in the IPCC report. The knowledge is there. The education system is there. The education systems around the world address climate issues, climate literacy, and climate teaching differently. But still, we are far from creating a powerful space for learning and communicating climate issues to students and learners. This workshop calls for creative participation across disciplines to discuss opportunities in climate teaching across borders. What can we learn from the natural sciences, social sciences, philosophy, literature and diverse local perspectives in addressing one of the great planetary challenges? The plan is to address these issues by utilising the SANORD network across disciplines and regions. The workshop is dependent on active participation, and participants are encouraged to prepare a short input from their particular discipline or position in a joint effort to actively design better climate teaching.



#SAN150

**“TOOLS FOR INTERCULTURAL LEARNING”**

Karin Frydenlund – Malmö University

Divinia Jithoo - Durban University of Technology Lavern Samuels - Durban University of Technology

Elin Kvaale – Western Norway University of Applied Sciences

Torunn Stornes Kittelsen – Western Norway University of Applied Sciences

How can students get access to global understanding and engagement when travel is not possible?

This presentation/workshop will highlight and discuss ways of engaging students on campus and how to receive an international education experience when travel is not an option or as a supplement to physical exchange. Internationalisation at home, Collaborative Online International Learning (COIL) and Certificate of International Merits (CIM), are utilised at Durban University of Technology, Western Norway University of Applied Sciences, and Malmö University as a means to provide students with an international experience. Cases related to this will be presented at the workshop. One of the key targets for this workshop is to identify possibilities for educational cooperation and to strengthen the cooperation between members of SANORD. How can we within SANORD make use of these tools together to both strengthen our collaboration and give our students intercultural knowledge and understanding as well as access to an international network? Internationalisation at home is a concept for establishing an international learning environment and contributing to a work-relevant education with an intercultural and global dimension for all students. Internationalisation at home is about activities and initiatives that take place in the academic environment and classrooms to integrate global, international, and intercultural perspectives in curricula and learning outcomes.

One such activity, COIL, is a pedagogical method for virtual exchange where students from different countries collaborate on a joint project or task using ICT tools. It is a tool for integrating internationalisation into study programmes and learning outcomes, and it provides students with competence in interaction, communication, culture, language and digital tools. COIL can also be used in combination with, for example, short-term physical mobility.

The Certificate of International Merits provides you with credentials for the international experiences you gain while studying at Malmö University. It's a verification of your academic, personal and professional development. It also demonstrates your international and intercultural competence, as well as your ability to make international comparisons related to your profession. as well as demonstrating international and intercultural competence and your ability to make international comparisons related to your profession.

**Keywords:** Intercultural learning, inclusion, Internationalisation at home, COIL, Certificate of International Merits



## #SANO23

### THE MULTIPLICITY OF MATHEMATICAL AND ARTISTIC CONCEPTS AND TRANSDISCIPLINARY CREATIVITY EVIDENCED IN STUDENTS' WORKS CREATED FOR THE SOUTH AFRICAN MATHART COMPETITION

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## Abstract

The Experience Workshop Global STEAM Network (EW) from Finland has been organising international children's and youth mathematics and arts exhibits since 2012. EW has been a supporter of the launch of the South African MathArt Competitions by Nelson Mandela University's Govan Mbeki Mathematics Development Centre in 2018. The GMMDC National MathArt Competition challenges entrants to create an original, handmade artwork that connects mathematics to an annual theme in a visual and innovative way. Entrants are given an opportunity to share in their own words more about their mathematical and creative processes by answering three questions that are an important component of their competition entry. In its fifth year, the programme forms part of the Govan Mbeki Mathematics Development Centre's (GMMDC) broader strategy to advance STEAM education in teaching and learning in South Africa. This creative problem-solving task aims to develop skills that are considered essential for job seekers in the Fourth Industrial Revolution (4IR), thus empowering and preparing young South Africans for their future. This talk gives an overview of the programme and discusses a few research opportunities regarding the richness of mathematical and artistic concepts in the submitted artworks based on the artist statements and teachers' reflections. We are also discussing the model's potential usefulness in teacher training and in teachers' professional development in fostering competence-based, multidisciplinary learning.

**Keywords:** STEAM education, Mathematical art, Multidisciplinary Mathematics, Creativity, Problem-solving





# ABSTRACTS

## 2022 The 14th SANORD International Conference

### Theme

**Finding Solutions: The Nexus Between Sustainable Development Goals (SDGs) and South-North Partnerships: Prospects, Challenges, and Successes during the COVID-19 Era.**

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#SAN121

## CONTRIBUTION OF ZAMBIAN WOMEN IN TOURISM TO ATTAINMENT OF SDGS 1 AND 5

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### Abstract

Many countries have identified the tourism industry as an important avenue for socio- economic development and poverty alleviation, particularly among marginalized rural populations, especially of women in Southern Africa. In Zambia, the importance of the tourism industry is evident in that it is among the four pillars of the country's economy. However, the tourism sector has not performed to expectation due to a number of factors including a weak institutional framework for tourism marketing and development, adverse impacts of climate change, and the COVID- 19 pandemic. These factors have also hampered the tourism sectors potential to contribute to the achievement of SDG 5, which is to promote gender equality and empowerment of women and girls. Conversely, women suffer the brunt of the adverse impacts affecting the tourism industry in Zambia. This is because the retrenchment of workers experienced in the sector due to COVID- 19 and climate change affects women more as they dominate Zambia's tourism labor force. While most research focusses on reporting women as victims of the failures of tourism, there has been a dearth of research to highlight women's resilience and innovation in the tourism sector. This paper reports the findings of a qualitative gender analysis of primary and secondary data on the contribution of Zambian women in tourism to the attainment of SDGs 1 on Poverty alleviation and 5 on gender equality. The paper recommends that women's role in tourism and development related higher education in southern Africa be better recognised.

**Keywords:** Gender analysis, Gender Equality, Sustainable Tourism, SDGs, Zambia



#SAN040

**“THERE IS DEATH IN THE POT”: EXPLORING AFRICAN INDIGENOUS MEDICINE USAGE IN THE TREATMENT OF DISEASES IN THE VHEMBE BIOSPHERE RESERVE, LIMPOPO PROVINCE OF SOUTH AFRICA**

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**Abstract**

African indigenous knowledge systems, especially the usage of traditional medicine, has been scorned, mimicked, painted as irrational, archaic, demonic and anti-development. Resultantly, the introduction of modern science and religion forbade and discouraged the usage of African traditional medicine that has been in existence since time immemorial. However, the advent of Covid-19 has caused devastation on the planet, drastically changing people's lives and bringing up new and old questions regarding using African indigenous medicine as an alternative remedy to mitigate against COVID-19. The paper seeks to explore the once despised and trivialised African indigenous medicine usage in the treatment of diseases. A participatory research approach was used. Two (2) traditional health care practitioners (herbalist and faith healer), three (3) community members, two (2) renowned African scholars on medical anthropology and African indigenous knowledge were the research participants. The paper was underpinned by the Sankofa paradigm. The preliminary findings of this paper show that African traditional medicine is an indispensable resource for sustainable treatment amongst numerous indigenous communities. Also, the failure of scientists to engage and/or collaborate with African indigenous knowledge holders has seen millions of people around the globe being negatively affected by diseases such as Covid-19. The authors strongly argue that the system of shunning African traditional medicine has debilitating effects on the population.

**Keywords:** Covid-19, Indigenous Knowledge Systems, traditional medicine, traditional health practitioners, Sankofa



#SAN100

## INTEGRATING INDIGENOUS KNOWLEDGE SYSTEMS INTO ENVIRONMENTAL CONSERVATION POLICIES AND PROGRAMMES: A MISSING SUSTAINABLE ENVIRONMENTAL RESOURCES CONSERVATION APPROACH FOR LESOTHO

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### Abstract

Environmental destruction in Lesotho is a challenge that called attention of policy makers since colonial period. Both colonial and post-colonial governments established conservation policies that were geared towards solving environmental problems. However, the conservation policies and programmes are statist and introduced exogenous measures that are not inherent in communities' cultural practices. The use of modern/Western conservation strategies has failed to solve environmental challenges in the long. This is because they failed to include local knowledge systems that have long been used to manage environmental resources by the local people. This study uses secondary data obtained from the major Lesotho environmental policy documents (e.g Five Year Development Plans, Poverty Reduction Strategy Papers, Vision 2020 and National Strategic Development Plans) to assess whether local knowledge systems are included in conservation of environmental resources. The study hypothesizes that, traditional ways of conserving environmental resources are not included in the national environmental policies and programmes. In addition, implementation of national environmental policies follows a statist approach which excludes local knowledge systems that are embedded in communities.

**Keywords:** Environmental resources degradation, Indigenous Knowledge Systems (IKS), Poverty, Environmental policies and programmes



#SAN068

## PERCEPTIONS ON THE INCLUSION OF TRADITIONAL MEDICINE IN PRIMARY HEALTH CARE

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### Abstract

This study sought to explore views on the possible inclusion of traditional medicine in primary health care. The historical stigmatization and demonization of African traditional practices, including traditional medicine, is well explored in scholarly discourse. However, the renaissance of scholarly de-colonial and Afro-centric research frameworks re-awakens the need to generate knowledge systems and analytical lenses that pragmatically and sustainably address global challenges using contextually relevant resources that have been maligned for centuries due to colonialism. The 21<sup>st</sup> century presents opportunities and challenges that call for a re- think on the role of indigenous knowledge systems in holistically contributing towards primary health care. For the inclusion of traditional medicine in primary health care to be ascertained, it is significant to determine key stakeholders' perceptions on their inclusion. The study adopted Afro-centricity approach as theoretical framework. Framed within the qualitative research method, the study adopted an explorative qualitative design, using semi-structured interviews to generate data. The study findings revealed that traditional medicine deserved a more prominent for the inclusion in primary health care as it carried advantages such as affordability, ease of access, socio-cultural relevance, spiritual significance, holistic approach and potency which could address some of the key challenges facing the primary health care system in South Africa.

**Keywords:** African traditional practices, Traditional medicine, Indigenous knowledge, Primary health care, Traditional health practitioner



#SAN144

## TREATMENT OF ACID MINE DRAINAGE WITH ROC PROCESS FOR THE RECOVERY OF DRINKING WATER AND SALEABLE PRODUCTS

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### Abstract

South African legislation requires that mine water be treated to drinking water quality and there should be zero-waste. Acid Mine Water (AMW) is formed when pyrites ( $\text{FeS}_2$ ) is oxidised due to the presence of iron oxidising bacteria,  $\text{O}_2$  and water<sup>1</sup>. Acid mine drainage from mining activities is a major environmental concern in South Africa as it requires neutralisation and desalination. An estimated volume of 480 Ml/d mine water is produced in Gauteng and Mpumalanga<sup>2</sup>. The focus of this study was to determine how the alkalis  $\text{CaCO}_3$ ,  $\text{Na}_2\text{CO}_3$  or  $\text{MgO}$  can be used in the ROC process to produce minimum waste streams and products of maximum value. This study revealed that  $\text{Na}_2\text{CO}_3$  or  $\text{MgO}$  can be used for selective recovery of  $\text{Fe}(\text{OH})_3$  at pH 3.5 and  $\text{Al}(\text{OH})_3$  at pH 4.5. Calcium alkalis can only be used for selective recovery of metals if co-precipitation of gypsum can be prevented through the dosing of inhibitors. The remaining metals, including  $\text{Mn}^{2+}$  and  $\text{Ca}^{2+}$ , can be removed with  $\text{Na}_2\text{CO}_3$  by raising the pH to 8.5.  $\text{MgO}$  cannot be used to raise the pH to 8.5 due to its low solubility. After thermal treatment of the  $\text{Fe}(\text{OH})_3$ , pigment was produced with a particle size of less than 100 nm and can be used as a nano material.

**Keywords:** Acid Mine Water, Neutralization, ROC process, Inhibition, Pigment



#SAN112

## SECOND-HAND CLOTHING: THRIFTING, COSMOPOLITANISM AND SUSTAINABLE DEVELOPMENT IN SOUTH AFRICA

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### Abstract

In the context of high unemployment and scarce job opportunities within the formal economic sector, many young people in South Africa engage in thrifting, which refers to the trade of second-hand clothes. Young people may adopt thrifting as a form of entrepreneurship and as a means of earning livelihoods. Second-hand clothes arrive in Africa mainly through shipping containers from Europe, America and some parts of Asia. As such, the trade of second-hand clothes, as a form of commerce, links the Global South to the Global North around complex and unequal economic and political relationships. These relationships, based on the logic of growth and excessive consumption, raises questions about thrifting as a possible sustainable development practice. The ethnographic study involved four young men who thrift at a second-hand clothing market in the city of Johannesburg. The first presenter, a thriftier himself, accompanied the four interlocutors in their thrifting and leisurely activities over a period of three months. Assuming the role of participant observer, he immersed himself in the second-hand clothing market of Johannesburg to understand the social dynamics of the market. He also conducted and documented several (in)formal individual and group conversations with the four interlocutors. Consistent with the insights collected from the literature, the ethnographic study shows that thrifting is associated with multiple meanings and practices. The four interlocutors approach thrifting as an entrepreneurial practice; a pathway to achieve success, development and distinction; a form of artistic expression; and a do-it-yourself attitude as represented by the global creative industry. The interlocutors' engagements with second-hand clothes are significantly intertwined with social media/digital identity, creativity and art. Their cosmopolitan orientation to thrifting is evident in their intimate knowledge of global fashion trends and use of second-hand clothes as cultural apparel and exchange commodity. Notwithstanding the cosmopolitan orientation and the many benefits arising from thrifting, the consumptive tendencies that drive thrifting seems to undermine the principles of sustainable development. It is therefore important to remain alert to the influences of hegemonic socio-economic relations on Africa's second-hand clothing industry and young people's thrifting practices.

**Keywords:** Thrifting, Cosmopolitanism, Consumption, Commodity, Social-Media Identity, Creativity



#SAN038

## ETALE AFRICA eLEARNING ENVIRONMENT - SUPPORT FOR TEACHING CHILDREN TO READ IN LOCAL LANGUAGES IN KENYA, NAMIBIA, TANZANIA AND ZAMBIA

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### Abstract

eTALE Africa is a Teacher eLearning environment that provides tools for teachers and educators in teaching reading in selected sub-Saharan languages and support children who are struggling to learn to read. Co-developed research-based content and concrete examples for good teaching practices (practical tips, videos), assessment tools, theoretical background knowledge and research on reading and reading difficulties. Materials can be adapted to other African languages and school contexts. This is because there are a vast number of children in sub-Saharan Africa that struggle to read by grade 6 (SACMEQ III, 2010). Research findings show that learners benefit from using their home language in reading instruction in early school years. Children who learn to read in their mother tongue first are usually able to transfer these skills to a second language later on (GPE, 2014). By its high-quality teaching and learning materials for literacy instruction eTALE Africa provides open access materials to support teachers to enhance classroom practices in literacy learning, and with struggling readers in multilingual classrooms. eTALE Africa eLearning materials are designed to support teacher students, teachers, special education teachers, teacher trainers, therapists and psychologists in teaching and assessing literacy in local languages. Materials can be used, for instance, as part of teacher education course materials and curricula, teachers or in-service workshops for professional development. eTALE certificate will be available to those who have successfully gone through the required materials for certification. eTALE Africa is co-funded by the Niilo Mäki Foundation and the Ministry for Foreign Affairs of Finland.

**Keywords:** Literacy, Learning difficulties, Teacher training, eLearning



#SAN131

## THE EXPLORATION OF SOME INDIGENOUS KNOWLEDGE CONTENTS IDEAL FOR ENCULTURATION OF VHAVENDA YOUTHS USING SOCIAL MEDIA

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### Abstract

This study explored some Indigenous Knowledge contents that are ideal for enculturation of Vhavenda youths using social media. In this epoch, social media has become a substantial tool of disseminating information and it is an efficient way of communicating globally. Extinction of knowledge and its holders without being documented etc. Since IKS rely on the word of mouth from elderly people, most youth are no longer gaining knowledge and wisdom because of changes that came with modernity. The researcher employed a qualitative research design. This study was grounded on the social learning theory. In this study, data was collected through face-to-face interviews with elderly people, traditional leaders, and healers and through focus group discussions. The study findings were classified into different themes under IKS that could be content to be packaged for enculturation, such as posting interesting and challenging videos and; medical plants with how they are used; IKS food and how they are processed and served; *ndayo* and *mikhwā*; IKS songs and dance as well as pictures of IKS games. The study recommend that Government should start funding IKS projects focusing on recording, research, storing and enculturation of youth.

**Keywords:** Social media, Indigenous Knowledge System (IKS), Indigenous Knowledge Holders, Enculturation



#SAN071

## IN-SERVICE TEACHERS' PERCEPTIONS TOWARDS THE USE OF INDIGENOUS MATERIALS AND ACTIVITIES IN THE TEACHING AND LEARNING OF SECONDARY SCHOOL MATHEMATICS

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### Abstract

The current mathematics teaching practice in secondary schools rarely brings the interconnection between mathematics and culture. Many people still believe that mathematics is not related the learner's culture. Therefore, the study sought to explore in-service teachers' perceptions of the use of indigenous materials and activities in the teaching and learning of mathematics. The study employed a descriptive survey. A stratified random sample of fifty in-service mathematics teachers was used to gather data through questionnaires, semi- structured interviews, and focused group discussions. Quantitative data were analysed using SPSS version 27.0 and presented as frequency counts and percentages. The qualitative data were categorised and reported using emergent themes. The findings suggest that participants had a positive perception of the use of indigenous materials and activities in their classroom teaching. The study also revealed that the use of indigenous materials and activities enhances conceptual understanding of school mathematics. The study recommends that mathematics teachers should incorporate indigenous materials and activities into their teaching to make mathematics meaningful and relevant to the learner. The study findings have implications for research and practice as it provides unique and comprehensive data that would inform teacher classroom practice.

**Keywords:** Indigenous materials, Culture, Mathematics instruction, Perception, School mathematics



#SAN113

## EVALUATION OF RURAL TEACHERS USE OF TECHNOLOGY IN CLASSROOMS AS A STRATEGY TOWARDS BRIDGING LEARNERS' THE TECHNOLOGY UNDEREXPOSURE

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### Abstract

Covid-19 has forced most contact higher education institutions to transition to online teaching and learning. For South Africa to cope with the transition and use of technology in learning, education need to be technologically enhanced from primary school level to high school. The rural schools however, have limited resources including basics such as buildings. For such schools technology enhancement will be an issue. This study will explore ways in which under resourced rural schools can use technology in their classrooms to bridge the gap in technology related skills and access needed to cope with university studies and the world of work in the fourth industrial revolution era. This is an action research interventionist study, detailing qualitative methodology strategies such as interview and observation. Since this is a work in progress study, it is expected that the outcome shall indicate strategies for successfully using technology in under resourced schools to bridge the underexposure to technology gap.

**Keywords:** Rural education, under resourced schools, technology enhanced learning, literacy development, under exposed learners



#SAN133

## EDUCATION, HEALTH AND GENDER – MENSTRUATION AS BARRIER FOR GIRLS' EDUCATION? A CASE FROM TANZANIA

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Country: Norway

### Abstract

There is a growing awareness that monthly periods may complicate participation and achievement in schools for girls, and that menstrual health management should receive more awareness. On a global scale, as well as in Tanzania, school enrolment rates of girls and boys are becoming more similar. However, in contrast to many other countries, Tanzanian girls on average score lower than boys on secondary school exams, and girls' drop-out rates increase according to years of schooling. Recent research, together with growing global awareness and social movements, address the probability that menstruation can be a barrier to female participation and success in education. The concept of intersectionality, including factors as taboos, poverty, lack of adequate infrastructure, lack of necessary products, and of relevant knowledge, can illuminate how girls may be prevented from fulfilling their potentials in education and work-life. In perspective of intersectionality, the capability theory, and empowerment, this paper discusses whether "period poverty" may help to explain gender inequality in Tanzanian education and professional participation and whether menstrual health management need to be addressed more openly.

**Keywords:** Education, Gender, Menstruation, Period poverty, Intersectionality



#SAN132

## ACADEMIC REMEDIATION IN MEDICAL EDUCATION- A MEASURE OF EQUITY AND INCLUSIVITY: CLINICAL EDUCATORS PERSPECTIVE

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### Abstract

Providing interventionary opportunities for struggling medical learners to achieve 21<sup>st</sup> century skills as part of lifelong learning, is an unequivocal responsibility of stakeholders in education. Within the framework of programmatic assessment, remediation is a practice-based interface aimed at supporting struggling learners to achieve competence and confidence. This quantitative study explores the experiences of both educators and learners within the Nelson Mandela Fidel Castro final year integration programme at the University of the Witwatersrand. Qualitative method study with focus group discussions and interviews of both Clinical educators and learners within the NMFC programme of the University of Witwatersrand, Johannesburg. The results were categorized into 4 themes: understanding of the remediation program, roles, responsibilities of clinical educators, and their lived experiences. Clinical educators understanding of remediation and their role in the process is impacted by their understanding that it is not solely an academic exercise, but a holistic approach to developing clinically competent and confident Doctors. Through their experiences, they believe that students do not only fail because of a lack of knowledge but identified other contributing factors such as difficulty to handle examination pressure, family issues, language barrier, peer pressure, and financial issues. To reflect equity and inclusivity in medical education, it is imperative to institutionalise the culture of support in the education of future healthcare providers. Having an early identification system, recognizing that there are multiple factors that impact the academic performance of learners and including remediation of academically underperforming students are recommendations.

**Keywords:** Remediation, Workplace-based Assessment, Medical Education, Nelson Mandela Fidel Castro collaboration Programme, South Africa



#SAN048

## ASSESSING THE IMPACT OF COVID ON THE SME TOURISM SECTOR OF WINDHOEK USING THE SUSTAINABLE LIVELIHOODS FRAMEWORK

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### Abstract

Tourism in Namibia, as in the rest of the world, suffered a severe setback due to the pandemic, resulting in sustainable development goal pathways slowing down radically in order to cope with the pandemic. This study investigates the sustainability of the SME tourism sector in Windhoek and whether it was able to adapt and cope with the shocks of a pandemic disaster. Data collected comprised of individual and focus group interviews. Data analysis was conducted using the Sustainable Livelihoods Framework which revealed the existing vulnerabilities before COVID-19, how vulnerabilities increased with the impact of COVID-19, what assets and capacities were available, physically, human, social, financial and politically. The research also revealed how government policy in the form of a State of Emergency affected assets and capacities and ultimately what livelihood strategies were implemented through the diversification of existing businesses and livelihoods, establishing new businesses and getting rid of debt. Results reveal that poorly managed tourism has disrupted communities, and persons with skills were far better equipped to cope with the impacts of COVID-19. Recovery presents the tourism industry with an opportunity to choose and create future sustainable pathways through skills development and thus ensure the sustainability of the tourism SME market.

**Keywords:** Small and Medium Enterprises, Sustainable Livelihoods Framework, COVID-19, Sustainable Development Goals, Sustainable Tourism



#SAN053

## KINDERGARTEN ADOPTION – A DIFFERENT INTERNSHIP!

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### Abstract

Practical training or internship is an important part of Nordic kindergarten teacher training and is a mandatory part of Norwegian kindergarten teacher training. At Queen Maud University of College Early Childhood teacher Education (QMUC) some students have an extra week of experimental internship – “Kindergarten adoption”. After two days of preparations at campus, the student groups of 4-6 students spend one week at the kindergarten department following the staff to get to know the department, the children and their parents. The next week (adoption week), the students take over and manage the department as if they were employees. They plan and arrange the daily activities, conduct team meetings and are in dialogue with the department leader if necessary. Normally there will be a practice teacher that council one or two students and this teacher is responsible at the kindergarten department. During the week of kindergarten adoption, the students will experience challenges they not will have during ordinary practical training. The research question is: How do students experience one week of kindergarten adoption? We will analyse student reflections over their learning outcomes after one week of kindergarten adoption using a survey. This practice training aims to give students experience in planning, cooperating in teams and leading staff (other students), as well as in using sound professional judgement in everyday situations. Students will experience real situations in teamwork and create both opportunities and dilemmas. In higher education, we will gain knowledge about students’ experiences with kindergarten adoption.

**Key words:** Student perspectives, Experimental practice training, Internshi



#SAN110

## TEACHING FOR SOCIAL JUSTICE AND HEALTH IN 'LIFE ORIENTATION' AND 'PHYSICAL EDUCATION AND HEALTH' – A COMPARATIVE STUDY

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### Abstract

The primary objective of this joint research project between South Africa and Sweden is to gain important knowledge regarding the role of the Swedish school subject physical education and health (PEH) and correspondingly the school subject Life orientation (LO) in South Africa, in relation to issues of inclusion, equity and social justice. PEH and LO may be understood as part of public health policy. Having skills and knowledge in physical activity and health is described as an asset for both the individual and society. Schooling should impart a sense of justice, generosity, tolerance and responsibility. Different data collections methods are used. Teaching practices in LO and PEH are observed, and teachers are interviewed about the notions from the observations. Additionally, the LO and the PEH curricula and syllabi have been analysed from linguistic perspectives. While data collection is on- going in Sweden, three pilot observations and interviews have been conducted in South Africa. This paper will report on some initial findings of the observations, teacher interview and linguistic analyses from the two countries. In our discussion we also draw on different theories related to inclusion, equity and social justice. It is our intention that the findings and outcomes of this research project will inform educational policy, curriculum makers and the creation of intervention strategies intended to assist PEH and LO teachers as well as policy makers to further refine and develop LO and PEH practices including a greater alignment with UN's SDGs, thus helping to contribute to healthier citizens and societies.

**Keywords:** Life orientation, Physical Education and Health Social Justice, Inclusion, Sustainable development



**#SAN097**

## **SUSTAINABLE DEVELOPMENT IN SPORT SCHOOLS**

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### **Abstract**

We will present an ongoing joint interdisciplinary research project between universities in South Africa and Sweden. We investigate how one sport school in each country address issues of health, education, social justice and sport. In both cases, the main reason for starting the schools was to make it possible for talented sport learners to engage in both good sport practice and good education, regardless of their socio- economic background. But results from the Swedish study suggests that the pupils at the school today have a homogenous middle-class background. In addition, nearly all parents had been engaged in sports. The admission to the school was also characterised by a pronounced relative age effect (RAE). The SA Sport School that initially was part of the study, explicitly expressing their social goals, could thereby be understood as a means for social change. It was originally established particularly to support pupils from disadvantaged, low socioeconomic backgrounds, who were falling through the cracks in society, because of the lack of educational and sport support to progress and develop. However, the funding structure for this school relied heavily on the government's financial support. The support stopped after 5-years of inception because of financial constraints of the South African Government and the school has unfortunately closed in its original form. The school had to transform into a mainstream government- funded school to remain viable and functional. At the moment we are investigating other forms of comparative possibilities.

**Keywords:** Sport schools, Interdisciplinary research project, Sustainable development, Relative age effect, Talent development



#SAN018

**Panel/Workshop: How to teach about climate?**

Panel organiser: **Erlend Eidsvik**, Professor in Sustainability and Climate education,  
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**Abstract**

Climate is complex. Still, the scientific processes governing the global circulation system are well established knowledge – also beyond the typical climate disciplines. We also know the diverse factors and feedback mechanisms in global warming, and the role of increased levels of certain greenhouse gases. Last year, the UN General Secretary announced Code Red for the planet when launching the alarming scholarly findings and predictions in the IPCC report. The knowledge is there. The education system is there. The education systems around the world addresses climate issues, climate literacy and climate teaching differently. But still, we are far from creating a powerful space for learning and communicating climate issues to students and learners. This workshop calls for creative participation across disciplines to discuss opportunities in climate teaching (across borders). What can we learn from natural sciences, social sciences, philosophy, literature and diverse local perspectives in addressing one of the grand planetary challenges? The idea is to utilise the SANORD network across disciplines and regions in addressing these. The workshop is dependent on active participation, and participants are encouraged to prepare a short input from their particular discipline/position in a joint effort to actively design better climate teaching.



#SAN033

## FINLAND-AFRICA PLATFORM FOR INNOVATION (SDG 9) : INNOVATIVE SOUTH-NORTH COLLABORATIONS

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### Abstract

The Finland-Africa Platform for Innovation (SDG 9) – FAPI – is a network of 26 Finnish higher education institutions (9 universities and 17 universities of applied sciences), supported by the Ministry for Education and Culture of Finland under its Internationalisation Programme 2021–2024. The Programme supports the creation of cooperation networks between Finnish institutions and partner institutions abroad, especially in Africa, and promotes mutual cooperation in higher education and research, development and innovation. The key focus of FAPI is to contribute to the implementation of the United Nations Sustainable Development Goals, especially the goal 9 on industry, innovation and infrastructure, focusing on promoting new perspectives in innovation together with African partners. FAPI aims to create new competencies, high quality joint research, teaching, innovations, and new cooperation models, in inter- and transdisciplinary cooperation with African universities and other actors. To achieve long-lasting impact, FAPI is seeking mutual, responsible and sustainable partnerships with universities, enterprises, local communities and the public sector – the quadruple helix around innovations. Join the discussion on how to support South-North co-creation and co-ownership in research and education in specific contexts in Africa, involvement of different stakeholders for innovative South-North collaborations and to discuss what socially, economically and environmentally desirable responsible innovations are and could be.



#SAN067

## MHEALTH INTERVENTION FOR PROMOTING HIV PRE-EXPOSURE PROPHYLAXIS USE: EFFECT OF JICHUNGE INTERVENTION AMONG FEMALE SEX WORKERS IN DAR ES SALAAM, TANZANIA

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### Abstract

Female sex workers are among groups at increased risk of HIV infection. Pre-exposure prophylaxis (PrEP) has been proven to be effective in preventing HIV transmission, but low retention to services poses a challenge to its effectiveness. Innovative interventions to tackle the problem and help achieve global health goals are called for. To determine the effect of smartphone based mHealth application on retention to PrEP among female sex workers in Dar es Salaam, Tanzania. Using respondent driven sampling, 470 female sex workers eligible for PrEP and who owned a smartphone were recruited. All participants were provided with a smartphone-based mHealth app (*Jichunge app*) which has multiple functionalities designed to promote PrEP use and retention among HIV at risk population. We utilized information collected during the baseline, monthly follow-up, and data on the use of *Jichunge app*. The effect of *Jichunge app* on retention to PrEP was modeled using generalized linear models with robust standard errors. Of 470 recruited participants, 253 (53.8%) were retained to PrEP services at month 1. Retention to PrEP services was significantly higher among those who opened the *Jichunge app* after installation (APR=1.4, 95% CI: 1.13-1.85), used gamification functions (APR=1.5, 95% CI: 1.18-1.89), visited PrEP editorial contents (APR=1.4, 95% CI: 1.16-1.67), consulted a doctor or peer educator (APR=1.5, 95% CI: 1.29-1.79), or engaged in the discussion with other PrEP users (APR=1.4, 95% CI: 1.17-1.62). The use of *Jichunge* mHealth application significantly increased retention to PrEP among female sex workers in Dar es Salaam.



#SAN019

## ONE OCEAN: JOINING FORCES IN THE CLASSROOM

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### Abstract

True cooperation across borders and latitudes has to go beyond board rooms and high-level meetings. It is in tangible meetings with people that are – more or less – in the same boat, where cooperation thrives, resulting in something more. More, as in better understandings of different geographical contexts, understanding politics, religion, and history. And not at least, creating an understanding of the common planetary platform that we all share. This presentation displays the collaboration between primary and secondary schools in Bergen, Norway and Durban, South Africa. They have framed their collaboration in connection to a global circumnavigation of *Staatsraad Lehmkuhl*. The tall ship set sail and left Bergen in 2021 to return in 2023. The idea of the journey is to facilitate research on ocean and sustainability. Several research institutions representing disciplines from i.e. oceanography, climate, biology, geography, is using the ship as a research vessel collecting samples on her way. The schools, however, have used the journey to among other things, collecting sounds from the ocean and beaches in their respective cities to create a common composition; producing podcasts on sustainability issues, and writing a joint book together on themes connected to the ocean we share. From the shores in Bergen to the shores in Durban. The questions then arise: For what, and why, and what are the experiences and outcomes so far in the project? What are the key factors for succeeding in class-to-class cooperation?



#SAN111

## LAND COVER CLASSIFICATION OF THE PERI-URBAN EXPANSION OF MAKHADO BIABA TOWN, SOUTH AFRICA

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### Abstract

The Global South is exposed to unregulated peri-urban expansions that alters urban- rural landscapes on relatively short time scales. There are two important downsides of such developments: expansions that alters natural environments reduce provisions of ecosystem services, and planning of municipal services lags behind in expanding areas. For cities and communities to fulfill the sustainable development goals of Agenda 2030, science-policy interaction, coordinated efforts, and well-informed decisions are necessary. The research is part of an ongoing South Africa – Sweden University Forum (SASUF) project that investigates the spatial challenges from urban expansions of small rural towns in Limpopo Province of South Africa. The research aims at developing methods for land cover classification in Limpopo Province with special focus on the expansion of Makhado Biaba Town. Analysis results, based on the South African National Land-Cover (SANLC) data set, show that built-up and cultivated land areas have increased in Makhado Biaba Town from 1990 to 2020. However, these results are somewhat affected by the use of different land cover classes between years in the SANLC data set. In order to acquire more exact information on land cover change, two alternative methods will be developed: (1) a scheme for matching land cover classes between years in the SANLC data set, and (2) a procedure using satellite data with high spatial and temporal resolution for land cover classification between years.

**Keywords:** Land cover, Land cover classification, Makhado Biaba Town, Peri-urban, Satellite data



#SAN020

## THE IMPACTS OF PERI-URBAN EXPANSION ON MUNICIPAL AND ECOSYSTEMS SERVICES: EXPERIENCES FROM MAKHADO BIABA TOWN, SOUTH AFRICA

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### Abstract

The Global South still grapples with unregulated peri-urban developments and reduced ecosystems services as natural habitats are increasingly altered. Yet, by 2030 it is hoped that all cities and communities will be sustainable and able to provide services related to Sustainable Development Goals (SDGs) 1,2,3, 6, 11 and 15. However, attaining the SDGs requires science-policy interaction to establish the required knowledge, including coordinating efforts and efficient use of financial and natural resources. This research is part of a collaboration of universities from South Africa and Sweden under the South Africa - Sweden University Forum. The aim of the research is to understand the impact of the increased peri-urban expansion of the small rural town of Makhado Biaba Town into adjacent villages. The objectives were to: (1) describe the municipal and ecosystem services available; (2) explain the municipal challenges and opportunities with regards to service provision; (3) recommend strategies for improved service provision in the urban periphery. The findings revealed that a number of municipal services were available, but the services were not uniformly distributed. These disparities are largely a result of shifts in the urban boundary. Additionally, new peri-urban development is leapfrogging into vacant land without infrastructure services while constructing municipal services is lagging behind the development of new residences. A need exists therefore for guided urban development, expansion, and settlement upgrading programmes in peri-urban zones to ensure access to municipal services by all residents in these areas in order to limit the effect on ecosystem services.

**Keywords:** Peri-urban, Ecosystems services, Municipal services, Makhado Biaba town



#SAN001

## STRUCTURING A SUSTAINABLE POLICY RESPONSE FOR THE EFFECT OF COVID-19 ON EMPLOYMENT IN THE CREATIVE INDUSTRIES

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### Abstract

In South Africa, unemployment in the Creative Industries (CIs) has been one of the most serious socio-economic problems. The global economic crisis caused by the appearance of COVID-19 has caused several challenges to the South African government. In the country, Small and Medium Enterprises (SMEs) have been specifically struck by this global pandemic, with some evidence of job loss, loss of lives, unemployment, and income loss/reduction. This paper aims to provide the South African government with policy measures and strategies to handle the enormous effects of the COVID-19 crisis on the CIs. This research used both a qualitative and quantitative method of data collection and analysis. The results show the analysis of secondary data from the South African statistics and structural interviews with craft manufacturers in Mpumalanga, Limpopo, and Western Cape provinces in South Africa which presents the limit of the ability of the government to address CI's employee problems and the socioeconomic impact of the pandemic. The further significance of this study is a framework of recommendations to support the creative industry's SMEs' sustainability and responsiveness in the situation of COVID-19 and future pandemics. This research found that there is a need to focus more specifically on measures to be taken to deal with inequalities, finance SMEs, prevent job loss, improve employment, and Sustainable Development Goals (SDGs) delivery during and after the pandemic.

**Keywords:** Employment, Covid-19, Socioeconomic development, Sustainable development, Pandemic



#SAN066

## FOOD SAFETY KNOWLEDGE AND ATTITUDES OF CONSUMERS OF STREET- VENDED FOOD IN THULAMELA MUNICIPALITY, SOUTH AFRICA

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### Abstract

Street-vended foods have the potential of exposing consumers to the risk of food poisoning. However, empirical studies to build an understanding of consumers' knowledge and attitudes vis safety are scanty. This study was carried out to assess the knowledge and attitude of customers towards the safety of street-vended foods. A quantitative research design was adopted. Data were collected from 272 customers using a close-ended questionnaire. Percentages, mean for scores, and Spearman's rank correlation coefficient were computed using Statistical Package for Social Sciences version 27.0. About 51 % of the respondents were young women aged between 20-40 years with, 47 % of them having secondary education. Affordability (92%) was the main reason for buying food. The Majority (97 %) of the respondents knew that food handlers should wear protective clothing when handling food while 94 % admitted that washing hands may reduce the risk of food contamination. About 87 % of them did not know that listeriosis is a foodborne disease, 82 % were unaware that hepatitis A could cause foodborne illnesses. Generally, the knowledge and attitudes of the customers towards food safety were moderate. This calls for the urgent attention of health officials to educate consumers on foodborne diseases and their transmission. This may be achieved through various sources of information such as awareness campaigns to improve customers' knowledge of food safety. Thus, it is recommended that food policies should be strengthened and properly enforced to ensure a significant reduction in the hazards of street food consumption.

**Keywords:** Awareness, Food safety, Hygiene, Regulation, Street-vended food



#SAN035

## CATASTROPHIC HEALTH EXPENDITURE AND VOLUNTARY HEALTH INSURANCE: CAN COMMUNITY BASED HEALTH INSURANCE SCHEME REDUCE CATASTROPHIC HEALTH EXPENDITURE IN RURAL TANZANIA?

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### Abstract

Over 150 million people suffer financial catastrophe each year because of out-of-pocket (OOP) payments. Low and middle-income countries (LMICs) comprise a high proportion of the population that has no access to essential healthcare services and the global burden of disease is much higher compared to high-income countries. This paper aimed to analyze the incidence and the determinants of catastrophic health expenditure among members and non-members of the improved Community Health Fund (iCHF) in rural Tanzania. A cross-sectional household survey was used to collect data from 722 households in Tanzania. Catastrophic health expenditure (CHE) was defined as households' health expenditure exceeding 40% of total non-food expenditure. Logistic regression was employed to assess the association between CHE and iCHF membership status after adjustment for other socioeconomic and demographic variables. When disaggregated by socioeconomic status we found that the incidence of CHE was higher among non-members of iCHF insurance compared to the members, for instance, 21% versus 15%. The incidence of CHE among non-members was higher among the poorest households compared to the least poor. Being a member of insurance, reduced the probability of incurring catastrophic health expenditure in the lower quintiles but the probability increased in the upper quintiles. Voluntary health insurance schemes, reduce the probability of households in the informal sector incurring CHE. Policymakers should reconsider the iCHF scheme to be a compulsory means of health financing for every individual employed in the informal sector.

**Keywords:** Catastrophic Health expenditure, Community-based health insurance scheme, Cross-sectional survey, Out-of-pocket, Socioeconomic status



#SAN029

## DISCOURSES OF DEVELOPMENT AS MARKERS OF NATIONAL IDENTITY: A TANZANIAN EDUCATIONAL PERSPECTIVE

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### Abstract

In recent time, few nation-building projects are perceived to be more successful than that of Nyerere's Tanzania. Since independence, the nation has served as a beacon of peace and stability in the East African region. Also, Tanzania has in the past decades evolved into one of the fastest growing economies in Sub-Saharan Africa and was recognized as a lower middle-income country in 2020, five years ahead of its projected schedule. According to Tanzanians and educationists alike, there is common understanding that education has played a central role in the nation's development, both politically, socially, and economically. Tanzanian citizenship education has since the days of Nyerere been widely recognized as deliberate and well-rounded, with the effective installment of a unifying national identity as a main objective. In addition, citizenship education in the country has continuously been closely linked to prevailing objectives of national development. With development being given the highest priority, discourses of development have consequently been incorporated into the Tanzanian national identity as important unifying elements. In this paper, I explore the role of development discourses in Tanzanian citizenship education and the construction of national identity. By revisiting dominating political discourses of development, conceptualized through the Swahili terms of *maendeleo* and *mageuzi*, I argue that the incorporation of elements from these development discourses in the Tanzanian national identity through citizenship education has contributed to the formation of a Tanzania where a population, rooted in collective values from its socialist past, provides opportunities for liberal market economy.

**Keywords:** Citizenship education, Nation-building, Maendeleo, National identity, Development discourse

**Subtheme 6:** Indigenous knowledge systems: merging epistemologies



#SAN062

## OPEN DISTANCE E-LEARNING: THE IMPETUS FOR SHAPING THE FUTURE OF HIGHER EDUCATION IN THE CONTEXT OF ZIMBABWE

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### Abstract

The rapidity in the change of technology coupled with the Covid-19 pandemic has seen institutions of Higher Education having Open Distance and e-learning (ODEL) as the most preferred approach to use in teaching and learning. Massive Open Online Courses (MOOCs) and ODeL in Higher Education have presented themselves as an alternative way of teaching and learning for both developing and developed nations and are shaping the future of Higher Education. In a world characterised by wars, political instability, pandemics, floods and other crisis situations the future of Higher Learning is much at stake. ODeL comes with many opportunities to address these many challenges and presents itself as driving force to deliver solutions to problems and averting a lost generation in terms of education. The study follows a qualitative research approach, using a case study design and an interpretive paradigm. Data was collected using mainly interviews and analysed by use of thematic analysis. The participants were sampled by purposive sampling. The study is of significance to students who are the direct beneficiaries of ODeL as well as the Ministry of Higher and Tertiary Education, Innovation, Science and Technology Development.

**Keywords:** ODEL (Open Distance E-Learning), Higher Education, MOOC, Crisis Situation, Technology Uptake



#SAN128

## TREATMENT OF FLUE GAS DESULFURIZATION WASTE WATER WITH FREEZE CRYSTALLIZATION

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### Abstract

Emissions control in the power industry is of utmost importance in order to reduce the amount of concentrations of SO<sub>x</sub> and NO<sub>x</sub>. Kusile power station (4 800MW) was the first power station of Eskom to implement a wet flue gas desulfurization system for the control of SO<sub>2</sub> and other greenhouse gasses. The waste water from the flue gas desulfurization (FGD) plant contained a high total dissolved solids (TDS) concentration of 50 000 mg/L. The study focused on treatment of the FGD wastewater with freeze crystallization. The specific objectives were: (i) to investigate the sources responsible for the poor variable water quality of the FGD waste water, (ii) to determine and compare the cost of freeze crystallization with chemical pre-treatment/evaporation, and disposal of waste water at a toxic waste site. The following conclusions were made from the study for the treatment/disposal of waste water: The waste water from the flue gas desulfurization (FGD) plant contained a high total dissolved solids (TDS) concentration of 50 000 mg/L due to: (i) absorption of SO<sub>2</sub>, chloride and boron from the coal in the FGD waste water, (ii) dissolution of sodium, potassium, magnesium, manganese and calcium from the limestone when reacted with the acid gasses from the combustion chamber. A large portion of the calcium sulphate in solution precipitated as gypsum due to its limited solubility. It was calculated from the coal (1 913.2 t/h), limestone (62.3 t/h) and intake water (620.6 m<sup>3</sup>/h) at the Kusile plant, that the TDS of the FGD waste water, amounted to 157 453.8 mg/L before gypsum crystallization and 19 251.5 mg/L after gypsum crystallization. Ice from freeze crystallization contained less than 10% of the salt in the feed water. The disposal cost at a toxic waste disposal site amounts to R9.7 million/month at a disposal cost of R2 000/t, evaporation cost, including pre-treatment with Na<sub>2</sub>CO<sub>3</sub> for metals removal, amounts to R11.41 million/month and freeze crystallization cost amount to R0.96 million/month. Freeze crystallization was found to be the most cost effective as it did not need chemical pre-treatment and it consumes less energy than evaporation (330kJ/kg in the case of freeze versus 2 260kJ/kg in the case of evaporation). Energy usage was found to be 100 kWh/kg ice

**Keywords:** Flue gas desulphurization, freeze crystallization, energy consumption, toxic site



#SAN056

## **SCHOOL-BASED SUPPORT TEAMS AND THEIR SUPPORT OF INCLUSIVE EDUCATION PRACTICES: TEACHERS' PERSPECTIVES IN THE RURAL CONTEXT**

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### **Abstract**

The progress of inclusive education practices seems to be moving at a snail's pace in most South African schools. Despite the efforts taken to establish the School-Based Support Teams (SBSTs) to support teachers in effective implementation of inclusive education practices, the implementation in rural schools are substandard. Few studies were conducted on the roles of SBSTs. However, not they were not conducted on the significance of SBSTs in the schools that are based in the rural context. Hence, this study focused on exploring the functionality of the SBSTs to enhance quality practices of inclusive education in the rural schools of Limpopo Province. The qualitative research approach was used in this study. Ten teachers were purposively sampled from five rural schools in the Capricorn-South District in Limpopo. Data was collected through semi-structured interviews and document review. Data were analysed using interpretative data analysis. The results of this study showed that: a) SBSTs lack functional credibility in rural schools, b) Lack fundamentals to execute duties with diligence, c) uncertainties caused by SIAS, d) lack sufficient time to carry out activities, e) Teachers are overburdened by many policies, f) negative attitudes encountered by SBSTs, g) and the implication of the results is that the SBSTs do not serve their purpose to enhance the quality practices of inclusive education in the rural schools. The study suggests that further intervention strategies be developed to ensure success for the practices of inclusive education.

**Keywords:** Inclusive education practices, School-based support teams, Rural context and diverse learning needs



#SAN012

## WHEN SHOULD COUNTRIES DISCONTINUE INTERMITTENT PREVENTIVE TREATMENT AGAINST MALARIA IN PREGNANCY? A COST EFFECTIVENESS ANALYSIS

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### Abstract

The world Health Organization (WHO) recommends intermittent preventive treatment with sulphadoxine pyrimethamine (IPTp-SP) in addition to the basic strategy for controlling malaria and its effect during pregnancy, in areas of moderate to high transmission in Africa. The basic strategy includes delivery and use of insecticide-treated mosquito net (ITNs) and effective management of cases (ECM). Malaria transmission has been decreasing in sub-Saharan Africa countries: previously classified as moderate to high transmission. We calculated the cost-effectiveness of the IPTp-SP strategy at different levels of malaria transmission, to determine when it is no longer cost-effective. We developed the analytical decision tree to estimate incremental costs and health outcomes of maternal malaria infections and low birth weight between basic and IPTp-SP strategies. We modelled scenarios for five different levels of malaria transmission, estimated as parasite-prevalence from 19% to 1% among pregnant women at first antenatal care visit. We also analyzed the effect of both additional ITN provided at antenatal care and parasite resistance on the effectiveness of IPTp-SP. Compared to the basic strategy the IPTp-SP strategy delivered to a hypothetical cohort of 1,509,121 pregnant women in rural areas averted 290,733 DALY at an incremental cost of US\$42,896. This yielded an ICER of US\$0.15 per DALY averted when parasite-prevalence among pregnant women at first antenatal care visit was 19%. The ICER between the two strategies were US\$10, US\$28, US\$57, and US\$166 per DALY averted when parasite-prevalence was 10%, 5%, 3% and 1 %. The ICER was US\$89, US\$151, US\$265, US\$460, and US\$1,179 per DALY averted with the cost of additional ITN provided at antenatal care and reduced effectiveness of IPTp-SP against both malaria and low birth weight by 50%. Discontinuing IPTp-SP strategy and recommending a basic strategy when parasite prevalence is below 3% is probably not cost-effective if IPTp-SP retain above 50% of the protective effectiveness against malaria and low birth weight. Studies on the effect of parasite resistance on the protective effectiveness of IPTp-SP, and cost-effectiveness analysis of multiple malaria adverse consequences are required to inform the broader effect of decreasing malaria transmission.



#SAN013

## THE STATUS QUO OF SDGS LOCALISATION AT HIGHER EDUCATION INSTITUTIONS IN ZIMBABWE: A REVIEW

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### Abstract

Since the adoption of the 2030 Agenda for Sustainable Development (AfSD) and its embedded 17 intertwined Sustainable Development Goals (SDGs) in September 2015, there has been calls for the Higher Education sector to urgently take action in embracing the SDGs and spearhead their localisation. However, it remains unclear whether Zimbabwean state universities are making progress in this regard. This paper evaluates the status quo with regards to the localisation of the SDGs by state universities in Zimbabwe. The document analysis approach is used to determine the extent of localisation of the SDGs. Emphasis is put on current educational, community services and research systems' mainstreaming of SDGs and their dexterity to boost competencies in sustainable development amongst students and communities. There are indications of successes and challenges of conventional approaches in equipping communities and students with the aptitude to address sustainability issues as enunciated by the SDGs. The barriers to effective localisation of the SDGs revolve around lack of funding. Some practical steps to ensure effective localisation of SDGs are presented drawing from practical approaches from other Higher Education systems globally. The paper is of significance to anyone who wishes to understand current issues around the implementation of SDGs in the higher and tertiary education system.

**Keywords:** SDGs, Zimbabwe, Higher education institutions, community development



#SAN015

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The ability to read and write is an indispensable skill in fostering a fertile foundation for learning in primary schools. An education system with a weak implementation plan or policy on literacy development is doomed for failure. The purpose of this study was to conduct a needs analysis in terms of the policies, teachers' knowledge, and practices in the teaching of reading and writing in the Foundation Phase. The population for this study is four sampled primary school educators from Molepo, Mothiba, Mogodumo, Westernburg, and Mothapo circuits whereby educators in the foundation phase, one from each of the schools were purposefully sampled to participate in the study. The total number of participants in the study is four. The study adopted an explorative participatory qualitative method to get an in-depth understanding of the needs in each school, where participants were interviewed. The study is underpinned by the social intervention theory and modelled by the discrepancy model of needs analysis.

**Keywords:** Foundation phase, Intervention program; Policy, Literacy, Needs analysis



#SAN074

## RECOVERY OF $\text{CaCO}_3$ , $\text{Na}_2\text{CO}_3$ AND $\text{MgO}$ FROM ALKALI EARTH METALS

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### Abstract

Waste gypsum from the fertilizer industry and sodium sulphate rich brines from the mining industry and power stations can be utilized for the recovery of valuable products, as an alternative to stockpiling as waste dumps, or stored in brine ponds respectively. Waste gypsum can be used for the recovery of nano calcium carbonate, sulphur and rare earth metals (cerium, praseodymium, lanthanum, neodymium and samarium) while sodium sulphate can be processed into sodium carbonate, sulphur and sodium bisulphide and magnesium sulphate to magnesium oxide, sodium bisulphide and sodium sulphate. OLI software simulations were carried out to identify conditions needed for the various reactions. Laboratory studies were carried out to evaluate the various process configurations and to produce product samples for analyses. Sodium carbonate was formed by (i) reacting barium sulphide with sodium sulphate to form sodium sulphide (ii) reacting sodium sulphide with  $\text{CO}_2$  to form sodium bicarbonate and sodium bisulphide (iii) conversion of sodium bicarbonate to sodium carbonate through heating. Magnesium oxide, together with sodium bisulphide and sodium sulphate, were formed by reacting magnesium sulphate with sodium sulphide. Innovative techniques were used to separate the compound from one another. Nano calcium carbonate was formed by reacting Calcium bisulphite with sodium carbonate. SEM and XRD analyses were carried out to confirm the purity of each product. The proposed project will allow the generation of profits from waste as sodium carbonate has a value of R5 000/t, nano calcium carbonate a value of R14 000/t and magnesium oxide a value of R7 000/t. Rare earth metals are used form magnets and in the electronic industry and is of strategic value to the Western World due to limited resources.

**Keywords:** Sodium sulphate, Sodium carbonate, Waste gypsum, Saleable products



#SAN086

## MAPPING AI-DRIVEN PERIOD TRACKING TRANSNATIONAL ECOSYSTEM AND STAKEHOLDER PARTICIPATION IN ZIMBABWE

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### Abstract

Artificial intelligence (AI)-driven period tracking applications (PTA) as a women's health intervention have the potential to address health inequalities by reducing the menstrual health unmet-need gaps and lessening the time lost due to the scarcity of menstrual health management resources. The technology potentially enhances women's autonomy, privacy, self-confidence, and knowledge [1]. Research by Tai (2020), Saheb et al. (2021), and Wahl et al. (2018) shows that while the benefits of using AI are indisputable, the technology can have negative implications when social structures and processes are substituted with digital technologies in the absence of adequate governmental and societal oversight.

While the challenges emanating from the nascence of AI are global, disparities encompass its research, design, deployment and governance between nation-states. There are disparate studies on AI in the global north, and the AI Act's drafting is ongoing in the EU. This makes it easier to explore and evaluate AI's impacts, opportunities and challenges within and across EU member states [3], [5]. In contrast, there is limited evidence of the efforts made in the global south countries, both in research and regulation, rendering it challenging to evaluate the technology's impact on these contexts [1]. Hence, this paper aims to map the AI-driven PTAs ecosystem and its stakeholder participation in Zimbabwe using relational and attributes data for mixed-methods social network analysis. Finally, the results will present the opportunities and challenges of AI technology in diversifying and redistributing global power in transnational healthcare interventional processes and its governance.

**Keywords:** AI, Healthcare, Period tracking, Zimbabwe



#SAN094

## DIABETES HEALTH INFORMATION KIOSK FOR SELF-MANAGEMENT EDUCATION: A CONCEPTUAL DESIGN

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### Abstract

Diabetes remains a major global health threat and continues to increase annually. Similarly, in South Africa, diabetes has a high prevalence (6% of the population). Lifestyle interventions and correct self-management play an essential role in managing Type 2 Diabetes. Empowering citizens with appropriate knowledge and skills can enable them to participate fully in their disease self-management is vital to government healthcare strategy. Health information kiosks remain a feasible means to disseminate information to communities. However, this information has traditionally been static in nature and not personalised to the users informational needs. This study presents the conceptual design for a health promotion kiosk for diabetes education that is based on citizens' understanding of self-management. The design of the kiosk is guided by six knowledge domains for wellbeing. These cover knowledge about the health condition, the role of everyday routines, feelings and emotions, social support, future plans and willingness for change. Based on the data gathered, curated diabetes health information is tailored and presented to the user to facilitate their personal diabetes self-management requirements. In addition, these kiosks can also play an important role in providing health workers with data on a community's intrinsic knowledge about diabetes self-management, which can be used to facilitate traditional face-to-face consultation in clinics and in the field. Furthermore, the data collected can guide the inclusion of new information to meet the educational needs relevant for the area or community.

**Keywords:** Diabetes, Health Information Kiosk, Self-Management, Health promotion, Education



#SAN084

## THE CAPACITY DEVELOPMENT NEEDS OF RESEARCH ETHICS COMMITTEE ADMINISTRATORS IN SOUTH AFRICA: A SURVEY

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Most capacity development efforts for research ethics committees focus on committee members and little on ethics administrators. Increasing studies mandate the focus on administrators' capacity development needs to enable adequate and effective committee support. This study investigated current responsibilities, training requirements, and administrator role needs. An online cross-sectional survey was conducted among administrators from 62 National Health Research Ethics Council-registered research ethics committees in South Africa. In total, 36 administrators completed the questionnaire. Results show that, in addition to administration, they perform managerial, review process and guidance-advisory tasks. Nearly 49% indicated only having received informal research ethics-related training, not targeted formal training, with 81% of the informal training being through workshops. Research ethics administrators' responsibilities have evolved to complex tasks requiring targeted capacity development efforts.

**Keywords:** Capacity development, Research ethics committee, Administrator, Bioethics, South Africa



#SAN085

## GLOBAL CAPACITY DEVELOPMENT OF RESEARCH ETHICS ADMINISTRATORS: SCOPING REVIEW

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### Abstract

Capacity development of research ethics committees is generally limited to members, and seldom includes administrators. This study sought to map the capacity development efforts of research ethics administrators. A scoping review was conducted. The literature search yielded 92 potentially relevant records, and further screening yielded 22 studies. The 22 studies were extracted and synthesized; two studies spoke directly on administrators' capacity development, while the remaining 20 focused on the capacity development of committees or of committee members. The two studies which spoke directly on administrators reported about two capacity development efforts targeting administrators in Africa, namely the African Conference for Administrators of Research Ethics Committees, and the West African Bioethics Training Program.

**Keywords:** Capacity Development, Research ethics committee, Administrator, Bioethics, South Africa



#SAN103

## LEARNING NARRATIVE COMPETENCE: QUALITATIVE EVALUATION OF SOCIAL WORK AND HEALTH CARE PROFESSIONALS' EXPERIENCES OF PARTICIPATING IN A REFLECTIVE WRITING INTERVENTION

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### Abstract

Accumulating evidence points to the benefits of narrative competence in complementing the professional skills of social work and health care professionals. Social work and health care professionals were offered a 7-week course aimed to develop narrative competence—i.e., skills in close reading and reflective writing. The research questions were: (1) How do participants perceive the relevance and usability of narrative skills in light of their experience of participating in the course? (2) What assumptions about narrative competence do participants make before and after the course? We employed a story-completion task to understand participants' assumptions, before and after the course, regarding aspects of narrative competence. In addition, we conducted individual semi-structured interviews (n=14) after the course to explore experiences of course participation and learning. All data will be analyzed using reflexive thematic analysis. Expected results: The analytical focus is on social work and health care professionals' experiences of course participation and learning. The results will shed light on how participants understand narrative competence in relation to their work and the relevance of the taught skills before and after the course. All data have been collected. Preliminary results will be ready to be presented in December.

**Keywords:** Narrative competence, Reflective writing, Narrative medicine, Health humanities, Reflexive thematic analysis



#SAN120

## PRELIMINARY STUDY ON THE BACTERIAL CONTAMINATION AND HEAVY METALS OF DRINKING WATER IN THE PUBLIC SCHOOLS IN LIMPOPO PROVINCE, CASE STUDY: MANKWENG

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### Abstract

Water quality plays a vital role in daily human life, such as drinking, farming, livestock breeding, and manufacturing. However, urbanization and industrialization create a pollutant challenge for drinking water, especially in rural areas. Limpopo Province is the most extensive rural area in South Africa, facing drinking water pollution. Additionally, most schools in the rural regions currently use borehole water to provide drinking water for the students. Hence, drinking water quality becomes a priority to serve the best healthcare strategy to the students. Therefore, a study was conducted in the Mankweng rural areas to evaluate the bacterial contamination and heavy metals in drinking water in several schools. In the preliminary research, we collected six borehole and tap water samples to check drinking water quality. The results indicated that the total coliform was detected at two schools; in one of them, more than 201 coliform colonies were detected per 100 ml of tested water. In contrast, in none of the tested water, *Escherichia coli* was detected. Besides, neither coliform nor *E. coli* were detected in the tap water samples and commercial mineral water as control. The result of heavy metals showed that selenium (Se) was detected in higher amounts than other heavy metals, ranging from 0.157 to 0.625 mg/ml, including tap water and borehole samples. Besides, cadmium (Cd), cobalt (Co), and nickel (Ni) were not detected in any of the samples tested. In conclusion, some of the school's water needs to be checked according to international standards, in which no coliform should be detected in drinking water. Additionally, heavy metal detection should be evaluated regularly to be at the standard level. However, the project is ongoing, and more samples will be analyzed. This project is in line with the education and healthcare strategy of the educational institutes in South Africa, which brings pertinent information on the water quality to help the students.

**Keywords:** Bacteria, Limpopo, Student, Water quality



#SAN119

## ETHNOBOTANICAL STUDY OF INDIGENOUS KNOWLEDGE THE USE OF MEDICINAL PLANTS IN SOUTH AFRICAN RURAL AREAS.

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### Abstract

Most rural communities in South Africa depend on the use of medicinal plants for their primary health care purposes. The aim of this study is to explore the relationship between indigenous knowledge and the use of medicinal plants in South Africa. This study adopted a qualitative research approach using the exploratory design. Seminal studies on this subject were purposively collected using the keywords that were extracted from the research topic. Only sources of high academic standing, with integrated ideas, and not separate writings on this topic were reviewed. The reviewed documentary studies were demarcated to recent studies. Method of inductive Textual Content Analysis (TCA) was used to analyse the data collected. The results of this study proves that there is a relationship between indigenous knowledge and the use of medicinal plants in South African rural areas. In order for an individual to be able to know which medicinal plant and which part of the plant to use they need to have indigenous knowledge about these plants. It is also stated that indigenous knowledge is passed from one generation to the other and if it is not documented it is likely to be lost. It is concluded and recommended that in order for future generations to continue to use medicinal plants to sustain their primary health indigenous knowledge should be protected and be documented for easy access when needed.

**Keywords:** Ethnobotany, Indigenous Knowledge, Medicinal Plants, South Africa, Textual Content Analysis



#SAN002

## AFRICAN HIGHER EDUCATION: FOCUS ON LOCAL CONTEXT

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### Abstract

Africa have about 1225 officially registered higher education institutions (<https://www.4icu.org/Africa/>). Some of them are founded by formal colonizers and while others through national and local initiatives. The majority of these institutions Euro-Centric in their approach. This text will investigate briefly what is expected of African higher education to transform societies to the better. The study is based on analysis of secondary data searched and found from Google Scholar, ERIC, and Primo database. Terms such as Higher education in Africa, African higher education, possibilities and limitations of African higher education are used for the search. 15 articles relevant to the purpose of the study are identified and used. The result of the study shows that African universities need local epistemologies and knowledge production systems to identify, research and propose solutions to local problems. Teaching and research should take in to consideration social experiences and knowledge of the local communities. Local languages should be considered to undertake research, to distribute knowledge and to secure communities' engagement. Teachings and research need to address the political unrest, social injustice, economic underdevelopment and technological backwardness most countries are facing. Focus on the local realities and transformation should be prioritized instead of international competition and commodification of higher education. For transforming higher education to focus on local context, there is a need that the management, administration and academic staff students as well as the society at large should stand together.



#SAN083

## **ZAMBIAN HIGHER EDUCATION AS A CONTRIBUTOR TO SOLUTIONS FOR GLOBAL CHANGE? A CIVIC EDUCATION PERSEPCTIVE**

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### **Abstract**

In a time where challenges of global dimensions are occurring at an accelerating speed, higher education is regarded as one of the main vehicles that should bring about the needed solutions for global change. With quality education being one of the key themes in the globally coordinated efforts for change represented by the Sustainable Development Goals, the importance of education is widely recognized throughout the global community. Providing knowledge, skills and attitudes, not for the sake of it, is crucially important for understanding the necessity of global solutions to the challenges at hand. Therefore, Civic Education offered within the higher education realm has the potential in facilitating the larger process of incorporating solutions that can bring about global change. In this paper, we explore Zambian Civic Education as a contributor to higher education solutions for global change. Through a content analysis of education policy documents of relevance as well as higher education curricula, we explore the extent to which programs and other aspects of Civic Education within higher education are considered and positioned within global perspectives to educate teachers of Civic Education for future generations. Put another way, the overarching question to be addressed is: How is the Zambian higher education serving as a contributor to solutions for global change through the lens of Civic Education? As narratives of global citizenship education is found within Zambian Civic Education, we find teacher training at the higher education level to be firmly rooted within global perspectives, facilitating for solutions for global change.

**Keywords:** Civic education, global citizenship, higher education, Zambia, SDGs

**Subtheme 3:** Higher education solutions for global change



#SAN028

## DECOLONIZING RESEARCH METHODOLOGIES: JOINT FIELD RESEARCH AND RE-IMAGINED SOUTH-NORTH COLLABORATION

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### Abstract

This paper takes as its point of departure a newly granted research school programme *Decolonizing Research Methodologies* that regroups scholars and PhD students of three African, and three Swedish universities in a collaborative framework of research and research training. The programme focuses on qualitative research in social sciences, and includes scholars and students of anthropology, development studies, human geography, religious studies, and sociology. Building on years of joint and collaborative research carried in closely-knit teams out in West Africa, it aims to strengthen conceptual, theoretical, methodological, and, not the least, practical work when it comes to current decolonization debates. In the paper, I particularly discuss how and to what extent the carrying out joint ethnographic field research might contribute to decolonize in practice. By means of three summer courses in Sweden, Tanzania, and Burkina Faso/Mali, joint and collaborative field research activities help us to rethink knowledge production, transformative learning, and research methodologies at large. In such courses, senior and junior researchers work side by side, and all are encouraged to reflect on conceptualization, comparison, and decolonization in practice. To illustrate the main argument of the paper, I develop a case study that draws upon the experiences and insights of carrying out joint fieldwork with Burkinabe, Malian, Swedish, and Tanzanian researchers on the island of Gotland in the midst of the Baltic Sea.

**Keywords:** Partnership, Decolonization, Methodology, Epistemology, Fieldwork



#SAN057

## HEALTH RESILIENCE FACTORS AMONG DENTAL CARIES-FREE ADULTS IN LOW SOCIO-ECONOMIC AREAS IN SOUTH AFRICA: PILOT PROJECT PLAN

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### Abstract

The prevalence of caries varies with social class and social deprivation. Despite some improvements in oral health in developing and developed countries, oral diseases are still considered public health problems worldwide. With a health promotion (Salutogenic) approach, the aim of this project is to probe the reasons behind resilience to dental caries in two low socio-economic areas in South Africa. This pilot project is aligned with a Swedish study based on a collaboration through the South Africa-Sweden University Forum (SASUF). A mixed-methods was followed where a dental clinical examination was done, inviting individuals with no dental caries for an in-depth interview. Forty participants (18+ years) were recruited from low socio-economic areas in Johannesburg and Mangaung, South Africa. The data analysis plan involves descriptive analysis of the independent variables (age, sex, and marital status, socio-economic status using employment status, social grant, and income level). Thematic content analysis will be used to analyze the transcripts from the audio-recorded in-depth interviews. Data collection is still ongoing, and the final results will be available by the time of the conference. In line with a Salutogenic approach the expected results will contribute to a deeper understanding about how resilience could be a healthy resource for no caries experience in low socio-economic areas. Strengthening abilities and assets is an essential part of promoting health and well-being. The study hopes to support the Salutogenic work in dentistry aiming to increase resilience factors as a resource for oral health.

**Keywords:** Salutogenesis, Dental caries, Health resilience, Socio-economic status, Mixed-methods



#SAN125

## **EFFICIENT SDG FULFILMENT FOR REGIONS IN TRANSITION: LINKING SOCIETY TO RESEARCH ADDRESSING DEVELOPMENT CHALLENGES**

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### **Abstract**

EFFORT - Efficient SDG Fulfilment for Regions in Transition - establishes a basis for international, regional, national, and cross-sectoral, structured collaboration built on a societal PhD program and an international forum. Civil servants are enrolled in bilateral “sandwich” PhD programs and participate in a bridging, multidisciplinary Forum for co-creation of scientific research, where Sustainable Development Goal (SDG) fulfilment, high-quality research, and regional development challenges overlap. In the initial stage, EFFORT draws on the existing relationships between Rwanda, Sweden and Uganda. EFFORT is also drawing on active participation by the United Nations Development Programme (UNDP), to create stronger capacity for societally relevant research and for the use of research results, methods and solutions, in the implementation of Agenda 2030 and hence the fulfilment of SDGs in the global South and North. Tied to each PhD student is a transdisciplinary team of advisors (TTA) composed of, in each bilateral setting, two academic supervisors and two mentors representing stakeholders in the participating public institutions. The TTAs connect through the EFFORT Forum, which links and supports the PhD projects with activities that strengthen co-creative capacity, and build the trust and stability needed to spur development of cross-sectoral collaboration and sharing of generated knowledge and experiences, including ways of implementing solutions aimed at reaching the SDGs. The initial EFFORT stage aims to enhance participant’s management and leadership capacity, and to foster skills, stability and the trust needed to attract future investments and to sustain and scale-up EFFORT to embrace a larger number of participating countries.

**Keywords:** SDG, PhD-training, Scientific research, Civic society, Co-creation



#SAN146

## TVET LECTURER LEARNING THROUGH INDUSTRY MEETINGS: WORK-INTEGRATED LEARNING EXPERIENCE

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### Abstract

Offering Technical and Vocational Education and Training (TVET) skills relies, among other factors, on qualified TVET lecturers with the required prerequisite skills. This study aimed to explore TVET lecturer learning through conducting meetings in industry during their work-integrated learning (WIL) experience. Literature is scarce on WIL for TVET lecturers, particularly learning through meetings in industry. This study contributes to a research niche in this area. An interpretivist paradigm, which employed a multiple case study design, informed this study. From the cases, purposive and convenience sampling was used to select TVET colleges and the industries hosting lecturers during WIL. Data were generated from 18 purposively selected TVET lecturers from the three selected TVET colleges using face-to-face, semi-structured interviews. The non-participant observation was used to complement interview data and assist with triangulation. Experiential learning theory (ELT) by Kolb (1984) underpinned the study. Findings revealed that meetings provided effective information sessions to lecturers during the WIL experience. Lecturers learnt from daily schedule discussions, sharing others' feedback experiences, and carrying out inspections and safety hazards procedures. The research contributes to different forms of lecturer learning during WIL. Further research on how lecturers learn during WIL is recommended.

**Keywords:** Lecturer, Meetings, Industry, Work-integrated Learning, Skills



#SAN037

## MULTICULTURAL PRACTICUM GROUPS. INTERNATIONALISATION AT HOME AND AWAY

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### Abstract

There appears to be broad support for educating critical and ethical minded global citizens in higher education. This presentation will describe a project where four higher education institutions in four countries, has launched an international exchange programme called Multicultural Practicum Groups and Internationalisation of Teacher Education (MUPIT). The four countries involved are Namibia, Norway Poland and Sweden. The aim of the project is to increase pre-service teachers' intercultural competence and global awareness during a five-week practicum period. The pre-service teachers have school-based practicums abroad together with students from other countries and from the home institution. This means that some students are getting international experience by going abroad, while students that stay at home get an international experience by being placed in practicum groups with foreign students. In this project we want to investigate if being part of a multicultural practicum group, either abroad or at home, lead to increased intercultural competence and global awareness. Theoretically we apply Mezirow's (1997) concept perspective transformation and investigate if multicultural practicum groups might contribute to such a cognitive process. Researchers from all four countries have jointly developed a trailing research design that will be used to monitor the effects of the program. In this presentation we will report preliminary findings from a pilot investigation during the first year of the project. We used qualitative methods based on three interview guides. One before the practicums, one after the practicums and one for a focus group discussion during the practicum.

**Keywords:** Teacher education, Intercultural competence, Practicum



#SAN025

## **COLLABORATION ON MOBILE PLATFORMS FOR STUDENT AND STAFF – SELF-HELP APPS - MUST OR NEED? CASE STUDY of NUST**

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### **Abstract**

Standing on the precipice of the 4<sup>th</sup> Industrial Revolution and the disruptive impact of the new normal, higher education has undergone a paradigm shift and requires substantive attention to 'digitization' as key factor of service delivery at Universities through the newest "buzz phrase" smart campuses, or Mobi Apps. The phrase "education technology" refers to ICT resources and devices intended to enhance the educational system (Escueta et al, 2017) and undisputedly come with unpleasant adjustments. Higher education to undergo significant change in placing emphasis on e-learning, new and improved service platforms, remote teaching and learning, including an increase in social media use, thus enabling the appropriateness of ICT for educational purposes. (Kaisara & Bwalya, 2021., p 308) . The potential to redefine and re-envision higher education systems during and post COVID, enhances by "digitization" implementation with as little disruption as possible without losing touch of the humane element and jealously guarding mental health in the process. Using ICT to deliver online services is nothing new at the Namibian University of Science and Technology (NUST), however we fall short of much needed user-friendly future- generation Mobi platforms / apps already used as regular services in other institution. In light of the aforementioned, the purpose of this paper is to collaborate with trendsetters from north-south on these self-service platforms in order to have it implemented for those who are not yet on 'that' run. Conclusively, this paper seeks not to re-invent the wheel, but seek active collaboration between South-North in IR4.0.

**Keywords:** 4<sup>th</sup> Industrial Revolution Smart Campuses, Mobi Apps Digitalization  
re-invent the wheel collaboration



#SAN010

## EXPLORING STUDENTS' VALUE CREATION AND CONTRIBUTION TO SUSTAINABLE DEVELOPMENT IN AN INTERSHIP COURSE

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### Abstract

A core activity for universities is to develop students' knowledge, skills, and attitudes through educational services. Can universities in a broader sense also contribute to value creation and sustainability development in their eco-system throughout students in an internship course? And can an international student in an internship abroad, create additional value? How can this contributions be characterized? This is some of the questions we care about. In this research, we explore students value creation and their contribution to sustainable development throughout participation in two internship courses with 10 weeks duration for Master students. The two programs are a collaboration between two faculties at Western Norway University of Applied Sciences. Through an INTPART project the aim is to develop high-quality internship programs for Norwegian and South African master students in Bergen, Stellenbosch, and Pretoria. The internship course includes a 10-week fulltime practice period, including weekly seminars, reflection lectures and supervision. We will adopt several theoretical frameworks to explore and measure students' contributions to the organization's value creation and sustainability. Our understanding of this dimensions is closely related to student's practice and the companies' perception of the students' contribution. An explorative research approach is planned, and the main data for our research originates from company mentors' experiences expressed during two focus group meetings. In addition, we analyse students' final one-pager, companies' one pager prior to matchmaking and the final attest from the companies to the students.

**Keywords:** Entrepreneurship education, Value creation, Sustainability, Internship, Internationalization



#SAN030

## THE PERCEPTION OF INCLUSIVE EDUCATION: TEACHERS AND PARENTS VIEW ON THE POSSIBILITIES OF INCLUSIVE EDUCATION IN KENYA

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### Abstract

The right to inclusive education is recognized by the United Nations Convention on the Rights of Persons with Disabilities. In educational setting, this right implies that No-child should be excluded from benefiting from their nearby schools despite their individual needs. The critical question is how to make schools inclusive for students with special needs. This study aimed to explore parents and teachers view on the possibilities of inclusive education in a special needs school in Kenya. The study was conducted in Joytown special school where 85% of the pupils have physical disabilities and 15 % are non-disabled counterparts. The study was guided by Capability model and descriptive study design was utilized. Purposive, simple random sampling and lottery techniques were used in selecting a sample size of 30 (teachers and parents). Data from the target participants was collected from focus group discussions and interview and observation schedules. The research data from the target participants was analyzed using SPSS, and as per the study objectives. The study findings revealed that Inclusive Education benefits diverse groups of students though peer to peer interactions, reduces societal biases and increases students learning opportunities.

**Keywords:** Inclusive Education, Students with Physical Impairments, Special secondary School, Education Needs, Peer Interaction



#SAN032

## EXPLORING THE POTENTIAL OF THE B2B SHARING ECONOMY FOR START-UPS AND EARLY BUSINESS DEVELOPMENT: A NORWAY, SOUTH AFRICA COMPARATIVE STUDY

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### Abstract

It is well recognized that, while start-ups are important drivers of employment and innovation, the failure rates of these businesses is significant. Approximately one-fifth of new businesses fail during the first two years of operation, and nearly half fail during the first five years (Carter, 2021). According to Islami et al. (2019), barriers to entry and liability of newness are critical stumbling blocks for young companies. The sharing economy (SE) has become an increasingly important addition to the modern economy and society; however, thus far, the main focus has been on sharing between consumers. The SE in the business-to-business (B2B) context has received very little attention but offers great potential (Nordic Council of Ministers, 2017). This study explores how the B2B SE model can aid start-ups in the critical early phase of technology development and market launch. This study formed part of the INTPART' collaboration project between Norway and South Africa. 23 interviews were conducted with entrepreneurial leaders of start-up companies, resource providers and facilitators. This research uncovered several novel findings regarding the B2B SE model and how it is utilized to support start-ups in the early phase of technology development and market entry in both the Norwegian and South African contexts. Existing SE research has mainly focused on the sharing of physical resources; however, the findings of this study reveal that the additional support and services provided by these B2B sharing platforms and the sharing of intangible resources plays an important role in improving the start-up's chances of success.

**Keywords:** B2B sharing economy, the liability of newness, Barriers to entry, Entrepreneurship, Early business development



#SAN041

## THE ROLE OF FOREIGN CULTURAL INSTITUTES IN HIGHER EDUCATION IN AFRICA

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### Abstract

During the last 20 years, the overall number and diversity of foreign cultural institutes have mushroomed in Africa like in no other continent. In 2002 there were less than 200 such institutes, in 2022 the total number was close to 700. While former colonial powers are still the biggest group, led by over 200 Alliance Française, 46 Goethe institutes and 38 British Councils, the United States has about 170 centers in the continent, and the Chinese Confucius with 80 locations has increased most rapidly<sup>1</sup>. Comparable to cultural institutes are Islamic Preaching societies sponsored by Gulf countries and Iranian Al-Mustafa University network. The first Confucius Institute in Africa was established at the University of Nairobi in 2005. Unlike the old institutes the Chinese ones work within universities, giving them a role to train students in different forms of Chinese presence in Africa. Other newcomers in the continent include Turkish Yunus Emre with 8 institutes established since 2010 and Russian Russkiy Mir with 11 institutes established after 2019. African economic powers, Nigeria, Egypt, South Africa and Algeria are the most attractive locations for these institutes. Geopolitics and cultural connections explain why Brazil has established institutes in Lusophone countries, India in Eastern and Southern Africa and Turkey in countries with a Muslim majority. As shown in the map, all African countries host at least one foreign cultural institute. I will give an overview of the spread of the institutes and discuss their contribution to higher education in Africa both as transferable skills, networking and students' and university teachers international mobility are concerned.

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<sup>1</sup> Data from Joshua Nederhood, Development Reimagined. The total numbers include also “minor institutes”, like Confucius Classrooms in addition to the Institutes.



#SAN042

## EXTERNAL DYNAMICS EXASPERATIONS ON THE ADOPTION OF ENTERPRISE APPLICATION ARCHITECTURE FOR SUPPLY CHAIN MANAGEMENT

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### Abstract

Given the effervescent nature of external uncertainties, this article inspects the probable extent of the external dynamics' exasperations (EDEs) that affect the adoption of enterprise application architecture (EAA) for supply chain management (SCM) in small and medium enterprises (SMEs). The 4<sup>th</sup> Industrial revolution encompasses enterprises and corporations to practice optimal productivity through an in-depth understanding of EDEs (e.g., complex legal and regulatory constraints, lack of external financing, low technological capacity, and relative advantage). The primary objective of this paper is to determine whether EDEs affect the adoption of EAA for SCM in SMEs and to identify the gap information, which could be beneficial for descriptive and exploratory research studies. Consequently, secondary objective is to determine hidden outliers that would make it possible to explore predictable sub-systems that would assist SMEs in the adoption of EAA. To test this argument, 310 SMEs were surveyed through a quantitative approach as part of the MCom dissertation. The analyzed results validated the alternative hypotheses that EDEs affect the adoption of EAA for SCM. In other words, the results presented that EDEs scrutiny has a significant and positive influence on the adoption of EAA, and formerly further dictates employees' competencies and enterprise resources to harness the tribulation.

**Keywords:** Effectuation theory, Enterprise application architecture, External dynamics exasperations, external financing, Small and medium enterprises, Supply chain management.



#SAN045

## DISCOURSES OF SUSTAINABILITY, MIGRATION AND CULTURE PRODUCTION IN SOUTH AFRICAN GEOGRAPHY TEXTBOOKS

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### Abstract

This paper will discuss curriculum innovation, and the opportunities of integrating environmental and sustainability concerns in geography education in South Africa. The focus is on how geography teachers in secondary school are implementing environmental education [EE] and education for sustainable Development [ESD] in the school context. By using qualitative interviews and participant observation with teachers in secondary schools in the cities Durban and Pietermaritzburg in the Kwazulu Natal province our research will explore how content knowledge, variation in teaching material and lack of clear evaluation criteria in EDS education causes challenges for teachers in geography. The focus of the paper is on how the teachers' lack of content knowledge and pedagogical knowledge, can be overcome by standards based teaching methods and emphasis on key competences. And additional focus is how discourses of sustainability, migration and culture production can be identified in South African geography textbooks. The overlapping nature of perspectives identified in the textbooks also illustrate the complexity of identifying problems and solutions for teachers in Human Geography. The research group COMPETE based at Western Norway University of Applied Sciences has supported the project.

**Keywords:** Education for sustainable development, Curriculum innovation, Culture production and migration discourses in Human Geography



#SAN044

## **PRE-SERVICE TEACHERS AND THEIR CONSTRUCTION OF DIVERSITY IN THE ARAUCANIA REGION**

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### **Abstract**

The educational reform in Chile is putting a greater accent on diversity and the participation and achievement of ethnical and cultural diverse groups in the public education. Nevertheless, to fully recognize the other as a valid one, and to consider education as an influential tool to construct citizenship and reduce discrimination, teachers are arguably not yet prepared for a change of educational paradigm. The Chilean curriculum acknowledges cultural and ethnical differences as a general definition. Yet, the construction of diversity remains essentialist with very few levels of complexity and richness. The Chilean education system is not reflecting critically about the other, nor considering their identity, knowledge and culture as part of a critical process to promote a critical citizen. The paper focuses on how pre-service teachers from two universities the Araucanía region reflect about the otherness and how they perceive their constructions of difference to be of importance for their future pedagogical performance. Based on biographical narrative research and semi- structured interviews the academic background and social setting of teachers is analyzed. We examine how pre-service teachers define diversity while reflecting about discrimination, ethnical knowledge, culture, multicultural education and inclusion. The Araucanía region is the poorest region in Chile, together with a high presence of Mapuche people and rurality. Currently, the conflict between the Chilean State and members of Mapuche communities is turning quite aggressive. A major issue in this matter relates to an historical negation of their identity as a valid one, and a long history of poverty and marginality.

**Keywords:** Diversity, Alterity, Mapuche, Education, and Indigenous Knowledg



#SAN077

## EMPLOYEES' OCCUPATIONAL HEALTH SAFETY AND FINANCIAL PERFORMANCE IN SELECTED JOHANNESBURG STOCK EXCHANGE LISTED ORGANISATIONS.

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### Abstract

Employees' occupational health safety and financial performance. This study examines how the employees' occupational health safety expenditures (EHS) influences organisations' financial performance which is return on assets (ROA) in selected Johannesburg stock exchange listed organisations. The study used quantitative research method, using the panel data that utilises multiple linear regression analysis to analyse the integrated annual reports of 175 Johannesburg stock exchange (JSE) listed organisations for a period from 2009 to 2019. The findings show a positive and significant relationship which implies that EHS influences the financial performance (ROA) of selected JSE organisations. The results of this study provide managers with a platform to review the existing EHS policies and the organisation's strategies that are meant to achieve sustainability. This study considered secondary sources, thus limiting independent views by employees. The researcher recommends that primary qualitative data be used in the future studies to measure the influence of EHS on organisations' financial performance (ROA).

**Keywords:** Sustainability performance, Corporate sustainability, Occupational health and safety, Financial performance



#SAN126

## BEHIND DIGITAL INNOVATIONS

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### **Abstract**

In order to discuss, evaluate, and address social consequences of digitalization, we need to study and understand key people and events behind today's digital innovations. This research contributes to an ongoing discussion within critical data studies by focusing on humans and meeting places shaping digital innovations that are/will be realized in this connected and data-saturated society we find ourselves in. The focus will be on angel investors and venture capitalist, pitching events and conferences where innovators and investors meet and intermingle. I will present conclusions from pilot studies conducted in Sweden (Malmö, at MINC-Malmö Incubator), South Africa (Stellenbosch, at the LaunchLab) and the US (Austin, at SXSW – South by southwest conference & Silicon Valley, at Facebook and Google headquarters). The overall research question is how key people and events contribute to, and shape, current and future digital innovations. With my expertise coming from the Social Sciences, the focus will be on culture (in an anthropological understanding of culture) which in this project operationalized through norms, values, rituals, and imaginaries surrounding humans and meeting places behind digital innovations.

What consequences does these norms, values, rituals, and imaginaries have in our digitalized societies?

The project departs from the importance attributed to digital innovations, the promise they bring with a more connected world where digital innovations are believed to solve most, if not all, problems that our society faces such as climate change, infection tracing, increased polarization, and intolerance. I am still conducting these pilot studies (the last will be in June) and by the time of the conference I will have results to present.

**Keywords:** Angel Investors, Culture, Digital Innovations, Society Venture Capital



#SAN027

## HIGHER EDUCATION SOLUTIONS FOR GLOBAL CHANGE RECRUITING LOW-LITERATE IMMIGRANTS TO A RESEARCH PROJECT –LESSONS FROM NORWAY

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### **Abstract**

Implementing Sustainable Development Goals (SDGs) and North-South partnerships are contingent upon the extent to which we construct and address diverging needs and priorities within a shared project. We suggest in this paper that, if we as knowledge practitioners in the Higher Education sector wish to contribute to these global projects, we would do well to learn from the handling of diversity and inequity in our own research projects, first. As such, this paper considers as its reflective material, the research processes and relations within a project which involves refugees and immigrants with little formal schooling and limited print literacy, hereafter LESLLA learners. Specifically, we will consider the recruitment process and how it may be conducted so as to meet the divergent but interrelated needs and interests of all parties to the research. Against this backdrop, we explore the circumstances of LESLLA learners from the Norwegian context and consider why and how *the transformative paradigm* can be useful when designing and conducting a research project with LESLLA participants. We focus on the moral and ethical foundation that the transformative paradigm can provide for researchers in the recruitment phase but navigate beyond the general technical details of ethical behavior in research in order to suggest more appropriate ethical and moral considerations for conducting such knowledge sharing projects involving such disparate knowledge-making histories and agendas.

**Keywords:** North-south partnerships, Low-literate learners, Reflective practices, Transformative paradigm, Research ethics



#SAN087

# PREVALENCE OF COVID-19 VACCINE HESITANCY IN A RURAL SETTING: A CASE STUDY OF DIMAMO HEALTH AND DEMOGRAPHIC SURVEILLANCE SITE, LIMPOPO PROVINCE OF SOUTH AFRICA

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## Abstract

The primary purpose of introducing the COVID-19 vaccine was to fight the pandemic. However, the vaccine was not well received worldwide. This challenge has threatened the effective implementation and roll-out of COVID-19 immunization campaigns. Yet there seems to be a scarcity of studies determining the prevalence of vaccine hesitancy in deep rural areas of Limpopo. The study aimed to explore the prevalence of COVID-19 hesitancy among the rural black population in South Africa. A longitudinal quantitative study was conducted with data from the DIMAMO Health and Demographic Surveillance Site (HDSS) database for 2020 to 2022. A non-probability total sampling technique was used to select the respondents. Trained fieldworkers collected data using an electronic data capture questionnaire. A comparison of categorical variables was performed using Chi-Square in SPSS version 26 and the statistical significance was set at  $p < 0.05$ , with a 95% confidence interval to analyze the data.’ The limited availability of vaccination sites in Limpopo Province, South Africa, was associated with a reduced certainty that the vaccine would be accepted, as reported in the current study. The study results indicated different cultural beliefs among the rural black population that existed before and during the COVID-19 pandemic. The present study findings show diverse factors of concern associated with vaccination hesitancy, lack of education, gender, not being diagnosed with COVID-19, not being a Christian, visiting traditional healers, vaccine mistrust, unknown side effects, and a lack of confidence in the vaccine itself .for COVID-19 among rural black people.

**Keywords:** Prevalence; COVID-19, Vaccine hesitancy, Rural areas, DIMAMO



#SAN101

## PEPPER-BARK TREE CONSERVATION CONVERSATIONS: DESIGNING CONVERSATION STARTERS TO EXPLORE CONSERVATION STRATEGIES WITH LOCAL COMMUNITIES

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### Abstract

The Pepper-bark tree, *Warburgia salutaris*, indigenous to Southern Africa, including Eswatini, is an endangered species and a highly sought-after species in the medicinal plant trade, particularly because of its extensive use in traditional medicine as well as its significant cultural value in ritual ceremonies. In a recent study, we worked with various communities throughout the country to map the distribution and population status of the species. The study assessed its conservation status and identified the direct and indirect threats to the survival of the species. Recommendations for sustainable use of the species included propagation of the species to relieve the pressure on wild populations and this is already being implemented. However, in order to support conservation of the species it is important to gain a better understanding of how to involve local communities actively as well as to learn about indigenous knowledge from the communities that could support conservation and propagation. As a starting point we look at species that face similar challenges, such as the Sandalwood tree in India, as well as into local myths and stories around the Pepper-bark tree to understand mechanisms for conservation. Through this work, we develop conversation starters that can be used in Participatory Design processes with local Eswatini communities in order to gain a deeper understanding of how conservation of the Pepper-bark tree can be approached practically.



#SAN153

## **LOOKING BACK IN ORDER TO MOVE FORWARD IN DRIVING THE SDG 2030 AGENDA: THE UiB AND UWC PARTNERSHIP EXPERIENCE**

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### **Abstract**

Sustainable Development Goals (SDGs) apply to all countries and involve various stakeholders. Higher Education Institutions as key stakeholders has to make explicit their contribution to ensure that we achieve the SDGs. Sharing of activities and processes can assist other higher education institutions in mapping their own strategy for contribution towards the 2030 agenda. The aim of this study is to reflect on both the progress and processes of two higher education institutions in contributing to achieving the SDG 2030 agenda. Mapping the pathway of engagement of UiB and UWC by reflecting on lessons learnt and identifying opportunities for the way forward. Results demonstrate that despite geographical and resource differences, there remains opportunity for collaboration. In addition, higher education institutions globally need to work together and coordinate their efforts to ensure that the SDGs are achieved. In conclusion, we need to look both internally at how we operate individually and externally in how we engage and learn from others in order to realistically contribute to the 2030 agenda.



#SAN009

## ATTEMPTING AT LEARNING FROM INDIGENOUS KNOWLEDGES TO EXPAND CULTURAL-HISTORICAL ACTIVITY THEORY (CHAT)

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### Abstract

This presentation outlines some of the initial steps taken in what we hope to be a respectful journey from which cultural-historical activity theorists can learn with indigenous knowledge communities. The focus is about ways in which indigenous theories and practices can be brought into fruitful dialogue with CHAT for developing equitable and sustainable ways of living, producing and organizing, that is, interventions for enacting the utopias of justice, harmony with nature and wellbeing for all. A central premise for this is the belief that indigenous communities and their knowledges hold the key to shaping and realizing the visions of equity and peace for the future of humanity. As an activist theory with an interventionist epistemology, cultural historical activity theory strives toward a partnership for tackling the systemic obstacles that impede progress toward these utopias. The paper will, firstly, outline some of the key tenets of indigenous knowledges and CHAT which will serve as the starting point for identifying the ways in which these may diverge, converge and, most importantly, inform each other. This initial theoretical discussion will be juxtaposed with conversations and insights from workshops and meetings between indigenous knowledge communities and CHAT scholars. The paper will then present some of the preliminary lessons learned by these exchanges and invite reflections about the process and outcomes of these exchanges.

**Keywords:** Indigenous knowledge, Cultural-historical activity theory, Utopias, Interventionist epistemology, Dialogue



#SAN061

## THE INTEGRATION OF INFORMATION AND COMMUNICATION TECHNOLOGY FOR TEACHING AND LEARNING IN TECHNOLOGY GRADE 7 CLASSROOM

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### Abstract

The purpose of this study is to investigate the challenges that teachers face when integrating Information and Communication Technology for teaching and learning in technology Grade 7 classroom, in the primary school in Capricorn South District, Limpopo Province. This study provides the insight understanding of the challenges that teachers face in integrating Information and Communication Technology into teaching and learning and how effective is teachers' integration of Information and Communication Technology in Technology classroom. The qualitative research design is used in collecting data for this study from the primary school educators in Capricorn South District in the Limpopo Province using interviews and questionnaires instruments. The results indicate that the lack of resources is the main cause that makes teaching using Information and Communication Technology challenging and teacher knowledge is also another cause. The participants have also identified some of the challenges that they face when integrating technology such as, a lack of School Management Team support in the use of technology applications. From these findings, this study recommends that, teachers must be provided with relevant resources required to integrate Information and Communication Technology in their teaching. Furthermore, teachers must be trained on how to integrate Information and Communication into teaching Technology subject in their classroom and also the programme offered at the teaching training institution must have Information and Communication Technology teaching and learning as one of their modules.

**Keywords:** Education, Information and Communication Technology, Technology Concepts, Teaching and learning



#SAN014

## THE JUXTAPOSITION OF PEER INTERVENTIONS AND MASS MEDIA HEALTH CAMPAIGNS FOR CERVICAL CANCER AWARENESS AMONG RURAL WOMEN IN LIMPOPO PROVINCE, SOUTH AFRICA

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### Abstract

For decades, cervical cancer has been a challenging public health issue affecting women in South Africa and worldwide, with the under-developed and developing countries being affected the most. Despite the efforts of making screening (Pap smear) and treatment available across many healthcare facilities, outstanding issues regarding the communication and health promotion come into play. The current study outlines problematic areas relating to communicating about cervical cancer and highlights important issues around the adoption of peer interventions and mass media health campaigns to draw significant differences between the two modes. The discussion will further highlight the mode which has a potential for health communicators and practitioners to achieve better cervical cancer outcomes and for their messages to reach the desired target audience. Using in-depth interviews, data will be collected from 30 women residing in three villages in the Sekhukhune area, Limpopo Province, to assess the impact which both peer interventions and mass media health campaigns have on increasing awareness about cervical cancer. There have been few studies that attempted to explore this area, particularly within the South African context and as such, the current study anticipates to add to the body knowledge and bring innovative and novel insights which will be significant for health professionals involved in the planning of health awareness campaigns for cervical cancer and stakeholders involved in the implementation health policies.

**Keywords:** Cervical cancer, Screening, Mass media health campaigns, Peer interventions, Awareness



#SAN052

## **GLOBAL ENERGY TRANSITION – SEARCH FOR RESEARCH COLLABORATION IN THE FIELD OF RENEWABLE FUELS AND ENERGY CONVERSION**

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### **Abstract**

Energy Sciences at Lund University work with efficient and sustainable energy systems, aiming to find enablers for the global energy transition. Our expertise ranges from district heating, theoretical heat transfer calculation to experimental work on thermal energy conversion, to name a few. I will use this opportunity to search for collaboration in the field of renewable fuels and energy conversion, mainly according to SDG 7, 13 and 5, where the latter is referred to the female use, exposure and collection of biomass for cooking. The differences and similarities of local resources between our countries are of great value, and I think there is a lot to gain in finding collaboration within the field of energy. I plan to present or research facilities. I will also briefly mention two master thesis projects. One study addressing the usage of waste coconut shells as fuel for indoor cooking, the study will be split in two parts, starting with laboratory work in Sweden followed by a field study in Mozambique. The second project is a laboratory only project, investigating the possibilities of using a gasifier pellets stove with alternative biofuels. Here the alternative biofuels are defined as the local biomass found in the proximity area of the cook stove location. The result will hopefully lead to new opportunities in collaboration within the energy sector in Sub-Saharan countries.



#SAN051

**CREATING ENABLING ENVIRONMENTS IN SWEDEN AND IN SOUTH AFRICA FOR CHILDREN IN CARE. A REPORT FROM A JOINT WORKSHOP ON CHILDREN'S PARTICIPATION IN OCTOBER 2021**

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**Abstract:**

Research studies and a multitude of reports in both countries have signaled that children in care, a vulnerable group in society, are not heard or respected for their capabilities to influence social change. This is in disagreement with the Declaration of the Rights of the Child, and the Convention on the Rights of the Child, legislation and steering documents both in South Africa and Sweden. Children's participation in their own development and decision-making is fundamental for their current and future well-being as well as the future of the society. The aim of this South African and Swedish study is to contribute knowledge and social development strategies for social change through child agency and participation by joint research projects among the participating universities, capacity development of emerging researchers and postgraduate students by including them in workshops in South Africa and Sweden, discussions with local NGOs and government departments and to advance knowledge in addressing issues of child agency, participation and social transformation. In October 2021, as a part of this project, a digital workshop with the participation of researchers and practitioners in Sweden and South Africa and in collaboration with UNICEF was conducted. Social workers from Sweden and South Africa presented projects on participation of children in care and also strategies for implementing the Rights of the Child in the municipalities. The results of the different projects were discussed in multinational break-out rooms in a world café model.

**Keywords:** Children in care, Participation, Social work, South Africa, Sweden



#SAN130

## CASE STUDY OF NAMIBIAN STUDENT-TEACHERS' EXPERIENCES OF TEACHING PRACTICUM IN NORWAY

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### Abstract

This article focuses on an international student-teacher's practicum exchange between the University of Namibia and Inland Norway University of Applied Sciences. The practicum exchange aims at improving the quality of teacher education through internationalisation at home and abroad and enhancing students and staff mobility, intercultural competence and global awareness. The article is guided by the following research questions:

1. What are Namibian student-teacher's expectations of practicum in Norway?
2. What have Namibian student-teachers learnt and experienced on a personal and professional level from the practicum exchange in Norway?
3. How did the practicum exchange in Norway influence Namibian student-teacher's perceptions of multicultural competence and global awareness?

The article adopts a qualitative case study design. Semi-structured interviews, non-participant observation and focus group discussions were used to collect empirical data for the study. The key findings of the article involve student-teachers personal and professional development, multicultural competence and global awareness. Professionally, the experience of teaching practicum in Norway moulded Namibian student-teachers into effective confident teacher, enhanced their competence as teacher and exposed them to disciplined and well behaved learners with less homework who learn through play whereby more emphasis is placed on art and sport. Namibian student-teachers on teaching practicum in Norway experienced personal growth, maturity, self-confidence open-minded, hard work and tolerance. Through the teaching practicum, Namibian student-teachers gain confidence in a multicultural classroom, become conscious of Norwegian customs, culture and language and gain awareness and appreciation of their own African heritage, culture and the value of socialising and sharing what they have (Ubuntu).

**Keywords:** International Student-teacher's Practicum Exchange, Quality of Teacher Education, Internationalisation, Intercultural Competence, Global Awareness



#SAN069

## THE CONCEPT OF SUSTAINABLE DEVELOPMENT IN TANZANIAN AND NORWEGIAN EDUCATION POLICIES

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### Abstract

The concept of sustainable development could be understood, interpreted, and conceptualized in different, and even conflicting, ways. At the same time, the concept has been criticized of being a part of a neoliberal and globalized agenda that homogenate educational systems around the world. This article studies discourses about sustainable development in education policies in Norway and Tanzania. Arguably, the two countries could have different starting points regarding sustainable development. The initial study of the Tanzanian policy documents suggests a hegemonic national development discourse that prioritize economic growth over social and environmental considerations, where the ultimately goal is to be a middle-income and semi- industrialized country within 2025. It constructs a straightforward approach with a Win- Win narrative where economic development is not in conflict with social equity and ecological footprints. The analysis of the Norwegian policies has not come that far, but the first reading suggest that the Win-Win narrative is hegemonic also in these education policies. Although, the explicit focus on economic growth is toned down and the emphasis shifts towards an environmental focus there is a straightforward approach with little consideration of the concept's ambiguous and contested nature. Both countries would appear to have a neoliberal leading discourse about sustainable development that emphasizes a straightforward approach to sustainable development. At the same time there are contextual differences between the two countries' conceptualization.

**Keywords:** Sustainable development, Tanzania, Norway, education policies, discourse analysis



#SAN073

**INDIGENOUS COPING STRATEGIES ON WATER PROVISION TOWARDS THE IMPACTS OF ERRATIC RAINFALL IN THE RURAL COMMUNITY OF MOLETJIE, LIMPOPO PROVINCE, SOUTH AFRICA**

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**Abstract**

Unpredictable precipitation has negatively impacted local communities as they are susceptible to diseases that compromises their health conditions. As a result, local communities are aware of these changing climatic conditions, hence, indigenous adaptation strategies are employed. Fundamentally, the study reflects on the indigenous coping strategies on water provision as basic determinant of health towards the impacts of unpredictable rainfall in the rural community of Moletjie. The study was qualitative, open-ended interviews were conducted to understand how unpredictable rainfall affects water provision, and the indigenous adaptations practices employed in coping with the negative impacts of rainfall scarcity in the community. Thematic content analysis was used to analyse how Moletjie community members employed indigenous adaptation practices in sustaining their health and how scarcity of rain impacted their water quality and availability. The study findings are influenced by observations that Moletjie lies in a semi-arid area with unpredictable precipitation patterns that results to drought and diseases such as cholera, dysentery, and diarrhoea. The study reveals that rainfall scarcity has negatively impacted the water quality and availability of the community. The study recommends an integration of indigenous and western practices to address and inform policy making and climate change adaptation. The study concludes that rainfall scarcity has negatively impacted the livelihood of community members, especially on the provision of water.

**Keywords:** Climate change, Erratic rainfall, Indigenous adaptation; Water provision, Local communities



#SAN063

## THE PREVALENCE OF FOOD INSECURITY AT AN INSTITUTION OF HIGHER LEARNING: THE QUANTITATIVE RESPONSES

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### Abstract

This presentation form part of a major study titled “nutrition knowledge, food insecurity and coping strategies amongst the students in the institution of higher learning in the Limpopo Province”. Food insecurity is the state of being without reliable access to a sufficient quantity of affordable and nutritious food. This is a major issue all over the world and students in South African Universities are no exception. Students suffer food insecurity at a higher rate than the national average. A mixed-method approach was used to investigate the level of food insecurity amongst the Health Care Sciences students at the University of Limpopo, and this presentation is only based on the quantitative results. Convenient and purposive sampling methods were used. Food security status was assessed using the eight (8) questions from Food Insecurity Experience Scale. The study findings revealed that food insecurity existed in 40% of the students, whereby 24% experienced moderate food insecurity and 16% were severely food insecure. Twenty-three per cent of males were moderately food insecure, 13% were severely food insecure, and 64% were food secure or mildly food insecure. There was no significant association between age ( $P < 0.70$ ), gender ( $P < 0.82$ ), study level ( $P < 0.40$ ) and food insecurity. Twenty-five per cent of females were moderately food insecure, 17% were severely food insecure, and 57% were food secure or mildly food insecure. More females (31.5%) were affected than males (24.0%). The frequency of occurrence was rated as equal for both females and males respectively.

**Keywords:** Food security, Moderate, Severe-food insecurity



#SAN127

## INDIGENOUS WEATHER OBSERVATORIES: MERGING SCIENTIFIC AND LOCAL KNOWLEDGE RESPECTFULLY

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### Abstract

Lesotho's communities' geographical location, dependence on natural resources and poor economic situation make them vulnerable to hazardous events associated with climate such as drought, localized floods, strong winds, heavy snowfall, hailstorms and early frost. Such events are already experienced by the communities. Elders in the community often hold rich, undocumented knowledge on weather patterns. We aim to find ways to bring this type of knowledge together with short-term weather forecasting (nowcasting), which involves the prediction of weather over a short period of time; typically few hours of, in this case, Lesotho's weather through the application of deep learning models in order to learn how both can support each other and how communities can use the combination of knowledge to support decision making on how to cope with impacts of climate change. We will do this with members of the community who work towards policy formulation but who lack comprehensively described and well documented evidence to support their arguments about the contribution of traditional knowledge and practices in climate change adaptation. This is especially important as it is difficult to merge scientific research with local knowledge as they are grounded in different ontologies and new approaches need to be explored. We will incorporate a Participatory Design approach to find ways for the different types of knowledge to meet respectfully. In this paper, we therefore explore what type of knowledge need to meet and how spaces for mutual learning can be created, based on this.

**Keywords:** Weather patterns, Deep learning models, Climate change adaptation, Participatory design, Indigenous knowledge



#SAN075

## INTEGRATING INDIGENOUS KNOWLEDGE SYSTEMS: POSSIBILITY OR ILLUSION?

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### Abstract

Recent decades have seen an upsurge in debates and calls for decolonising knowledge and integrating other knowledge systems. Among these debates is emphasis on incorporating Indigenous Knowledge Systems in knowledge production to find solutions for various global issues. Drawing from a decolonial perspective, this paper interrogates feasibility of these endeavours and possible factors that could hinder such attempts in this era of global coloniality. Using the built environment as the springboard for our argument and examining culture and space transformation in Tswana urban villages, the paper explores some of the factors that may become obstacles in integrating IKS with current knowledges to find solutions. It is contended that current efforts may continue to be unsuccessful unless the problem is addressed through underlying causal factors to the status quo. Evidence from interviews with built environment professionals in Botswana, our current case study area, suggests that several factors may be at play, namely planning education, the planning system and the actors themselves, to name a few. It is concluded by recommending that a successful integration of Indigenous Knowledge Systems first warrants, as a starting point, an intensive interrogation of how and why IKS has and is not being incorporated; as well as pathways for possible integration.

**Keywords:** Indigenous Knowledge Systems, Decolonial perspective, Culture, space, Botswana



#SAN076

## OF MERGERS AND INTEGRATION OF INDIGENOUS KNOWLEDGE SYSTEMS AND SCIENTIFIC KNOWLEDGE IN THE ERA OF GLOBAL NEOLIBERALISM: A RECIPE FOR EPISTEMICIDE?

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### Abstract

Calls for the merging or integration of Indigenous Knowledge Systems and Scientific knowledge enjoy currency among a wide range of disciplines spanning Education, Development Studies, Health Sciences and Natural Resource Management. Research methodologists have also called for the adoption and recognition of indigenous methodologies in knowledge production. Advocates for decolonisation of universities also call for the inclusion of IKS in the University Curriculum. The present paper interrogates calls for IKS-Scientific knowledge in the era of global neoliberalism. Sifting through the literature on IKS efforts in Botswana, the paper identifies two contradictory instances when IKS are discussed alongside Scientific knowledge. First, is the integrationist model where IKS becomes an appendage to Scientific Knowledge, and secondly, we propose the co-existence or 'pluriversalist' model where there is mutual respect, recognition and reciprocity between the two. It is contended that the integrationist model resonates well with the dominant global neoliberal ideology premised on market economy and commoditisation of knowledge. This is contrary to IKS where collective identity is prioritised over the individual. The evidence amassed from the case of Botswana suggests that under the integrationist model, calls for a merger often fail to ascend power relations institutionalised in research and educational institutions. Under such conditions, IKS methodologies are validated according to Scientific methodologies and in the process, integrationist models have resulted in erasure and ultimately, epistemicide- death of other knowledge system. As opposed to integrationist model, this paper calls for prioritisation of pluriversalist model where each knowledge systems' world view and methodologies are recognised and respected.

**Keywords:** Indigenous Knowledge System, Scientific Knowledge, pluriversalist, integrationist, Botswana



#SAN078

## TOURISM DEVELOPMENT FOR SOCIAL SUSTAINABILITY? COMMERCIAL SEX AND HIV/AIDS IN THE TOURIST TOWN OF MAUN, BOTSWANA

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### Abstract

Tourism plays a major socio-economic role in Southern Africa with potential benefits for local communities and the UN Sustainable Development Goals (SDGs). With respect to the SDG8 (inclusive and sustainable economic growth, employment, and decent work), however, the role of tourism can also involve negative elements, such as the emergence of commercial sex businesses especially in areas where there is rapid tourism development. In this context, the study focuses on the associated links between tourism, development and evolving commercial sex business in a rural tourism town of Maun, Northern Botswana. The study explores residents' tourism awareness and views, knowledge, and perceptions of the links between tourism, commercial sex, and HIV/AIDS. Primary data is based on a quantitative household survey and interviews. Overall, the results indicate a high awareness and understanding of tourism and its local economic importance. However, a significant proportion of respondents had little or no knowledge of the potential relationship between tourism and emerging HIV/AIDS. Thus, the findings indicate a need to create and implement an informative program that would help to educate and capacitate the residents about the potential linkages between tourism and increasing HIV/AIDS in the town. Additionally, residents need to be included in the tourism planning and development activities that involve health-related projects in Maun and similar rural villages in Botswana. Furthermore, more research is needed to examine the role and contribution of tourism to sustainable development and to interrogate the potential increased incidents of infection and the general prevalence of HIV/AIDS in some rural tourism villages in Botswana.

**Keywords:** Sustainable tourism, Commercial sex, HIV/AIDS, Rural communities, Local participation, Botswana



#SAN082

## SHORT SCALE VARIABILITY CHARACTERIZATION OF SOLAR RADIATION IN CONDITIONS OF INTERMEDIATE-SKY

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### Abstract

The waves of solar radiation in its arrival to horizontal surface experience highly variability due to the intermittency of clouds, resulting in instability working of autonomous and gridded solar systems. To characterize the variability of short scale solar irradiation in conditions of intermediate sky is require for successful solar projects, as previous local studies where only based in observing the behaviour of measured solar radiation components for solar project sizing. Here we use the descriptive sequence, applied to theoretical method of clear sky determination that mean the ratio between experimental global radiation and extraterrestrial solar radiation at clear sky. The treated and processed solar data has one minute temporal resolution and are distributed in all seasons of the year. First was classified the days according the clear sky days, was quantified the different types of days and them was determinate the variability score. The results shows that the intermediate-skies days, doesn't has such much discrepancy with that achieved using one second temporal resolution. Was conclude that the frequency that presents high absolute values of clear sky variations  $\Delta k_k^*$  are mostly in intermediate-skies then relatively to others.

**Keyword:** Characterization, Resolution, Variability, Irradiation, Intermediate-sky



#SAN081

## PROBLEMATIZATION OF LABORATORIAL TEACHING OF THE MEASUREMENT OF BASIC CONSTANTS: WEIGHT, LENGTH AND TIME

## PROBLEMATIZATION OF LABORATORIAL TEACHING OF THE MEASUREMENT OF BASIC CONSTANTS: WEIGHT, LENGTH AND TIME

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### Abstract

The ability of well understand and estimate measurement considering the error determination is the basic knowledge for physics laboratory success. Here was consider the average source of four licenciature courses of engineering displaced at daytime and night regime, taught in the first levels, with the objective of problematize the laboratorial teaching of measurement. A quantitative analyse method was used based on the results produced in the reports delivered for the students evaluation. Results statically show that the problematization leads students to a better perception of the contents and execution of the experiment. Also there a tendency for better use of the content taught as students are led to carry out the experiment by their own participation using the theoretical knowledge and perception. These results agree with those obtained in similar experiments problematization like for example in Kuleshov (2007). Here was concluded that for a good problem solving environment the basic concepts of error theory must be approached first, followed by the analysis of the experimental execution procedures, by montage mode without requiring the students to know the working model and devices for knowing the magnitudes to be collected in the experiment as they intend to carryout.

**Keywords:** Problematization, Measurement, Error, Weight, Length



#SAN034

## UBUNTU - AN UNRECOGNISED KEY TO SUCCESSFUL MIGRANT INTEGRATION?

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Forced migration and displacement is an international issue that is increasing. Social workers are key to managing this. This is often difficult, particularly if there are cultural divides between service providers and clients. Namibia and Finland both struggle with these same issues. Each however, has expertise which if shared could result in a new paradigm to address this problem. Well-developed services in Finland may lack recognition of culturally sensitive emotional needs, while culturally, community sensitive service providers in Namibia can benefit from Nordic organisational experience. The University of Namibia's UNAM *Cares* model in meeting the humanitarian needs of stranded and vulnerable migrants in Namibia during the COVID-19 pandemic and the Finnish experience of increasing migrant populations are a potential nexus for collaboration. UBUNTU, an indigenous view of the individual in society, can be the platform underpinning discussion and mutual learning.

Mental health, loneliness and children are key areas in both settings. Social workers who promote UBUNTU-based developmental community social work, potentially link both micro- and macro practices, thereby addressing marginalization and exclusion of individuals, groups and communities, particularly in migrant and refugee populations in a holistic UBUNTU way. We performed a rigorous literature review of the following elements: migrants, displaced persons, UBUNTU, social services in Namibia and Finland and acculturation. We present a discussion based on the evidence in the literature and the lived experience of migrants in the two countries. In this context we address community development through social work bridging cultures through UBUNTU. We explore the question on whether UBUNTU can be an unrecognized key to successful integration of migrants? Reflecting further on the question: Whether there is a place for UBUNTU in international, collaborative social work practice?

**Keywords:** Migrants, international social work, social integration and Ubuntu



#SAN117

## WEBSITE DISCLOSURES OF SUSTAINABILITY PRACTICES IN THE HOSPITALITY SECTOR: AN ANALYSIS OF HOTEL CHAINS IN ZIMBABWE

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### Abstract

The aim of this study was to analyse website disclosures of sustainability practices by the major hospitality chains in Zimbabwe. Five major hospitality chains in Zimbabwe were purposively selected to be part of this study. The corporate websites of the selected hospitality chains were visited to determine their disclosure of sustainability practices. A coding framework was developed from literature and other global best practices on sustainability in the hospitality industry to help identify the contents to look for on corporate websites. The codes were categorised into four broad areas, namely sustainability leadership, environmental sustainability, social sustainability and economic sustainability. Data was collected from text, annual reports and other relevant materials on the website documenting sustainable practices by each hotel chain. The results indicate that website sustainability reporting in the hospitality sector in Zimbabwe is minimal. There is strong reporting of social sustainability issues and a fair amount of reporting on environmental sustainability. Economic sustainability is the least reported. There is also a notable low reporting of SDGs and the absence of separate sustainability reports on corporate websites under scrutiny. The results of this study provide a critical direction on how voluntary website disclosures can be improved in the absence of a strong regulatory framework.

**Keywords:** Sustainability, Website disclosures, Sustainability reporting, hospitality sector, Zimbabwe.



#SAN054

## NURSES' ANTIRETROVIRAL THERAPY PRESCRIBING PRACTICES IN CHILDREN INITIATED AND MANAGED IN PUBLIC PRIMARY HEALTH CARE CLINICS, MOPANI DISTRICT, LIMPOPO PROVINCE

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### Abstract

Antiretroviral therapy (ART) prescribing errors are common and have been observed in Human Immunodeficiency Virus (HIV)-infected patients. However, knowledge of antiretroviral (ARV) prescribing practices in public primary health care facilities is limited. To assess antiretroviral prescribing practices of professional nurses in Mopani District's public primary health care facilities in Limpopo Province, South Africa, and compare them to the 2015 treatment guidelines to evaluate the appropriateness of ART use. A four-year retrospective cross-sectional medical record review of children under 15 years initiated on antiretroviral therapy in 2015 was conducted. The results highlighted that this cohort of children, even though they were prescribed a correct antiretroviral (ARV) regimen and dosage form in (n=7045; 96% & n=15502; 93%) of the cases; correct ARV dosing was (n=7797; 53%); with (n=9539; 77%) correct dosing frequencies, and (n=2748; 36.9%) ARVs correctly dispensed. Antiretroviral prescribing errors were observed in this cohort of virally unsuppressed children. ARV stewardship programs should be considered to develop and establish a core strategy for enhancing quality improvement in managing HIV-infected children.

**Keywords:** Antiretroviral Therapy, Prescribing Practices, Prescribing Errors, Antiretroviral Regimen, Antiretroviral stewardship



#SAN090

## LANGUAGE AND POPULAR CULTURE IN AFTER TEARS, ROOM 207 AND COCONUT

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### Abstract

This paper engages several queries in its interest in and critical analysis of the notion of a popular aesthetic and the politics thereof in Niq Mhlongo's *After Tears* (2007,) Kgebetli Moele's *Room 207* (2006) and Kopano Matlwa's *Coconut* (2007). Drawing on a post-colonial and feminist definition of the conceptualization of the "popular" and "popular culture", which conceptualize the popular in connection with class, race and gender struggles. As such, the popular can be understood in terms of cultural forms existing in "continuing tension with (relationship, influence and antagonism) to the dominant culture" (Hall 235). Within this frame, I argue that the dialectic of the popular is explored through the authors' fluid linguistic shifts between English, *Sesotho*, *IsiZulu*, *seTswana*, *sePedi* and a form of township slang known as *Tsotsi- taal*, or following Makalela's framework, *Kasi-taal* (Makalela 669). I argue that embedded in the translanguaging found in these texts one can unpack some of the tensions and discomfort that arise in the questions around the notion of the "new South Africa", transformation and reconciliation. However, I also argue that the including indigenous languages in the dialogue as well as narrative texts of these novels lifts local knowledge, creativity, and ways of navigating post-apartheid spaces to not only the level of relevant epistemologies in the local and national space but also to the level of the aesthetic.

**Keywords:** Collaboration, empathetic-reflective-dialogical restorying, internationalization, intersectionality, trust.



#SAN108

## SUSTAINABLE ENTREPRENEURSHIP, IDENTITY AND CONTEXT: A CASE STUDY OF NORWEGIAN AND SOUTH AFRICAN ENTREPRENEURS

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### Abstract

Entrepreneurship plays an important role in the transformation towards a more sustainable future and the individual entrepreneur can play a critical role in developing technological and societal solutions for more sustainable economies and societies. However, recent research reviews indicate a strong Western bias on sustainable entrepreneurship, where most studies originate from five countries: US, UK, Canada, Germany and the Netherlands. It is assumed that both individual and contextual factors would affect sustainable venturing and the entrepreneurial process, entrepreneurs' opportunity discovery and exploitation. Therefore, in this study we investigate what role context play in the formation of a sustainable entrepreneur through their identity, by comparing Norwegian and South African sustainable entrepreneurs. Sustainable entrepreneurship in both Norway and South Africa may give new insights into how it is materialised and interpreted, as these two countries are less represented in existing research. Preliminary findings indicate that both Norwegian and South Africa entrepreneurs have a deep-rooted awareness and passion for sustainable topics, which carry over to their entrepreneurial ventures. The sociocultural context in which they are situated have influence on their identity and how they view entrepreneurship, sustainability and their missions and goals with their ventures. The concept of sustainability share overlapping definitions and impact when looking at environmental aspects, but the social aspects differentiate according to the context in which they operate.

**Keywords:** Sustainable entrepreneurs, Context, Identity, Qualitative, Comparative



#SAN096

## COLLABORATIVE AND ONLINE LEARNING: INTEGRATING DECOLONIAL CULTURES INTO HYBRID FORMS OF LEARNING AND MOBILITY

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### Abstract

Emergency remote teaching and learning (RTL) exposed the widening gap between economic discrepancies in national and international landscapes health, natural disasters, and political disruptions. HE in South Africa have invested in recent years in online teaching and learning technologies. Challenges with RTL and access elicited equally diverse responses depending on its global north or global south orientation. The embedded glocal politics in the global south is positioned in the politics of continued exclusionary practices that impact disadvantaged communities such as historically underprivileged cultures. CPUT's current practices, such as the multi-modal, flexible teaching and learning environment, will be shared to address the critical constructs of diversity and inclusion of marginalized communities in online learning, COIL, and mobility virtual student exchange opportunities. This paper will explore the following questions; how do we reconfigure these imagined spaces? We seek to reconfigure and continue existing strategies and pedagogies in this context. Is it a means to create globally competitive citizens to embrace artificial intelligence? Do we grapple with the discourse of the fourth industrial revolution or the practical underpinning value of the technology to enhance the impact on global learning outcomes? These may include notions such as comprehensive global learning in transformed contexts and institutional culture to produce co-constructed and collaborative knowledge by multiple partners across borders? How do we negotiate online learning and COIL? Spaces of cultural interaction, seemingly a 'natural', reach for native cyborgs? Does virtual study abroad complement the actual experiences in intercultural dialogues? Are there new frameworks to consider in the current digital revolution?



#SAN064

## **GENDER AND ACTIVE CITIZENSHIP: THE ANALYSIS OF TEACHER EDUCATION**

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### **Abstract**

Teacher education in Tanzania and other nations needs to prepare and produce not only academically and pedagogically competent teachers, but also professional teachers who are able to live up to the highest moral and ethics standards of their teaching profession (Anangyise, 2019). Promoting gender equality and active citizenship is part of professional moral and ethical standards required to promote social and economic development in Tanzania. This paper aims at analyzing both open and subtle workings of gender inequality within teacher education curriculum in Tanzania, and its implication to professional practices needed for preparing active citizens. Specifically, the study seeks to determine the extent to which gender and active citizenship aspects are reflected in teacher education curriculum documents in Tanzania. Using discourse and content analyses, we analyze how educational guiding documents such as colleges and university teacher education curricula can promote or constrain professional freedom to teach and learn about gender equality and active citizenship. To gather the necessary information for this study, the researchers will conduct an intensive document review (Hodder, 2000) of the existing curriculum documents together with the focus group (Kumar, 2011) with groups of pre-service teacher students in Tanzania. That will supplement knowledge about the extent to which the aspects of gender and active citizenship are integrated in their current curricula and how do they apply in their teaching and learning. The data collection will take place in August and September 2022. The results are expected to provide an insight on how the content and context of gender discourses promoted in teacher education equip teachers with knowledge and skills necessary for the promotion of active citizenship.

**Keywords:** Gender, Active Citizenship, Curriculum, teacher education, Tanzania



#SAN003

## PROSPECTIVE HEALTH IMPACT AND FEASIBILITY ASSESSMENT OF NUTRITIONAL MHEALTH INTERVENTION FOR MATERNAL MORTALITY: A CASE STUDY IN GHANA.

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### Abstract

Most health interventions sideline the plight of the rural communities for various reasons resulting in health inequality. Maternal mortality rates (MMR) are high in many middle and low-income countries including Ghana; over (350/100000 live birth). The aim of the present study is to assess prospectively the feasibility and health impact of a proposed mobile-health intervention to reduce MMR in Ghana. The health impact and feasibility was assessed using a mini survey (N=54) on the target population. The mobile-health intervention has the potential to impact on the SDG 3.1 on the stakeholders. From the mini-survey, over 55% (N=54) know/ heard of someone who lost her life through maternal mortality (MM). Most, 98% (N=54) believed there is urgent need for intervention to control the MM in Ghana. While 22% were unsure, over 70% (N=54) believed the proposed intervention will improve MM via diet counselling, and adherence to taking essential micronutrient supplements during pregnancy to enhance safe birth. While 85% (N=54) believe it is feasible, as high as 96.3% (N=54) were willing to use the intervention when implemented by receiving nutritional and supplement related reminders, while other 74% were ready and comfortable for nutritional and health counseling by practitioners over the mobile phone. The intervention revealed potential to improve wellbeing of mothers and pregnant women through better nutrition with reduce maternal mortality. It promises savings on travel cost, increase equality in healthcare accessibility, and potential to reduce risk to road accidents.

**Keywords:** Interventions, SDG, m-Health, Maternal mortality, Nutrition



#SAN105

**THE CONSERVATIVE AND MODERN TRADITIONAL HEALTH PRACTITIONERS (THPs): AN INDIGENOUS KNOWLEDGE SYSTEM (IKS) PERSPECTIVES FROM VHEMBE DISTRICT, LIMPOPO PROVINCE OF SOUTH AFRICA**

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**Abstract**

The Conservative and Modern THPs presented themselves by reacting differently before the South African democratic changes that came with passing of the Traditional Health Practitioners Act (Act No 22 of 2007). The government sought to advance access and efficacy of the traditional medicine. The Act unfortunately created two categories amongst THPs which are the Conservative and Modern THPs. Their disunity makes it difficult to the government to give them full recognition. The paper intends to explore the nature of their differences for the sake of mutual benefit of both the THPs, the government and the public after consensus is made. The study utilised qualitative designs. Data was gathered using in-depth interviews in a face-to-face bases with 8 THPs aged 30-80 years. Thematic analysis was used. The preliminary findings of the study shows that the Conservative and Modern THPs need each other for the advancement of their services but, their reactions on the government Act differ in a way that creates division among them. Modern THPs view the Act as a development in their trade while Conservative THPs view it as government's malicious plot that will wane away the nature and value of traditional healing in the future. The study suggests that inclusive discourses should be developed in order to pinpoint strategies for advancing the Act's goals while defending the rights of THPs.

**Keywords:** Conservative THPs, Modern THPs, Traditional Health Practitioner's Act, Public health fraternity, Indigenous Knowledge System



#SAN145

## ASSESSING THE ROLE OF INDIGENOUS CLIMATE FORECASTING SYSTEMS IN BUILDING FARMERS' RESILIENCE IN NKAYI DISTRICT, ZIMBABWE

Douglas Nyathi

### Abstract

Climate change and variability negatively affect the livelihoods of farmers in Nkayi district who depend on rain fed agriculture. Farmers' capacity to adapt to climate change depends much on timely access to climate forecast information. The study was conducted in Ward 23 of Nkayi district on a sample of 150 farmers and 2 focus group discussions were held. The study sought to determine the role of indigenous climate forecasting systems in the development of adaptation strategies to mitigate the effects of climate change in the agriculture sector. The research has shown that farmers in Nkayi district use plant, animal and atmospheric indicators to predict the climate. The study advances the importance of climate forecasting information in early warning systems leading to a reduction in climate risk through implementation of climate resilient agriculture approaches. The study found that farmers use indigenous climate forecasting information to develop adaptation strategies through managing crop and livestock production. The research has shown that the use of climate forecasting information to make farming decisions is determined by how farmers perceive the climate forecasting system. The study ascertained that climate forecasting information is more reliable if indigenous climate forecasting systems are used together with scientific climate forecasting information. The study recommends that Meteorological Services Department of Zimbabwe improves on location specificity when developing climate forecasting information and incorporate indigenous climate forecasting systems in the production of scientific climate forecasting information.

**Keywords:** Climate change, indigenous knowledge, Adaptation, Forecasting



#SAN099

## THE IMPACT OF GLOBAL INFLUENCE ON HIGHER EDUCATION IN SOUTH AFRICA

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### **Abstract**

The need and desire for higher education has grown faster in last decade; across the world, but its sustainability; in its present form has become a great concern, especially. Globalization has forced higher education into a new world, a world of change. Resultant to this change instability and ambiguity, shaped by an increasingly integrated world economy, technology, an international knowledge network, and other forces beyond the control of higher education institutions pose a huge challenge. Futurists predict that the education systems of tomorrow will be drastically different from those of today. This calls for higher education institutions to transform if they are to survive and be sustainable. This paper wants to share light on how this challenge can possibly be addressed. Historically, higher education was a requirement for the preparation of professionals and perceived as a necessity (Spring, 2014). Colleges and universities, traditionally, were regarded as places to go, land-based institutions where students meet teachers in a face-to-face setting to become informed (Kauppi & Errkla, 2011). Higher education has attended a key position in the knowledge society under globalized economy. It will bring a rapid developments in technology and communications are foreseeing changes within higher education system across the world. Since the global knowledge economy requires advanced education, colleges and universities face a move from more formal traditional roles of working for the public good to redefining their institutional mission to include innovation, entrepreneurship, and marketing (Guri-Rosenblit, 2010; Pinheiro & Stensaker, 2014).

**Keywords:** Higher education, Globalization, Sustainability, change, Technology



#SAN004

## COVID-19 CONTROL: THE NEED FOR A PARADIGM SHIFT IN THE APPROACH

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### Abstract

The coronavirus SARS-COV-2 pandemic is a global challenge affecting lives and livelihood globally. With two years into the pandemic, hundreds of millions have been infected and mortality has reached millions despite the progress in COVID-19 infection vaccination and vaccine availability. The continual emergence of new SARS-COV-2 virus variants warrants a more comprehensive approach. The present paper intends to get stakeholders and researchers aware of the possibility of natural products, medicinal plants like ginseng, and functional foods to be a game-changer in treatment of COVID-19 infection and control if continuous research and resources are given to it. Emerging variants of SARS-COV-2 virus have threatened the current COVID-19 infection vaccination campaigns demanding additional measures. There must be a paradigm in research, funding, and policies from prevention to treating the infected. Developing therapies for the infected is, therefore, a promising option, especially with multitargeted medicines. Natural products with multiple active compounds present a great alternative for consideration also in combination with pharmaceutical medicines. Ginseng extracts and ginseng-based products have proved effective in reducing severity and hospitalization times in multiple clinical trials for acute respiratory viral infections. Functional foods, honey and berries, are known to contain various bioactive polyphenols against coronavirus. Funding and research of natural products and functional foods for effective COVID-19 infection control should be promoted.

**Keywords:** Coronavirus, Therapies, Natural products, Acute respiratory illness, Functional foods



#SAN116

## HIGHER EDUCATION FOR SUSTAINABLE DEVELOPMENT: ACTIONING AGENDA 2030 GLOBAL GOALS IN POLICY AND CURRICULUM

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### Abstract

A shift in Higher Education (HE) for sustainable development towards achieving Agenda 2030 Global goals is required in the Southern African region for HE to be in alignment with global sustainability agenda. A major transformation in HE needs to occur across all disciplines to ensure addressing Agenda 2030 Global goals. Agenda 2030 Global goals for sustainable development clearly reflects the urgency to embed the inclusion of education principles or sustainable development into all levels of education. Among all the paradigms compromising this fundamental set of principles, sustainability holds a crucial position. In the Southern African region higher education for sustainable development is being significantly shaped by the global sustainability agenda. The United Nations (UN) sustainable development goal 4 proposes the achievement of quality education for all and that Education for Sustainable Development should play a pivotal role for transforming the world. The UN Incheon Declaration 2015 significantly highlighted the pivotal role education play in the universal journey towards achieving Sustainable Development Goals (SDGs). In this article I argue that ESD aims to develop competencies that empower individuals to reflect on their own actions, taking into account their current and future social, cultural, economic and environmental from a local and global perspective. Based on a qualitative research strategy, theory building methodology, this research conducted in the Southern African Region suggests that advancement of ESD in policy and curriculum would lead to the achievement of Agenda 2030 Global agenda on quality education. The study explores the idea that reaching the SDG 4 targets is a responsibility shared among individuals and regulatory governments who are policy makers and curriculum designers.

**Keywords:** Curriculum, Education for sustainable development, Higher education, policy, Quality education, Sustainable development goals



#SAN005

## SHARING IS CARING: A COMMON DIGITAL RESOURCE POOL FOR TEACHING ABOUT THE SUSTAINABLE DEVELOPMENT GOALS

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### Abstract

At universities we have a great opportunity to shape students into not only future professionals in the medical field but also global citizens and change agents. But how can we give students a wider understanding of the Sustainable Development Goals (SDGs) and Agenda 2030? Firstly, we can integrate the SDGs and Agenda 2030 into the curriculum. Secondly, we need to inspire the students, create awareness and provide them with knowledge and motivation to address the SDGs in any and every way. We produced two films to increase the awareness of the SDGs, Agenda 2030 and how to be a global citizen. The films are a part of a course created and given by the medical faculties of five Swedish Universities. The course is called ReadySetGo and is intended to prepare students for international mobility projects. Our ambition was to make the films as accessible as possible. The text and voice-over are in English and the information load and graphic presentations were kept as simple as possible. Given this, the films fit diverse educational situations and constitute an excellent base for international collaborations, sharing educational material about sustainable development. We would like to open up for an international collaboration where we can use common educational material between universities within SANORD and beyond. By creating a common digital education resource pool, we actively contribute to sustainability.

**Key words:** Agenda 2030, SDGs, Global Citizen, Change agent, Education



#SAN036

## TOWARDS TRULY SUSTAINABLE FUTURES: IMAGES OF THE FUTURE OF SOUTH-NORTH INNOVATION FOR SDG 7

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### Abstract

An anticipatory mindset may draw on the principles of futures studies, to grasp the big picture. Futures studies, an academic niche, aims at producing theoretical and practical knowledge about the role futures play in people's lives, as a study of possible, probable and preferable futures in a multidisciplinary, systemic and long-term way. In recent years, an increasingly potent mode of future-creation points to a mindset of catalysing innovative activities to address wicked problems. Addressing Sustainable Development Goal 7, for the delivery of clean energy access, is a particularly complex challenge. One response of recent years in forerunner Global South countries has seen a number of entrepreneurial actors and start-up firms initiate novel off-grid products and services. A nascent sector hopes to expedite the achievement towards SDG 7, assisted by novel initiatives, intermediary actors, and financing. The present orientation sits against a nascent, indigenous start-up culture in the African context. However, capability gaps and limited support from indigenous entrepreneurial policies may affect some Global South entrepreneurs. A foresight study is combined to an analysis of solar PV firms' innovation capabilities (n=94) in the pioneering markets of Kenya and Tanzania. The findings are presented as images of the future, which are concerned with (re-)imagining South-North collaborations for SDG 7. As a proposed contribution, more profound thought about triggering, maintaining, widening, and deepening local learning via relevant actor-networks as ecosystems, may be necessary, so that the uncertainties of the Fourth Industrial Revolution can be harnessed for truly sustainable futures.

**Keywords:** Foresight, futures, Images of the future, Innovation capabilities, SDG 7



#SAN043

## STUDENT-TEACHERS PERCEPTIONS OF THE BENEFITS OF AN INTERNSHIP ABROAD PROGRAMME.

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### Abstract

The focus of this presentation will be on an undergraduate research project undertaken by Norwegian ECEC teacher bachelor students on international internship in Durban, South Africa. A core function of international exchange is to provide teacher students with international experience and learning opportunities, in order to develop teacher competencies for increasingly globalized and multicultural societies. Students undertake a small action research project on their own role as active learners during their internship, linking their experiences of being a student teacher in an unfamiliar setting to their own professional identity development and processes. On completion of the project the students present a poster at an inhouse research conference. The use of action research provides students with an opportunity to engage in their own learning, thus empowering them as ECEC teachers with the ability to continually upgrade their competences and identities as lifelong, multicultural and international oriented learners and ECEC teacher. However, a limitation of action research that Waters-Adams (2006) points out is the timeframe of the data collection period and the impact this will have on the rigour of the data collection process. In addition, he raises the issue of the validity of the data due to bias given that the students are researching and reporting on their practice for assessment purposes. In presenting this paper, the students will discuss their experience of learning abroad and the online ecosystem and if it was a valuable experience in terms of their identity, professional and knowledge growth.

**Keywords:** Action research, ECEC student teacher, Ecosystem, Learning abroad, Professional identity



#SAN124

## VIRTUAL TECHNOLOGY FOR STUDENT ACTIVE LEARNING ABROAD

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### Abstract

Queen Maud University College (QMUC) and STADIO have enjoyed a long partnership of international student exchange. At the beginning of 2020 an online research component was intended to be piloted. However, the COVID19 pandemic rapidly changed the landscape of HEI and our approach to internationalization. COVID restrictions resulted in experiences through virtual technology flourishing. Virtual technology changed our practices, and the way colleagues interact with one another. It broadened opportunities incorporated fluidly into the engagement between colleagues. Some barriers have been lowered, others less important with opportunities increasing exponentially. The ecosystem evolved, and leaders became part of each other's everyday working life, closing the global gap. This presentation critically unpacks an international student exchange research course and the role of digital technology to strengthen students' professional learning identities through international experience. The focus is to explore how best to prepare student teachers competence for a "Fourth Industrial Revolution (4IR) - characterized by the fusion of the digital, biological, and physical worlds" (Signé, 2020). Of importance to project leaders is that students gain from their international experience in diverse educational contexts in early childhood in South Africa and Norway. Previous experience indicates that students often become playmates for children rather than engage in professional learning opportunities. The focus was to develop the Internship Abroad experience to empower students to gain competence as prospective teachers in an ever-changing society. This action research project is underpinned by a systems approach, learning communities, internationalisation and technology through the lens of ongoing reflection.

### Keywords:

Action research, Internationalisation, Online learning ecosystem, Professional learning identity, Virtual technology



#SAN022

## MAPPING RESEARCH ON SUSTAINABLE DEVELOPMENT GOALS AND HIGHER EDUCATION: A BIBLIOMETRIC ANALYSIS

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### Abstract

Several global challenges, including hunger, climate change, intersectional inequalities, and poor healthcare systems, have made life on earth to be in a perpetual mode of precarity. The United Nations (UN) adopted the 2015 Sustainable Development Goals (SDGs) to address some of these problems. SDG17 alludes to the need for collaboration and partnerships across institutions and societies and puts higher education institutions at the centre of finding solutions to global problems. As living laboratories, higher education institutions play a central role in societal development through knowledge generation, community service and teaching. This paper explores and analyses scientific data on the evolution of research on sustainable development goals and higher education. There is growing research on sustainable development goals and higher education institutions, but few studies have focused on research performance analysis and scientific mapping. Through a bibliometric analysis, the study answers the following questions: (a) How has research on sustainable development goals and higher education evolved between 2018 and 2022? (b) What has been the thematic evolution of the research? (c) Which journals have published most of the research on the topic? (d) What is the distribution of the research output across continents? (e) What is the state of science on the topic in Africa? (f) What is the state of research collaboration and networking? (g) Who are the top authors in the field, and from which institutions and countries? The articles for analysis were retrieved from Web of Science and Scopus. The search string to be used is (sustainable development goals OR SDGs) AND (higher education OR universities). Datasets from Web of Science and Scopus will be combined through data mapping and aggregation in a spreadsheet. Data wrangling (using a spreadsheet and SQL) will be done to remove duplicates and articles with missing values/information. The analysis will be done in RStudio (using the bibliometrix library and its biblioshiny tools), Microsoft Excel, and Google Sheets. Data visualisation will be done through VOSViewer and Biblioshiny.

**Keywords:** Sustainable Development Goals, Research mapping, Higher Education, Collaboration, Bibliometric Analysis



#SAN089

## RESEARCH FUNDING SUPPORT ROLE FOR ENHANCING NORTH-SOUTH COOPERATION

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### Challenges in research funding in the Global South

We have been conducting multiple trainings on how to write research proposals with researchers from the global south during this year. During these trainings few key issues have raised up, namely lack of experience among local academics and support staff on applying to international funding calls, lack of research contacts in the Global North, difficulties on finding suitable calls and small amount of suitable international research calls. In this presentation (or poster) we will cover some solutions for these issues.

- **Training**

To enhance the capacity of both the researchers and support staff on proposal writing is crucial for increasing the number of Global South researchers participating on international research calls. Also, developing a model for North-South peer experience sharing and proposal commenting is an important aspect.

- **Networking**

As most of the major international research funding calls, i.e. Horizon Europe, are consortium based calls, having the right connections on forming suitable and high-level consortiums are must. Therefore, questions is how to help researchers on finding suitable partners, both from the North and from the South.

- **Horizon Europe**

One answer for the lack of international calls is European commissions framework programme Horizon Europe. During its first two years (2021-22), it included 35 calls (with total funding of 350mil€) which had special focus on Africa. Similar amount of calls is expected also for the next two years (2023-24). These are on top of other calls from various international foundations and organizations. Therefore, we provide an overview of our model on how to train researchers on finding and applying to these calls.



#SAN098

## DEVELOPING STUDENTS ENTREPRENEURIAL LEARNING ADAPTABILITY THROUGH CROSS-CULTURAL LEARNING

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### Abstract

In this research, we investigate how cross-cultural learning can influence the entrepreneurial learning adaptability of students participating in international exchange programs. The programs are a collaboration between 3 Norwegian and 2 South African Universities, jointly developing high-quality internship programs for Norwegian and South African master students. The research aims to merge insights from Kolb's understanding of learning adaptability, entrepreneurial learning and cross-cultural learning, to understand how cross-cultural learning may influence students entrepreneurial learning adaptability. In a globalised world these competences have become highly relevant. More, with entrepreneurship as a strong engine of sustainable development and growth, it is of interest for universities worldwide to invest in cross- cultural experiences and equip students with adaptable skillsets to collaborate across borders and cultures. Cross-cultural learning experiences are recognized as powerful and highly personalized learning processes, encompassing both experimental and learning-by- doing elements. In entrepreneurship exchange programs, students perform entrepreneurial tasks in close interaction with an entrepreneurial team/start-up, in a foreign country, and will need to adapt their learning to the contextualized cultural norms and practices, involving encounters with entrepreneurs, industry, universities, investors and others. The research investigates the cross-cultural entrepreneurial learning among Norwegian students and South African students enrolled in two exchange programs, in Bergen, Norway and Stellenbosch (South Africa). Students are here placed in 3- months internships in start-ups and perform entrepreneurial tasks within a wider ecosystem. We use students' reflections in two reflective sessions as the main data for our research. In addition, we analyze students' motivation letters and a final reflection report.

**Keywords:** Entrepreneurship education, Learning adaptability, Cross-cultural learning, Student exchange programs, Sustainable entrepreneurship



#SAN065

## **SOME DIFFICULTIES ENCOUNTERED BY LIMPOPO PROVINCE FOUNDATION PHASE TEACHERS IN THE TEACHING OF READING AND WRITING: A SUSTAINABLE APPROACH**

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### **Abstract**

The Covid-19 pandemic has changed the educational setting of reading and writing in the culture of primary schools in South Africa. Schools have witnessed various challenges in their curriculum implementation and the traditional teaching of literacy in their classroom arrangements. The purpose of this research is to investigate the difficulties encountered by foundation phase teachers in the teaching of reading and writing in the Limpopo province primary schools. Four circuits in the Capricorn District formed the population for the study, wherein four teachers from four sampled schools were participants. Purposive sampling was used in the identification and selection of the participants. The study adopted an explorative participatory qualitative method to explore the difficulties faced by teachers through interviews. The content analysis of the interview data transcribed led to the development of themes and patterns for discussion. The findings highlighted foundation phase teacher incompetency, lack of knowledge in phonics teaching, and the Covid-19 pandemic as some of the difficulties faced. An intervention strategy is suggested and solutions to the challenges under investigation are outlined.

**Keywords:** Competency, phonics, Foundation phase, Sustainable approach, Covid-19 pandemic



#SAN024

## KEEPING PARTICIPANTS INVOLVED IN THE COTE PROGRAMME

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### Abstract

This paper is linked to the theme of Teacher Education. In particular I will examine the COTE, Certificate in Online Teaching for Educators' programme. While in most online courses, participants easily drop out or abandon their studies, the COTE programme, a brainchild of the Institute of Distance Education (University of Eswatini) has been able with its first 5 cohorts of 50 participants each to reach a completion rate of more than 80%. In this paper, I discuss some of the factors of continued participation and involvement on the part of the participants. Included are the participants' initial motivation to take the course; the continued support given by a team of 2 facilitators, an e-tutor, a technician, a technologist/administrator; the additional communication environment offered by WhatsApp; the functionalities of the Moodle Learning Management System as the main interaction and learning platform. In my conclusion, I will build on previous research regarding online courses internationally but also regionally and nationally, as well as brief studies of the COTE programme itself, undertaken by my colleagues from the University and myself. This will form the basis of new recommendations regarding online facilitation, online teaching and learning in a post- Covid19 education sector.



#SAN039

## TECHNICAL TEACHER PROFESSIONAL DEVELOPMENT STRATEGIES: MEDIATING FORTH INDUSTRIAL REVOLUTION

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### **Abstract**

TVET training system is faulted for producing artisans of lower quality, and there is a mismatch between competence and skills in training institutions and industry needs. The technical and vocational education and technology utilization reality shows a constant technology gap between training institutions and the utility industry. However, since we cannot shun the use of technology, the technical teacher training and the technology infiltration should be based on technology utilization knowledge to regulate and mediate the technology development. The capacity of TVET systems to provide high quality and relevant training depends mainly on the quality of its teachers and trainers, and, by extension, on the quality of their teacher training systems" (Axmann et al. 2015). This paper aims to present the understanding of Namibia's technical teacher training and development process. The study adopted a qualitative approach through case study design to understand the Technical teacher training and development process in-depth. The study revealed that technical teachers are experiencing challenges in couple with technology change because the change in technology means higher knowledge and competence required; further, the new technology is higher in terms of purchasing, and this situation leaves training institutions without a choice but to continue using the old technology. This calls for mediating the advanced technology and old technology through constant professional development. Further, since the technical teacher has integrated knowledge requirements; technical competence and teaching pedagogy; therefore, the new technology may also require new teaching approaches; hence, the constant professional development should include covering both new technology and new teaching methods. The paper argues that the TVET sector should have a technical teacher education and development policy that describes technical teacher training and the characteristics of TVET instructors. The technology change should be mediated to minimize the gap. Technical teacher professional development should be a process and ongoing. Further, technical teacher training should upgrade competence and qualification levels.

**Keywords:** Professional Development, Technical Teacher Training Technical and Vocational Education, Technology Education



#SAN134

**DIRISANA+: A MULTI-NATIONAL COLLABORATIVE PROJECT ON IMPROVING UNDERGRADUATE STUDENT LEARNING EXPERIENCES IN POST-COVID 19 ERA.**

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**Abstract**

Dirisana+ is a multi-national collaborative project that centres on improving undergraduate and postgraduate student learning experiences. We aim to improve the workplace readiness of our graduates through training aligned with community and societal needs. We are committed as health science educators to uplift students and community engagement through innovative technology and quality educational practices in southern Africa in post- COVID-19 world. We provide a platform for multi-disciplinary collaboration in innovation in health sciences education in southern Africa. We aim to develop an equitable, diverse and inclusive learning community, respond and reflect to challenges, and advocate for dynamic working relationships in under-represented areas in southern Africa. We promote and quality assure cost-effective technological innovations in teaching, assessment and research. We adopt values of dignity, integrity, transformation, respect, and discipline in science. The Dirisana+ project has been classified into six broad research themes, namely curriculum development; perception and attitudes toward inter- professional education (IPE) models; academic and research literacy; evaluations and assessments in health sciences education; and using technology and online modalities to advance teaching and learning. We focus on the integration of research and teaching, and its connection with the application of our knowledge in the real world. With this collaborative research project, we will address issues of staff development in health professions education, novel teaching modalities, online formative and summative assessments and educational resources, in post-COVID-19 era, perceptions and attitudes towards interprofessional education, ways to align our curricula with business, academic literacy, and sociocultural inclusivity.



#SAN095

## **PUBLIC-PRIVATE PARTNERSHIPS FOR INFRASTRUCTURE PROJECTS IN AFRICA**

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### **Abstract**

Shortage of infrastructure is a top developmental challenge in sub-Saharan Africa. According to the African Development Bank (ADB, 2021), African countries need to invest USD 130 to 170 billion by 2025 to meet their infrastructure needs. They currently lack funding commitments for USD 68 to 108 billion. To this end, many have suggested the need for the public sector to partner with the private sector in public-private partnership (PPP) to provide infrastructure without further stretching the public purse (ADB, 2021). The African Development Bank (ADB, 2021, p.5) defines PPP as “A long-term contract between a public entity and a private enterprise for the delivery of public infrastructure and/or services, with risks allocated between the two parties based on their respective capacities to manage each risk, and with the private party's investment at risk to its performance”. Despite some level of awareness of the potential of PPP, it has hardly been implemented in emerging African nations (EANs). According to ADB (2021), African countries accounted for only 5% of the total PPPs globally between 1999 and 2009. Several PPP models or delivery systems provide different combinations of private and public sector collaboration. This paper, therefore, aims at exploring the potential and forms of PPP collaborations that can address the infrastructure challenges of African countries. Our study will provide theoretical, managerial and policy implications that will enable the public and private sectors to increase their partnerships for mutual long-term benefits and contribute to enriching the PPP literature.

**Keywords:** Public-private Partnerships, Infrastructure projects, Sub-Saharan Africa, Project Business



#SAN016

## EN ROUTE TO A SUSTAINABLE FUTURE THROUGH QUALITY EDUCATION

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### Abstract

In 2015, the international community signed 17 Sustainable Development Goals (SDGs) to reach a better and equal society, as well as care for their ecosystems by 2030. Among the 17 goals, the fourth was established to be Quality Education, aiming to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” (United Nations, 2017). To address the challenge of increasing education quality by comprehending the SDGs through education itself, the Finnish companies Eduix ltd. and HeadAi developed an artificial intelligence (AI) tool that evaluates to what extent education institutions address the SDGs into their curricula and education programs. The AI-based SDG tool gives education experts a quantitative and a qualitative analysis, together with a visual understanding, of how much the education program in their institutions address sustainability issues. For that, the education institution provides their curricula description to the tool. The AI machine reads the data and compares it to the SDGs official descriptions created by the United Nations. The results are discussed towards how to strengthen the SDGs that are already addressed in the institution’s curriculum and how to improve those SDGs that are lacking emphasis in the institution’s education program. The main purpose is that educational development and curriculum reforms are guided towards promoting the SDGs. The analysis tool is an internationally unique tool that can be used for education planning, project evaluation and decision making regarding how education is aligned with the SDGs.

**Keywords:** Sustainable Development Goals, Artificial Intelligence, Curriculum Reform, Program Evaluation



#SAN109

## SUSTAINABLE DEVELOPMENT GOALS AND TOURISM: RESEARCH AND EDUCATION NEEDS ON SUSTAINABLE TOURISM IN SOUTHERN AFRICA

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### Abstract

For a relatively long-time, international policy-making organizations have perceived the tourism industry as a high-potential tool for putting sustainable development into practice. Recently, the capacity of tourism sector to work for sustainable development has been highlighted in relation to the United Nations Sustainable Development Goals (SDGs). This connection highlights the importance and responsibility of tourism as one of the world's biggest industries to contribute and make a difference in sustainable development. Based on this, the tourism industry is recognized as a prospective and concrete agent for social change and economic development, empowerment, and poverty alleviation in many parts of southern Africa. The industry has excellent potential for income and employment creation and can support poverty alleviation and nature conservation needs. However, many regional and international scholars have noted that tourism and tourists come with their own set of risks for destinations and destination communities. Thus, there is a need for critical thinking about the role and growth of tourism and how tourism could be guided towards a more sustainable development path in the region. This calls for critical scholarship in higher education and research. This presentation, which is based on the agenda of the SANORD Special Interest Group (SIG) "South-North partnerships for sustainable tourism research, education and management", will discuss the sustainable tourism research and education needs in the context of SDGs. The aim is to highlight the critical connections and misconceptions between SDGs and tourism in the regional context and in the Global South and North's higher education collaboration.

**Keywords:** Sustainable development goals, Sustainable tourism, Governance, Tourism research and education



#SAN059

## ASSESSMENT OF FIRST- YEAR UNDERGRADUATE STUDENTS' EXPERIENCES ON THE TRANSITION TO ONLINE LEARNING DURING COVID-19

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Some studies indicate that transitioning to online learning may be chaotic and stressful for both students and lecturers especially because the transitioning in higher education was unplanned for and they had to ensure that the academic year was saved. As online learning continues to grow, it is important to assess the students' overall experiences in online learning environments. Online learning is being adopted by educational institutions worldwide to provide ongoing education for students during the Covid-19 pandemic. Some of the students who make their entry at the university level come from deep rural based schools which are under resourced. Under resourced schooling environment influences under exposure, whereas under exposure influences students' ability to adapt to an online learning tertiary environment. The qualitative research approach will be deployed in this study as it would generate more understanding on students' point of view regarding their transitioning experiences to online classes. This will furthermore be aided by an exploratory design to improve the researcher's knowledge on the topic under investigation. The participants for this study are going to be first- year undergraduate students who have transitioned from high school contact learning classes to university online learning environment. The data will be collected in the University of Limpopo (Turfloop), through applications of Focus Group Discussions (FGDs) and semi- structured interviews. About fifteen (15) participants will be purposively sampled. The inductive Thematic Content Analysis (TCA) will be used for analysis. Since this is a work in progress study, it is expected that the outcome shall indicate undergraduate students' experiences on the transitioning to online learning during Covid-19 pandemic.

**Keywords:** Online Assessment, Covid-19, Online-Learning, Transition, Undergraduate student



#SAN115

## **LECTURERS' UNDERSTANDING ON THE USE OF OPEN EDUCATIONAL RESOURCES (OER) IN TEACHING AND LEARNING AT THE THREE SOUTH AFRICAN UNIVERSITIES**

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### **Abstract**

The purpose of this study is to explore lecturers' understanding on the use of OER at South African universities. Globally, studies show that majority of university lecturers have little or no understanding of the OER concept. This has revealed to be a hindrance to the use of OER in their teaching and learning (Wolfenden, Auckloo, Buckler & Cullen, 2017). The Diffusion of Innovation (DOI) Theory (Roger, 2003) was deemed to be a relevant and appropriate pillar on which this study is grounded. The study was informed by the pragmatic paradigm, where qualitative research approach was employed in order to elicit the rich narrative responses from the participants. Six lecturers from the three South African public universities were purposively sampled due to their knowledge and information-rich experience of teaching within the university environment. In order to triangulate, data was collected through semi-structured interviews and document analysis. Data was analysed thematically where themes and codes emerged. Findings revealed that lecturers from the three target universities have little or no understanding of the OER concept. The study recommends that OER should be well conceptualised among lecturers at the target universities in order to enhance new pedagogical practice that promotes collaborations, exchanging of ideas, more value to educational content, and digital inclusion.

**Keywords:** OER; use of OER, Pedagogical practices, Lecturers, Educational approaches, Teaching and learning



#SAN082

## SHORT SCALE VARIABILITY CHARACTERIZATION OF SOLAR IRRADIATION IN CONDITIONS OF INTERMEDIATE-SKY

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### Abstract

The waves of solar radiation in its arrival to horizontal surface experience highly variability due to the intermittency of clouds, resulting in instability working of autonomous and gridded solar systems. To characterize the variability of short scale solar irradiation in conditions of intermediate sky is require for successful solar projects, as previous local studies where only based in observing the behaviour of measured solar radiation components for solar project sizing. Here we use the descriptive sequence, applied to theoretical method of clear sky determination that mean the ratio between experimental global radiation and extraterrestrial solar radiation at clear sky. The treated and processed solar data has one minute temporal resolution and are distributed in all seasons of the year. First was classified the days according the clear sky days, was quantified the different types of days and them was determinate the variability score. The results shows that the intermediate-skies days, doesn't has such much discrepancy with that achieved using one second temporal resolution. Was conclude that the frequency that presents high absolute values of clear sky variations are mostly in intermediate-skies then relatively to others.

**Keyword:** Characterization, Resolution, Variability, Irradiation, Intermediate-sky



#SAN079

## THE NATURE AND EXTENT OF BULLYING: A CASE STUDY OF STUDENTS FROM A SOUTH AFRICAN UNIVERSITY

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### Abstract

The purpose of this study is to explore the nature and extent of bullying amongst university students [Undergraduate and postgraduate students]. Stemming from students' experiences on bullying during their academic lives at tertiary institutions, they often become perpetrators and victims of bullying. The researchers will use the Social Learning Theory confirming that people observe and learn certain behaviours from others to explore the nature and the extent of bullying, using a South African university as a case study. The quantitative research approach will be used in this study. The non-probability snowball sampling will be adopted to select 20 fulltime registered students with the pie charts and frequency tables used for analysis. Data will be collected from all level of study that are catered in the South African university. This study will not be limited to any ethnic group. All faculties that are catered in South African universities will be included in data collection. The recommendations of the study will be alighted guiding South African universities to take legal actions towards people who practice bullying or even expel them from the institution, initiatives of campaigns to prevent bullying should be implemented in campus and support groups to help victims of bullying to cope, anti-bullying policies should be implemented and strictly explained to students and personnel and victims should have easy accessibility on where and how to report bullying.

**Keywords:** Bullying, Case study, Nature and extent, South African university, Students, Victims



#SAN060

## EXPLORING PERCEPTIONS OF SEXUAL ABUSE IN SELECTED SECONDARY SCHOOLS WITHIN CAPRICORN DISTRICT OF LIMPOPO PROVINCE

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### Abstract

Globally, sexual abuse and victimization has always been a serious challenge in the secondary schools which affect girls more than boys. Secondary school learners are vulnerable to sexual abuse which in turn poses a deleterious effect on their performance in class. Literature on sexual abuse in school has demonstrated that teachers are considered as perpetrators for such type of abuses. Literature relating to sexual victimization in schools where reviewed with the aim of getting a theoretical framework of the study. The study is grounded in the learned helplessness theory. A qualitative approach was used for the study and the literature in regards to the topic of sexual victimization of learners where analysed using Inductive Thematic Content Analysis. Purposive sampling was used to select participants. Finding of the study reveal that girls are more vulnerable to sexual abuse than boys. It was discovered that this is due to the fact that the likelihood of male teacher to become perpetrators of sexual abuse than that of female teachers. Learners who are sexually abuse are prone to multiple victimizing harm and effects such as psychological, emotional, emotional and physical harm, which have the potential to increase drop out levels. The study recommends that there is a needs for a collaborative approach between SGB, The Department of Basic Education, teachers, schools policy developers, parents, social workers and learners to help fight this form of victimization and ensure the enhancement of learner's academic potential.

**Keywords:** Learner, Learned helplessness, Sexual abuse, School and victimisation



#SAN058

## AGE AND SEX DEPENDENT VARIABILITY OF TYPE 2 DOPAMINE RECEPTORS IN THE HUMAN BRAIN: A LARGE-SCALE PET COHORT

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### Abstract

The dopamine system contributes to a multitude of functions ranging from reward and motivation to cognitions and movement control, making it a key component in goal-directed behavior [1]. Altered dopaminergic function is observed in neurological and psychiatric conditions [1-2]. Numerous factors have been proposed to influence dopamine function, but due to small sample sizes [3] and heterogeneous data analysis methods [4] in previous studies their specific and joint contributions remain unresolved. In this cross-sectional register-based study we investigated how age, sex, body mass index (BMI), cerebral hemisphere, and regional volume influence striatal type 2 dopamine receptor (D2R) availability (measured as a binding potential, BPND) in the human brain. We analyzed a large historical dataset (n=156, 120 males and 36 females) of [<sup>11</sup>C]raclopride PET scans performed between 2004 and 2018 (<https://aivo.utu.fi>). D2R availability decreased through age for both sexes (2-5 % per 10 years in striatum), and it was higher in females versus males (7-8% difference in putamen). BMI and striatal D2R availability were weakly associated. There was no consistent lateralization of striatal D2R. The observed effects were independent of regional volumes. Results were validated using two different spatial normalization methods, and the age and sex effects replicated in an independent sample (n=135). Age and sex specific D2R atlas images in NeuroVault (<https://identifiers.org/neurovault.collection:12099>). D2R availability is dependent on age and sex, which may contribute to the vulnerability of neurological and psychiatric conditions involving altering D2R expression.

**Keywords:** Type 2 dopamine receptors, Positron emission tomography, Ageing, Sex-difference, Bayesian data-analysis



#SAN017

## SUPPORTING STUDENTS AND ADVISORS WITH THESIS PROCESS DIGITALIZATION

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### Abstract

The number of atypical learners is growing all the time, and traditional, “one-size fits all” education approaches do not support part-time learners or flexible lifelong learning anymore. However, personalizing the learning process for every student separately is too laborious and difficult to manage. In higher education institutions (HEIs) worldwide, this challenge is particularly emphasized in a thesis process where advisors support students to apply their skills in an independent complex academic work. To tackle both challenges of personalizing learning process and supporting it efficiently, an expert-oriented digitalization model (EXOD) for university process digitalization had been developed. As a case for the model, Wihi was developed, an information system that supports a flexible, personalized learning approach for theses work management. Previous research showed the usefulness and adaptability of the EXOD model (and Wihi) in Finland. As thesis process is similar to an extent globally, the thesis process digitalization can be applied in multicultural studies as well. Therefore, we address the following research problems: 1. What kind of differences there are in thesis processes in different cultures/countries? 2. Does Wihi need to be adapted or contextualized for each culture/country?, and 3. How do different user groups (e.g. students and advisors) see the thesis process digitalization in different cultures/countries? This work presents an international project, undertaken by an international consortium of universities and companies from Finland and African countries. We aim to enlarge the research of digitizing theses management processes to Sub-Saharan African HEIs in Ghana (two HEIs) and Namibia (two HEIs), taking our experience in Finland as a reference.

**Keywords:** Personalized learning, Education digitalization, Thesis process, EXOD



#SAN106

## **“THE PANDEMIC IS A PORTAL TO THE FUTURE”: AN ENGAGEMENT WITH ARUNDHATI ROY’S PORTAL METAPHOR AND INTERNATIONALISATION IN HIGHER EDUCATION**

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### **Abstract**

Historically, pandemics have forced humans to break with the past and imagine their world anew. This one is no different. In the words of author Arundhati Roy, the pandemic is a portal, a gateway between one world and the next. Seeing the pandemic as a portal to the future, in Roy’s words, allows us to walk through a portal leaving our outdated ideas behind. It provides us with an opportunity to reimagine the world anew and talks to SDG 17- Reimagining the future. For Higher Education this talks to projects of transformation to which internationalisation and global engagements are key. The ‘portal’ metaphor aligns with other metaphors such as ‘Education’ and ‘transformation’ and in the extension other ideas and ideals central to discussions around the university of the future, the SDGs and sustainability. I will therefore in this presentation talk to the ways in which the portal and gateway metaphor allows us to reimagining the university and internationalisation in particular. I will focus on five areas or portals that will allows us to reimagine internationalisation and the future of higher education; Portal 1 International partnerships and networks including network to network partnerships Portal 2 NGOs, Corporates, and the University; Portal 3 Human resources; Portal 4 Transdisciplinary, and Portal 5 Entrepreneurship.

**Keywords:** Higher Education, SDG 17, Transformation, Diversity, Internationalization



#SAN006

## STUDENT MOBILITY TO AND FROM NORWAY AND ZAMBIA, THE ROLE OF AN INTERNATIONAL STUDENT ANALYSED BY CRITICAL INTERCULTURAL THEORIES INCLUDING WHITE PRIVILEGES

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### Abstract

This paper discusses the research question: “How do culture and power relations appear in teacher students project reports and how can such insight be important for South- North student mobility?” By analyzing 19 project reports written by Norwegian and Zambian students as part of the course Global Knowledge at Western Norway University of Applied Sciences, we discuss how culture and power are articulated. Our text analysis focus on choice of topic, methodological reflections, and discussions including discursive analyses of key concepts as Norway, Zambia, Muzungu, and values like honest, polite etc. The reports written after the student’s international study and teaching practice abroad, Norwegians three Months in Zambia and Zambian students ten Months in Norway, show intercultural variations in terms of choice of the topics, theories, methodological approaches, and their position as foreign students. In light of critical whiteness theory, critical pedagogy, and intercultural competence, do we emphasize on the Norwegian students reports related to practice in Zambia and how many students take their position as white with privileges for granted.

**Keywords:** Student mobility, Zambia, White privileges, Power, Intercultural

**SUB SECTION:** Teacher Education: towards generation 4.0



#SAN123

## THE ROLE OF PROFESSIONAL DEVELOPMENT IN THE DIFFUSION OF STEAM IN THE SOUTH AFRICAN SCHOOLS

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### Abstract

In a fast-changing world where technology and globalization are shaping the way we do things, teachers need to adjust and think differently about the way they teach. Creativity is seen one of the most important skills required for success in the 21<sup>st</sup> century and therefore teachers should set the example and become creative and innovative when applying their knowledge and skills to teach learners. In STEAM, art is included in the STEM (Science, Technology, Engineering and Mathematics) mix as a new educational approach. The advantages of STEAM are widely accepted for a number of reasons and has become very popular in countries that are known for their excellent mathematics performance. For this reason, it is imperative that South Africa investigates this approach. In South Africa the traditional methods of teacher-centred teaching are still prevalent in most classrooms. To include art and a more interdisciplinary setting in a mathematics classroom will necessitate a change in the teachers' perceptions about teaching mathematics. This talk will give an overview of the results of a study of South African schools that have successfully adopted the STEAM approach and the role that professional development played in the diffusion of innovation.



#SAN088

## STORYBOOKS ZAMBIA AND STORYBOOKS NORWAY: MULTILINGUAL DIGITAL STORIES FOR LANGUAGE AND LITERACY LEARNING

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### Abstract

Zambia and Norway are multilingual countries where either a few languages (Zambia) or just one language (Norway) are used as the language of instruction, whether the pupils speak the language or not, and literacy materials in other languages are rare. In spite of many educational differences between the two countries, the shortcoming in offering educational materials in the range of pupils' home languages entails a challenge when it comes to affirming pupils' identities (Cummins, 2021) and effectuating the principle of language as a resource (Ruiz, 1984). The digital revolution has made it possible to develop and disseminate educational materials in novel ways, including opening up for collaboration and sharing between countries across the globe. We present how multilingual digital stories from Africa have been repurposed and reframed to develop a website interface that offers 40 multilingual children's stories with images, text, and audio recordings in Zambia ([global-asp.github.io/storybooks-zambia](https://global-asp.github.io/storybooks-zambia)) and Norway ([barneboker.no](https://barneboker.no)). We further discuss the design of these websites to support both L1 and L2 development in and out of the classroom, as well as experiences with translation, current, and prospective use of the stories in both countries. We conclude by discussing how the use of African children's stories in Norway challenge the North–South knowledge flow and provide an opportunity for teachers and students to critically engage with African literature and culture, which are otherwise rarely encountered in schools.

**Keywords:** Digital stories, Initial literacy, Language learning, Multilingual education, North–South collaboration



#SAN129

## HEALTH SYSTEM RESPONSE DURING THE COVID-19: A COMPARISON BETWEEN FINLAND AND SOUTH AFRICA

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### Abstract

The healthcare resilience is defined as the capacity to adapt to challenges to maintain high quality care despite the change. Health system response to COVID-19 pandemic serves as a tracer of its resilience. This comparative study aimed to explore the healthcare resilience in response to COVID-19 in Finland (FIN), and South Africa (SA), during the first wave of the pandemic. The presenters had conducted distinct studies on their country's response to COVID-19. FIN study focused on the whole country, it is compared to the response of a province of Gouteng in SA. The secondary analysis entailed re-examining data using a READ (**R**eady materials, **E**xtract data, **A**nalyse data, **D**istil). World Health Organization's (WHO) health system six building blocks framework (Leadership & governance, information, health workforce, financing, medical products, and service delivery) was applied to the analysis. The response to COVID-19 included policy development. Challenges of continuously on updated information was experienced. In FIN the adequacy of workforce was secured reorganizing work and recruiting backup employees. In SA there was poor consideration of health workers mental health. Countries struggled to balance economic demands and faced challenges and ambiguities with medical products. All urgent services were not interrupted in FIN, meanwhile SA, there was a neglect of the routine chronic illness services, in favor of COVID-19 patients. COVID-19 caused a major health system stress test in both countries. However, the comparative experiences drawn on the pandemic provide important lessons of resilience of healthcare to the future challenges.

**Keywords:** COVID-19, Health system, Resilience, Finland, South Afric



#SAN104

## STUDENT TEACHERS' EXPERIENCES AND COGNITIONS ON BEING AN ENGLISH TEACHER: A SOUTH AFRICAN-NORWEGIAN COMPARATIVE STUDY

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### Abstract

The present study investigates undergraduate teacher students' cognitions about being and becoming an English teacher from a comparative perspective. Participant student teachers of English at the University of KwaZulu-Natal (N=50) and Western Norwegian University of Applied Sciences (N=50) completed an open-ended questionnaire. Questions ranged from self-reported motivation to become a teacher and, more specifically, an English teacher, to qualities they associated with a good (English) teacher and their own experience as language learners. The open-ended items were supplemented with closed-response items and a background questionnaire. The research questions for this paper are:

In what ways do South African and Norwegian pre-service teachers want to teach similarly to or differently from their own teachers?

What are the differences between South African and Norwegian preservice student teachers' experiences and future ideas of their role as teachers?

The present talk will present a selection of results in relation to these two research questions.

Preliminary results indicate four themes that have emerged from the data:



1. The Importance of Using English in the English Classes
2. Strategies for Effective Teaching of English
3. Recognising Personality Traits to be a Good Teacher
4. Need for Inclusion in Classrooms

This paper explores how student teachers within the South African and Norwegian contexts highlight these issues and how such factors could shape their classroom practices.

**Key words:** Student teachers, classroom practices, cognitions, English teacher

Oral presentation



#SAN031

## INCORPORATING UBUNTU PRINCIPLES IN THE TUTOR TRAINING PROGRAMME TO PROMOTE ACADEMIC SUCCESS AND WELLBEING

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### Abstract

Tutoring is one of the important components of student support designed to enable students to achieve their learning goals and improve overall success rates. Due to the pandemic, the use of educational technologies has moved from being a secondary mode of conducting learning interactions in the tutoring space to being the primary mode of learning. The question worth asking is: “what does tutoring look like when most students are no longer on campuses?” In an online environment, tutors are not only expected to support students on their cognitive and academic skills but also need to offer support on other skills such as social, affective, technical and metacognitive skills. This requires a paradigm shift in the roles and responsibilities of tutors. In this research project I report on the Tutor training Programme which identified Ubuntu as a principle that tutors can utilise to support students to develop a range of skills required to succeed for both online and face-to-face learning environment. Characteristics that are associated with Ubuntu include but are not limited to caring, humble, thoughtful, considerate, understanding, wise, generous, hospitable, socially matured, socially sensitive and virtuous, which are desirable characteristics that tutors should possess. The long-term goal of the project is to work towards positioning Ubuntu as an African learning theory that can assist in decolonising the pedagogies.

**Keywords:** Online tutoring, Tutor training, Online learning, Ubuntu, Africanising the curriculum, Decolonising the curriculum



#SAN046

## INNOVATION AND COLLABORATION IN ELECTRIC VEHICLES, ENERGY SYSTEMS, AND CHARGING INFRASTRUCTURE

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### Abstract

Goals towards reducing the use of fossil fuels in society and increasing the use of renewable energy sources (RES), relate to the Agenda 2030 Sustainable Development Goal (SDG) 7: Ensure access to affordable, reliable, sustainable and modern energy for all. Electrification of the transportation sector, to reduce tailpipe emissions, require access to a vast amount of electricity, potentially generated from RES. Collaboration in this research area has previously been carried out with universities in South Africa and Sweden with the project: Renewable energy sources for powering electric vehicles in South Africa. The electrification of the transportation sector and implementation of more RES include opportunities for more collaboration in industry and academia among Nordic- and Southern African countries, including development of charging infrastructure to support electric vehicle (EV) adoption. Development of infrastructure and innovations in society relates to SDG 9, and development of transportation systems in the cities relates to SDG 11. While charging of an EV takes longer time than refueling of an internal combustion engine (ICE) vehicle, different charging strategies are currently being investigated for development and commercialization. This includes for example conductive charging, inductive charging, battery swapping, or smart charging. A goal is to provide an overview of EV charging strategies and present recent research in the project: Data exchange between vehicle and power system for optimal charging, funded by the Swedish Electromobility Centre. There are opportunities for collaboration and knowledge-sharing between South and North for innovation of energy systems in society.

**Keywords:** Electrification, Vehicles, Charging, Renewables, Innovation



#SAN047

## **WATER-ENERGY NEXUS AND REWABLE ENERGY SOURCES FOR DESALINATION: INNOVATION FOR ACCESS TO FRESHWATER**

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### **Abstract**

The water-energy nexus relates to questions regarding safe access to electricity and clean potable water, where access to one of the resources may be needed to gain access to the other. Desalination plants can be utilized to produce drinkable water from saline water, for example with reverse osmosis. However, this process requires a significant amount of electricity. Recent research has highlighted the potential of using renewable energy sources, instead of fossil fuels, to power desalination plants off-grid at remote areas and to generate more drinkable water. This could be a solution to limit use of fossil fuels in water production. Desalination plants powered by wave power or marine current energy converters have been studied in previous research projects, including innovations and case studies for locations in the North and South. Research in this area was summarized in a doctoral thesis: Wave Power for Desalination. Opportunities for wave powered desalination and collaborations in Sweden and South Africa were analyzed in a recent supervised master thesis. This included discussions on technology transfer in academia and industry, and what could be learnt from both countries. The aim here is to present research on the water-energy nexus and wave powered desalination systems. The project relates to Agenda 2030 Sustainable Development Goals 6: Ensure availability and sustainable management of water and sanitation for all, and 7: Ensure access to affordable, reliable, sustainable and modern energy for all. The overall goal is to analyze renewable energy sources for freshwater production.

**Keywords:** Freshwater, Electricity, Desalination, Innovation, Collaboration



#SAN050

## **DRIVERS AND CHALLENGES FOR THE IMPLEMENTATION OF NEW DIAGNOSTIC TECHNOLOGIES FOR BACTERIAL INFECTIONS IN DIFFERENT HEALTHCARE SETTINGS IN SOUTHERN AFRICAN AND NORDIC COUNTRIES**

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### **Abstract**

New diagnostic technologies for bacterial infections are important not only to prescribe the right antibiotics to patients, but also to prevent inappropriate use of precious antibiotics needed to target drug-resistant bacteria. However, the spread of new diagnostic practices and technologies between the healthcare systems of different countries, and between the global North and South, is slow. Why this is the case remains unclear and is therefore the topic of investigation in this project. Specifically, I study behavioral, social, and economic drivers and challenges to the spread and implementation of diagnostic technologies for bacterial infections across different countries and healthcare settings. This project will support innovating firms and policy makers by addressing healthcare policy making in the field of antibiotic resistance as well as clinical practice and routines for implementing new diagnostics technologies in different hospital and healthcare settings. That, in turn, is hoped to result in a decrease in incorrect prescription of antibiotics and help reduce the rise in antimicrobial resistance. This project relates to the SANORD sub-themes of Healthcare and Innovation and concerns making use of North-South partnerships to find solutions in relation to the SDG of promoting health and well-being (SDG #3) and the innovation of medical technologies (SDG #9). It has important connections to many academic fields across the medical, natural, and social sciences as well as technology and innovation. It is thereby hoped to constitute a promising area for cooperation withing the confines of SANORD.

**Keywords:** Implementation, Diagnostics, Antibiotics, Infection, Healthcare



#SAN051

## INNOVATION INCENTIVES TO PROMOTE EQUITABLE ACCESS TO NEW ANTIBIOTICS ACROSS DIFFERENT COUNTRIES AND HEALTHCARE SETTINGS

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### **Abstract**

Antibiotic resistance is a growing global threat which constitutes a heavy burden for many healthcare systems as old drugs that once cured bacterial infections are no longer working. However, and to make matters worse, the new drugs being developed don't reach many countries and healthcare settings. Hesitant to expose their drug to low prices, low sales, high resistance clinical environments, or low intellectual property protection, many pharmaceutical firms avoid making their new drugs available in many of the countries that need them the most. This project aims to investigate how existing government incentives for antibiotic innovation (such as innovation prizes or research grants) can be improved to also require the equitable access to new antibiotics, not just for some, but for all countries and healthcare systems. This project builds on previous work on innovation incentives to combat antibiotic resistance in the North and South and offer many opportunities for collaboration. The project will support policy makers with practice-oriented research to address healthcare policy in the field of antibiotic resistance. This project relates to the SANORD sub-themes of Healthcare and Innovation and concerns making use of North-South partnerships to find solutions in relation to the SDG of promoting health and well-being (SDG #3) and the reduction of inequalities between countries in terms of access to medicines (SDG #10). This is hoped to constitute a promising ground for cooperation with partner universities in SANORD.

**Keywords:** Antibiotics, Access, Equity, Innovation incentives



#SAN092

## BLENDING LEARNING AND TERTIARY EDUCATION NEXUS IN LIBERIA: AN EMPIRICAL APPROACH

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### Abstract

Introduction of information era has brought significant change in information acquisition. Informationization surge is being witnessed in higher education systems across countries with respect to teaching mode, teaching content, and introduction of innovations to teaching form. There is need for organic integration of information and communication technology into tertiary education system. This study investigated the inter-relationship between ICT variables and students' academic performance in selected universities in Liberia. Primary data was collected from 138 selected students from some selected institutions. A well-structured questionnaire was used for data collection. Descriptive statistics, OLS regression analyses and Pearson correlation coefficients were used for data analysis. Findings show that many students possessed smart phones, with access to internet facilities at home. Considerable number of students were skillful in email, Microsoft word and Powerpoint. Laptops possession and access to university desktops had positive influence on students' academic performance. But possession of smart phones and tablets had negative influence on academic performance. Skillfulness in powerpoint, email and learning management system had positive influence on their academic performance, but skillfulness in multimedia had negative influence on students' academic performance. The study observes significant inter-connectivity among ICT skillfulness and academic performance. While ICT skillfulness had positive influence on academic performance; academic performance in turn had negative influence on some ICT skillfulness. Proper and adequate utilization of ICT by school administrators and students was recommended. Beneficial applications of ICTs beyond schools' four walls should be encouraged. Downward review of internet facilities costs should be considered by service providers.

**Keywords:** Information and communication technology (ICT), Academic performance, ICT facilities;, computer-related activities skillfulness, Liberia



#SAN072

## UNDERSTANDING THE PEDAGOGICAL FOUNDATIONS OF ENTREPRENEURSHIP EDUCATION WITHIN THE HIGHER EDUCATION LANDSCAPE IN SOUTH AFRICA

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### **Abstract**

The propose study aims to investigate the teaching pedagogies appropriate to the teaching of entrepreneurial education in Higher Education Institutions (HEI). The reason being to develop and empower students' entrepreneurial behaviour, skills and knowledge. This is imperative because of the high unemployment rate in South Africa, therefore, students' needs to be empowered so that alleviate the issue of unemployment. Previous studies indicated that there is limited literature on entrepreneurial pedagogies relevant to the teaching of entrepreneurship education. This challenge or limitation lead to the questions of how entrepreneurial pedagogies can promote students entrepreneurial empowerment in Higher Education Institutions. The theoretical lens underpinning this study is experiential learning theory. This theory suggest that knowledge is generated through the conversion of experience. The unit of analysis is the final students of the University of Limpopo. The researcher considers a population of all final students across all faculties. The sample size is drawn from homogeneous purposive sampling. Therefore, the present study will be qualitative in nature and it will be premised on phenomenology research design that is appropriate for the present study because the researcher needs to comprehend the experiences of research participants about the phenomenon. Semi-structured interview will be used as a method of data collection whereby 12-18 participants will be interviewed. Data will be analysed using an inductive thematic analysis approach wherein Atlas.ti version 8 is used.

**Keywords:** Unemployment, Entrepreneurial, Pedagogy, Entrepreneurship, Education, Empowerment, Higher Education Institutions



#SAN118

## RESTRAINING MARGINALISATION: EQUITY IN HIGHER EDUCATION IN NAMIBIA FOR GLOBAL CHANGE

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### Abstract

During the colonial dispensation, Namibia was divided into homelands based on tribal and linguistic jurisdiction. The division resulted in some educational, economic and social marginalisation among some communities in Namibia. Higher education remains the pathway rewarding career prospects and contributes to individuals' physical and cognitive well-being. Moreover, an educated nation contributes to the local economic growth and global transformation. Despite fundings, poor academic achievement and dropouts remain worrisome among student from marginalized backgrounds. Poor academic success reflects forms of exclusion and further necessitates interrogations on the effectiveness of availed support services as equity measures to support these students. This PhD work in progress employed a convergent mixed methods design that allowed the researcher to collect qualitative and quantitative data independently but concurrently, analyse them separately, and merge the results to confirm or disconfirm each other (Creswell & Creswell, 2018). The paper explored and discussed the perceived roles of Higher Education Institutions (HEIs) in supporting students from marginalised backgrounds in the Namibia context. Using Schlossberg's transition theory intertwined with the Diversity Equity and Inclusive (DEI) to describe the unique backgrounds and characteristics of students from marginalised backgrounds, their transitional encounters into higher education, their support needs, and the roles of higher education in ensuring equitable access.

**Keywords:** Marginalised, Marginalisation, Transition, Marginalised communities, Marginalised backgrounds



#SAN114

**INSTRUCTIONAL LEADERSHIP IN LITERACY IN THE FOUNDATION PHASE OF PRIMARY SCHOOLS DURING COVID-19 PANDEMIC, CAPRICORN DISTRICT, SOUTH AFRICA: A NEEDS ANALYSIS.**

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**Abstract**

Instructional leadership has become an issue that is drawing more attention in South Africa. This happens at a time when different stakeholders in the education sector have realised its importance on issues related to curriculum coverage and learner performance. The purpose of this study was to analyse the needs that instructional leaders in the foundation phase has. This was done by using the qualitative research approach through a case study where two methods of data construction were used. Data construction methods included interviews and field notes. Three rural primary schools were purposively selected, wherein two instructional leaders from each school were the participants in the study. Data was analysed using thematic analysis. This article argues that unless the needs of instructional leaders are appropriately identified and addressed, it becomes a challenge to develop a responsive and an appropriate instructional intervention programme during the Covid-19 pandemic. The findings of the study revealed that foundation phase instructional leaders had several needs during the Covid-19 pandemic. These include clarification of instructional leadership roles, mobile digital technological resources, adequate support from the Department of Basic Education and parental involvement.

**Keywords:** Instructional leaders, Needs, Analysis, Literacy, Covid-19



#SAN093

## INNOVATIVE PEDAGOGICAL M-LEARNING PRACTICE FOR TEACHING MATHEMATICS WITH GEOGEBRA APPLETS

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In this paper an innovative pedagogical approach to using customized open source GeoGebra phone applets for teaching and learning of mathematics in South African schools will be introduced and discussed. The educational design aspects of these mathematics applets have emerged directly from participative action research activities linked to the GMMDC's STEM skills development projects in under- resourced schools of the Eastern Cape Province. Using the GeoGebra software, the centre developed three separate mathematics applet series with the goals of, respectively, supporting the delivery of the CAPS school curriculum, promoting creative problem-solving and creating awareness of links between mathematics and the arts in the era of 4IR. A number of key educational challenges in under-resourced schools from poverty-stricken areas were of importance to consider in the development process. These included the need in most public schools for flexible and affordable access to applet resources that are in line with the school curriculum, user- friendly and interactive. A key design aim was to make the phone applets attractive as a support platform for self-directed learning. Hence, several creative pedagogical affordances, including a variety of multi-coloured mathematical representations and controlled animations, were also embedded as part of the design of the phone applets. The author will discuss and practically demonstrate a range of education features of the phone applets in relation to the educational challenges and pedagogical affordances that referred to above. Strategies on ways to integrate the use of GeoGebra mathematics applets for phones in the teaching and learning of mathematics in classrooms or after school hours will also be shared by the speaker.

**Keywords:** M-learning, Mathematics education, GeoGebra, Applets, Self-directed learning



#SAN055

## DECOLONIZING RESEARCH METHODOLOGIES: THE QUESTION OF LANGUAGE IN INTERNATIONAL COLLABORATIONS

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### Abstract

The crucial place language holds in the construction of epistemologies cannot be overstated. Language plays a part in enabling or hindering access to academic resources, influencing publishing practices which act as gate-keepers of knowledge. Furthermore, language has been historically and continues to be a medium and a form of colonisation. And language is of course a reflection of cultural identity, which is a central piece of decolonization/decoloniality discourses. In international collaborations between European and African universities and higher education institutions, language can become a point of contention, creating uneven relations, presenting challenges to movements of ideas, mobility of researchers and collaboration between institutions. In my presentation I am proposing to use as a case-study, a newly formed research school which is aimed at doctoral students and has for its main theme: “Decolonizing Research Methodologies”. This newly funded project is a collaboration between six institutions from Mali, Burkina Faso, Tanzania and Sweden, with English and French as the languages in use. From observations of the various pedagogical activities conducted within the collaboration, I propose to show the challenges and possible solutions to working with different language traditions in the general aim of decolonizing research methodologies and practices in higher institutions’ collaborations.

**Keywords:** Decolonization/decoloniality, language, higher education, research methodologies, North-South collaborations



#SAN122

**“FROM NORTH TO SOUTH – AND BACK” – FUTURE TEACHERS’  
REFLECTIONS ON ETHNIC REPRESENTATIONS IN SWEDISH VS AFRICAN  
TEXTBOOKS FOR COMPULSORY SCHOOL**

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**Abstract**

Students in initial as well as in-service teacher training should be prepared to operate in a polarized world with an ever-growing demand for source-critical skills, including the material used in the classroom. This study aims to present students’ investigations on how hierarchical constructions are reflected in Swedish and South African contemporary textbooks in terms of the representation of ethnicity. SDG 4 and 10 both deal with the importance of reducing inequalities. In that line, the *Swedish Curriculum for the Compulsory School, Preschool Class and School-age Educare* as well as the *South African National Curriculum Statement Grades R-12* stress the purposes that the school should represent and impart “the equal value of all people” or that learners should be equipped, “irrespective of their socio-economic background, race, gender, with the knowledge, skills and values necessary for self-fulfilment”. Multimodal analysis of recent textbooks in school subjects such as Math, Swedish and Swedish as a second language were conducted by students in initial teacher training at Uppsala University. An investigation of South African textbooks was then conducted on the same topic, of which the results will be presented together with the students’ reflections on how textbooks in both countries tend not to follow the somehow similar values borne by both curricula, and teachers compensating role. In a future investigation, we aim to initiate a virtual exchange between Swedish students and South African students investigating ethnic representations in textbooks for compulsory school.

**Keywords:** Teacher education, Representation, Ethnicity, Textbooks, Critical literacy



#SAN154

## FOSTERING NARRATIVE COMPETENCE IN CLINICIANS: A COURSE IN CLOSE READING AND REFLECTIVE WRITING FOR HEALTHCARE AND SOCIAL WORK PROFESSIONALS

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### Abstract

A growing body of scholarship shows that literary fiction and reflective writing can be successfully used to develop skills that are essential for ethical and effective healthcare and social work. To practice their profession with empathy, respect and effectiveness, healthcare and social work professionals need to be able to listen and interpret to patients' stories skillfully to respond to them with proficiency. Moreover, clinicians need to be able to process their own personal experiences to foster emotional integrity, personal and professional growth and to avoid burnout and cynicism. To this end, we introduce a 7-week course aimed to foster narrative competence—skills required to listen, interpret and respond to stories—and to provide clinicians with tools to process their personal experiences through reflective writing. The course was offered to healthcare and social work professionals in the City of Helsinki Social Services and Health Care system, and taught in four groups in total during two semesters. Through a combination of close reading of literary fiction and poetry, guided writing assignments and group discussion, the course sought to complement clinicians' prior professional skills by cultivating narrative competence and providing a space for personal reflection and shared insight. We provide a course syllabus with illustrative examples; share experiences and participant feedback from four close reading and reflective writing groups taught across two semesters; and discuss the rationale and benefits of teaching narrative skills to inform clinical practice in healthcare and social work.

**Keywords:** Reflective writing, Medical education, Health humanities, Medical humanities, Narrative medicine



#SAN155

## COVID-19 RAPID IMPACT ASSESSMENT ON DOMESTIC WORKERS IN ZAMBIA

Jairous Miti

### Abstract

The purpose of this study was to assess the the impact of COVID- 19 on Domestic workers in Zambia. Zambia has about 97.104 domestic workers whose gender categorization in shows that 64.4% are women, and 35.6% are men. Characteristically, domestic workers are low educated: only two third have reached primary school. They work long day- an average of ten hours with more working time, for live in domestic workers. This was an exploratory qualitative study. Data sources included document reviews and interviews and Focus Group Discussions with domestic workers. Data were analysed using thematic analysis. Study obtained clearance from domestic workers' associations to engage their members. Individual participant gave informed consent before participating in the study. The assessment show that as a result of the COVID-19 pandemic, domestic works experienced enhanced vulnerability and social risks and lack of social protection. They experienced reduced reduced employment opportunities, reduced working days or hours and increased workload, lack of a salary, loss of employment, as well as restricted movement. These challenges further led to compromised and lack of housing including failure to paying rent for shelter; inability to pay school fees and other education materials. Furthermore, domestic workers and their families experienced challenges in accessing food, nutrition and health care services. Collective experience of these problems led to stress, mental health problems and gender-based violence. The study also established that domestic workers experienced risks of contagion of COVID-19 as a result of lack of physical distancing in their environments, caring for at-risk populations, none-disclosure of COVID-19 situation in household, loss of home and working for multiple households. The COVID-19 pandemic has exposed and aggravated pre-existing conditions associated with domestic work in Zambia. Evidence showing that domestic workers have experienced health, social and economic challenges suggest that there are missing links in the provision of social services and social protection in the country. There is need to strengthen social protection systems, and social services to reduce and mitigate impacts of COVID-19 on domestic workers.

**Keywords:** Covid-19, Domestic workers, Risk of contagion



#SAN148

**TOWARDS THE ADOPTION OF INDIGENOUS TRADITIONAL GAMES IN THE SCHOOL CURRICULUM, THE TRANSITION TO ACHIEVE EDUCATION FOR SUSTENABLE DEVELOPMENT IN EDUCATION, THE ZIMBABWEAN EXPERIENCE.**

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Indigenous traditional games (ITGs) have great potential to enhance fitness in non-athletic populations, a potential that has not been studied. This study investigated the effectiveness of *nbodo*, a Zimbabwean ITG, in improving hand-eye-coordination (HEC), an aspect of fitness, of under-12 female primary school learners. Data for the study were collected from 22 learners, randomly selected from Chamabonde Primary School in Hwange Educational District, Zimbabwe. Participants were divided into a control group (CG),  $n=11$ , and an experimental group (EG),  $n=11$ . EG received *nbodo* training for 1 hour per day, for 5 days a week for a total of 6 weeks, while CG received no training. HEC was measured in both groups, at the commencement, and end, of the study, using the Alternate Hand Wall Toss Test. A t-test performed on the pre-test and post-test data within both groups found significant improvements in HEC in EG ( $p=0.016$ ), showing that *nbodo* training improved HEC of the learners investigated. We therefore recommend Teachers Colleges to include ITGS in their curriculum, and primary school educators to include *nbodo* in their school activities, for its health benefits. Further studies can investigate the effectiveness of using ITGs for teaching in the primary school.

**Keywords:** Fitness, Indigenous traditional game, *nbodo*, Hand-eye-coordination, Sport



#SAN102

## SOCIAL PROTECTION IN AFRICA: A FOCUS ON GENDER EQUALITY AND EXTERNAL SHOCKS

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### Abstract

Social protection is a human right and a key intervention in protecting against poverty and enabling sustainable growth. Expanding social protection floors is a key goal of the International Labour Organization (ILO), the African Union, and the United Nations Sustainable Development Goals. As new social protection instruments are designed for new challenges, such as external shocks (climate events, natural disasters, pandemics, wars/conflicts, displacement), there is a need to understand programmes better, and to consider gender implications. This scoping review aimed to review knowledge regarding how social protection is implemented to address gender equality and external shock in Africa and what should be considered when expanding these programmes. We searched five academic databases and grey literature on studies on social protection and gender equality or external shocks (climate events; natural disasters; pandemics; wars; conflicts; displacement). We conducted 12 interviews with 14 experts from international organisations, and analysed data using thematic content analysis. We reviewed 140 full-text articles. Few articles described both external shocks and gender. Our findings suggest social protection could have beneficial effects for empowerment and the wellbeing of women and girls, but also during external shocks. However, many gaps in services exist, and social protection needs to be embedded in a functioning system that can also provide complementary services. We found few evaluations of social protection during external shocks. Our interviews confirmed the review findings and indicated both gaps and promising approaches in the African region. Overall, the findings highlighted the importance of approaching gender equality, external shocks, and disability together, and strengthening core programmes and services.

**Keywords:** Social protection, Gender equality, External shocks, Disasters, Scoping review



#SAN157

## IMPLEMENTING A PUBLIC POLICY TO EXTEND SOCIAL SECURITY TO INFORMAL ECONOMY WORKERS IN ZAMBIA

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### Abstract

This paper analyses the strengths and bottlenecks of institutional capacity among social security institutions in Zambia, focusing on the possibilities of providing social security to small scale dairy farmers, a main group of informal economy workers. This study used qualitative exploratory approach. Twenty-one interviews were conducted with participants from Farmers' Cooperatives (MCC), National Pension Scheme Authority (NAPSA), and Dairy Association of Zambia (DAZ). These organizations form the unique partnership model applied in the implementation of the pension extension. We selected participants through purposive sampling technique. We reflected on data using a Consolidated Framework for Implementation Research (CFIR) build on thematic analysis. The analysis suggests that the institutions of the partnership are committed towards extending social security to informal economy workers. However, there seemed to be low involvement of local NAPSA officers in the project design and that their role during implementation of the pension extension was unclear. This may have contributed to a lack of trust of some non-NAPSA towards social security institutions that can affect adoption of the pension extension. Knowledge and beliefs about capabilities of implementers were essential in the activities for implementing the public policy on extension of social security. However, there are several implementation lacunas concerning process, its overarching infrastructure, and adequate human resources. The paper investigates the institutional capacity available for the extension of social security to informal economy workers in Zambia. There is a need to address gaps in process and procedures, equipment and materials, infrastructure, human resource, trust, and knowledge of context to make public policy targeted at fostering inclusion of the uncovered groups in social security more attainable. Globally, such a focus will contribute to realisation of social security as a right.

**Keywords:** Social security, Pension, Partnership, Informal economy, Rural, Farmer



#SAN151

## EMPLOYEE COMMITMENT CHANGE DURING AT THE DEPARTMENT OF HIGHER EDUCATION AND TRAINING

**Kganetsi Lawrence Marotola**

### **Abstract**

The purpose of the research investigated which consultation approaches used during restructuring and centralization of the HR function to drive commitment towards change in the Department of Higher Education and Training. Balogun and Hailey (2004) cited in Todnem (2006) stated that change programmes that followed a fidelity and symbolic approaches to consultation which believed in consulting employees after decisions had been made. Balogun believes that these approaches have contributed to 70 percent failure rate of change programmes. Moran & Krishna (2014) argued in favour of resources approaches to consultation which proposed a high level of employee involvement in the decision making about change, which would engender affective commitment to change than a continuance commitment to implementing change. The study was informed by a constructivist-interpretivist paradigm, which believes in understanding reality from the subjective mind of the individuals in their contexts. Phenomenological research design was used to examine human experiences through the descriptions provided by the people involved. A combination purposive and snowballing non-probability sampling techniques were used. Data collection was conducted through semi-structured interviews. The result of the study indicated consultation approaches used during change were symbolic, formal, direct and with low level of involvement in decision making. This contributed negatively to towards employees developing affectionate commitment to change.

**Keywords:** Consultation, Involvement, Commitment, and Performance



#SAN143

## GLOBAL COLLABORATION IN RESEARCH AND HIGHER EDUCATION WITHIN DENTISTRY – CHALLENGES AND EXPERIENCES

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### Abstract

A successful international research collaboration can give students and teachers in higher education the opportunity to benefit from the knowledge and skills but also personal and professional development at other universities. To initiate and develop multilateral academic collaborations between universities in Sweden and South Africa, in oral health research as well as in education within dentistry. Based on the South Africa-Sweden University Forum (SASUF), contacts were taken in 2019 between two Swedish and two South African Universities. To commence the collaboration, a research study was planned to be performed by a master student in South Africa, supported by researchers from both countries. The project was faced with several challenges, both from collaboration and research perspectives. The main principal investigator in South Africa was replaced early and new project members has joined. Due to the COVID-19 pandemic, the planned physical research meetings could not be performed and were substituted by digital meetings. The research process has also been postponed as a result of the pandemic. Despite the challenges, the collaboration and project has developed and grown into a larger project including both junior and senior researchers, two PhD students and one master student. The digital meetings contain fruitful discussions and supervisions. Global collaboration in research and education including sharing of knowledge, proficiency and resources can increase the academic quality within dentistry. The challenges can be seen as important learning experiences, useful for future global multilateral academic collaboration in research and education.

**Keywords:** Higher education, Academic quality, Global collaboration, Professional development

**Abstract sub-theme 4: teacher education: towards generation 4.0**



#SAN135

## NEW APPROACHES TO CONTINUING PROFESSIONAL TEACHER DEVELOPMENT ON TEACHERS' TRAINING INITIATIVES

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### Abstract

The current literature reflects that the in-service training as a strategy needed to be modernised with the new approaches to Continuing Professional Teacher Development (CPTD). This article explores the introduction and implementation of the new approaches to CPTD on teachers' training initiatives. Existing literature reflecting those new approaches to CPTD include subjects cluster meetings, school-based trainings, workshops, seminars and conferences. Two Primary Schools and two Secondary Schools were purposively selected based on the set criteria for this study. Method of collecting data used included face-to-face structured interview. Two principals from Primary Schools, two Principals from Secondary Schools, eight teachers from Primary Schools and eight teachers from Secondary Schools were sampled purposively to participate the study. Data analysis was done by way of providing detailed description of the milieu, participants and activities. Data was clearly categorised and coded into themes. Findings of this study revealed that with the introduction of the new approaches to CPTD more teachers became interested and participated in teacher development initiatives as lifelong learners. The participants' perceptions on the topic were generally in agreement that the schools value the Professional Development initiatives of teachers. **Recommendations to practice** were provided that as a way of alleviating teachers' workload it is the duty and responsibility of the principals to allocate teachers subjects in which they specialised to teach and also motivate teachers to become lifelong learners throughout their teaching profession. ***Recommendations to schools** were provided that regular Professional Development interventions should be executed to create convictions that departmental policies and guidelines are fully implemented and are accommodative to all practicing teachers. **Recommendations for the district** were provided that district officials should develop open policy on conducting training needs' analysis and appoint credible service providers who are excellent in facilitating CPTD activities. An assessment of proficient improvement programmes should be conducted after every training intervention has been facilitated in order to ensure that there is Return-On-Investment (ROI) and value for money.*

**Keywords:** New approaches, Continuing professional teacher development, Lifelong learners, Subjects cluster meetings, School-based trainings, Workshops, Seminars and Conferences



#SAN140

## BRIDGING THE RESEARCH DIVIDE AND 4<sup>TH</sup> IR: HOW ACADEMIC LIBRARIES CREATE PATHWAYS FOR STRENGTHENING RESEARCH SUPPORT AND IMPACT AT THE UNIVERSITY OF THE WESTERN CAPE (UWC)

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### Abstract

Library services have strengthened in responding relevance towards new realities facing research led universities in the 21<sup>st</sup> century. The dawn of the digital era ushers in new technologies, augmented realities, changing research practices and culture, affecting strategic intent. Academic libraries re-aligned during the past 3 years to fulfil the mandates of the research intensive university goals: (1) Enhancing the student experience; (2) Supporting learning and teaching; (3) Enhancing research and innovation. In connecting with possibilities, academic library services have strengthened its digital services/programs/skills and resources for encompassing the 4<sup>th</sup> IR practices to leverage student support and impact in society. University aspirations for students are articulated in the vision and mission; research goals and in the Charter of UWC Graduate Attributes which speak to the knowledge and dispositions for lifelong learning, inquiry and problem solving. The knowledge environment (reflected in the UWC Library logo – *empowering through knowledge*), has led to information being a core literacy of the 21st Century. In place of a traditional study skills approach to learning, there is a greater need and emphasis on conceptual knowledge and critical ways of thinking to develop critical citizenry and lifelong learning (Llewellyn, 2019). This paper brings to light the re-aligned strategic intent of the University of the Western Cape Library (UWC) towards promoting open, multi-disciplined, e-research and changing researcher culture and practises for connecting the possibilities of the 4<sup>th</sup> IR for enhanced researcher support and development in a digital university. The author outlines critical pathways for academic libraries to realign to the changing realities in higher education, including Big Data, the internet of things; Open science; augmented realities study spaces which foster strong partnerships for global relevance to enrich the sustainable development goal (SDG) agenda 2030.



#SAN139

## PSYCHOSOCIAL FACTORS THAT INHIBIT LITERACY DEVELOPMENT IN THE PRIMARY SCHOOLS OF CAPRICORN DISTRICT, LIMPOPO PROVINCE

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### Abstract

Most schools in South Africa face challenges of a psychosocial nature that may hamper the provision of quality education. This study sought to explore the psychosocial factors that may enable or/and inhibit the teaching and learning of literacy in the Foundation Phase. The study followed a qualitative research approach, in which the case study design was applied. Nine participants (3x Foundation Phase teachers from each of the four schools) were purposefully sampled to participate in the study. Data was collected through semi-structured interviews and document analysis. Data was analysed using themes and categories. The study emerged with three findings: social class, lack of parental involvement, poverty, parental negligence and child-headed families.

**Keywords:** Psychosocial factors, Quality education, Literacy, Intervention strategies



#SAN091

**BLENDED LEARNING IN HIGHER EDUCATION IN THE ERA OF COVID-19 AND IMPLICATIONS FOR 4IR: THE CASE OF A SELECTED STATE UNIVERSITY IN ZIMBABWE**

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**Abstract**

This chapter was based on a case study of a selected University in Zimbabwe. It was particularly concerned with modes of blended learning during the COVID-19 era and assessing if these modes were effective. The World Health Organisation (WHO) declared a global health emergency based on the virus. The COVID-19 pandemic brought with it a national lockdown which compelled universities to blend their teaching instruction. Universities were no longer able to congregate students all at once; hence learning had to be sustained through online means when students were not physically on campus. Although universities invested in ICTs, and insisted on blended learning to ensure that teaching and learning took place amidst COVID-19, they were beset with many challenges. This chapter covers the study period from March 2020 to April 2021. On 30 January 2020, the study assumed a qualitative approach and case study design. Data was collected through interviews and questionnaires. The same was presented and analysed in a thematic approach. The findings of the study revealed that although learning did take place through blended learning, the effectiveness of learning through this mode was questionable as the quality of learning was compromised. The most widely used online learning modes which were blended with face-to-face interaction were Google Classroom, Zoom and WhatsApp.

**Keywords:** COVID-19, Blended learning, Online learning, Higher education, quality



#SAN007

## TECHNOLOGY INTEGRATION INTO IN-SERVICE TEACHER PROFESSIONAL DEVELOPMENT IN HIGHER EDUCATION INSTITUTES IN SOUTH AFRICA AND ESWATINI

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### Abstract

Industrial Revolutions have transformed human lives as well as the teacher education system. Technology supports our way of life in this 4IR era and helps individuals become aware of their rights, promote the dissemination of a culture of peace and nonviolence, global citizenship and also introduces people to other cultures in order to foster an understanding of cultural diversity. Integrating technology into in-service teacher professional development programs provided by higher education institutions will allow all students to acquire the knowledge and abilities required to promote sustainable development in the 4th Industrial Revolution (4IR). A multiple case study design and a qualitative research methodology were employed. Two Southern African universities were picked by the researchers as the sites of the study since they were convenient for conducting it there. A purposive sample of lecturers from faculties of education was selected. Data were generated using an open-ended questionnaire and focus group discussion that involved lecturers from the two higher education institutions. Thematic analysis was used to analyse the data generated from the study's participants. The findings of the study, Conclusions and recommendations were drawn.

**Keywords:** Technology, Integration, in-service teacher, Professional development, Higher education



#SAN138

## CO-INNOVATION OF AN AFFORDABLE AND EFFECTIVE CARDIOPULMONARY (CPR) RESUSCITATION TRAINING SOLUTION FOR AFRICA

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### Abstract

Several studies have indicated a massive gap in delivering quality CPR in Sub-Saharan African countries due to lack of the necessary technologies and devices to support quality CPR training. Researchers from the University of Turku proposed affordable, portable, and easy to use CPR training solutions together with the University of Western Cape, University of Moi and Aalto University. The goal of this project is to build a sustainable partnership with the participating universities, establish collaboration between different disciplines within the universities, and learn the co-creation of health devices in different environments. Teams from the University of Turku and Partner Universities will teach a multidisciplinary approach to designing wearable technologies that deliver benefits to health and wellbeing. In addition, the project will engage participants in the development process of wearables devices for CPR training by involving them in co- design workshops, building prototypes, and running user tests. Furthermore, partner Universities will develop evidence-based and locally applicable long-term CPR training solution. The designed CPR training solution will be piloted in the partner African Universities. The co-created affordable and effective CPR training solutions will produce knowledgeable and skilled professionals, strengthen locally relevant research, and ensure the sustainability of design thinking and quality education both in Finland and Africa. This way, our project will contribute to the UN Sustainable Development Goals and Finland-Africa Platform for Innovation (FAPI) goals through multidisciplinary and innovative collaboration between higher education institutions in Finland and Africa.

**Keywords:** Innovation, CPR, Wearable technology, Multidisciplinary, Training



#SAN147

## MITIGATING AND ADAPTING TO CLIMATE CHANGE IMPACTS FROM AN AFRICAN PERSPECTIVE: THE COMPLEMENTARY ROLE OF CLIMATESCIENCE AND LOCAL KNOWLEDGE SYSTEMS

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### Abstract

Climate change affects the continent with different impacts. It is arguably one of the biggest challenges Africa, whichever the sub-region under consideration, has ever faced. African societies have traditionally relied on culturally and naturally embedded knowledge, learnt over centuries, to carry out pro-climate agricultural practices, protection of ancestral forests and rivers, limited deforestation, sea walling, dam construction, coastal marine protection and sustainable marine resources extraction. In the traditional societies, the reliance on indigenous knowledge contributed a symbiosis between mankind and nature. Climate change occurs in a context of increasing consumption and production patterns that generate multifaceted vulnerabilities (food, water, health systems) that are central to the impacts that Africa currently experiences (cyclones, heating, flooding, rising sea level, to name a few). Such vulnerabilities are to be guided by knowledge brought about by either climate science or by indigenous knowledge systems or a combination of both to meet the demands for information. The panel addresses the following inter-related questions: 1) How is the warming climate experienced at the local level from a societal perspective lens? 2) What are the scientific interventions (collective research, training programmes, learning platforms) being either locally or internationally led, and what are the systems of knowledge production guiding these interventions? 3) Is information about the climate change from the climate science complementary to indigenous knowledge, and how is this used in local production (farming, fisheries, urban planning and health services)? The proposed paper draws on existing empirical case studies.



#SAN080

## CAN INDIGENOUS MEDICINES BE A CATALYST TOWARD ACHIEVING SDG3? COMMUNITIES' CONSTRUCTION AND APPROPRIATION OF INDIGENOUS MEDICINES DURING THE COVID-19 ERA IN ESWATINI

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### Abstract

The attainment of SDG 3 by 2030 would practically be impossible if traditional medicines are regarded as secondary by organisations responsible for preventing diseases and promoting well-being, such as the World Health Organisation (WHO). The lack of vaccines to prevent the spread of Covid-19 resulted in indigenous people seeking alternatives that would cure the symptoms of the virus, which was proving to be a menace throughout the world. One such solution was, among others, *Umblonyane*. The debate around the efficacy of indigenous medicines to address Covid-19 was mostly sparked by Madagascar's president, Andry Rajoelina, in 2020 when he announced the industrial production and distribution of the herbal *Artemisia* (*Umblonyane*)-based *Covid Organics* (CVO) drink. Several countries and scientific bodies expressed skepticism about the efficacy of this drink. Despite the well-recorded skepticism, the increase in deaths, especially during the first and the second waves of the coronavirus, resulted in people using this indigenous herb, which has always been a solution to treat flu-like symptoms. This article seeks to ascertain how locals sought remedies in traditional medicines for diseases despite scepticism from the World Health Organisation (WHO). In this paper, I explore the appropriation of *Umblonyane* as both Covid-19 prophylaxis and treatment without any medical prescriptions by ordinary people. I use in-depth interviews to understand the motivations and nature of the use of the plant across different social groups in the country. Further, through content analysis, the paper examines how local newspapers in Eswatini reported on the use of indigenous medicines as Covid-19 prophylaxis and treatment methods. The paper pays more attention to how *Umblonyane* was constructed and framed by the news media and how this framing locates itself within the broader contexts of decolonisation and the epistemic struggles over what constitutes knowledge

**Keywords:** Indigenous medicines, Usage, Covid-19, Prophylaxis/Treatment, Newspapers, Eswatini



#SAN158

## VULNERABILITIES OF AFRICAN DIGITAL PLATFORMS IN THE WAKE OF RAPID INTERNATIONALIZATION

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### **Abstract**

The covid-19 pandemic activated a boom in Africa's digital economy, just like in the rest of the world. Over 300 digital platforms (DPs) have emerged to seize the developing opportunities. These firms have also attracted over 200 billion in investor funding. DPs survive by internationalizing to various markets in the early inception years/months. However, little is empirically researched/understood about these platforms. African digital economy is critical to the region's economic growth, failure to which might lead to stagnation. Studying these firms' internationalization allows us to develop rich, comprehensive understanding and theories as the industry grows and the "*drama unfolds*". This research explores how African digital platforms internationalize – patterns and strategies. Secondly, looking at the challenges they face – considering institutional dynamism and supra-institutions gaining traction in the region. Further, providing ways to overcome these challenges. Finally, we investigate why some digital platforms succeed while others fail in a similar environment – considering a 90% failure rate of DPs originating from Africa. Qualitative case study research will be employed due to the understudied and dynamic nature of the context. Data collection will target subregional representation using semi-structured interviews. Data will also be mined from websites. Thematic analysis technique will be valuable for analysis. This research will benefit entrepreneurs in understanding successful patterns to follow. It will also benefit managers, investors and governments in policy making. Further, it will improve understanding of African markets, especially digital platforms where empirical literature is scarce.



#SAN159

## MONITORING DUSTINESS ON GRAVEL ROADS

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### Abstract

Globally, unpaved road mileage is over 30 million km, and Africa has a fair share. Gravel roads form a significant share of the global road network and are essential, especially in agriculture, tourism, and forestry, connecting rural to urban areas. However, they are prone to dust that affects road users and plants. Dust negatively affects water and air quality and is a health hazard to humans and animals. For instance, COVID-19 patients with long-term exposure to dust had a higher risk of suffering from severe symptoms. In agriculture, dust reduces plants' photosynthetic activities, consequently leading to reduced crop yield. The negative impact of dust from gravel roads on humans, animals and the environment is over USD 50 million annually. Currently, road condition assessments are predominantly visual surveys by inspectors but are subjective, cost-inefficient, and susceptible to human error in judgement. Participatory sensing is proposed that incorporates regular gravel users in gravel road condition monitoring. As they drive on a gravel road, they capture images and videos of the road with their smartphone camera embedded with GPS. The images and videos are shared with the road maintainers in real time and processed using image processing tools to establish the dustiness level. Participatory sensing is cost-efficient and quicker and makes the road user part of the solution, leading to prompt maintenance decisions and actions. It has the potential to enhance maintenance practices on gravel roads. The participating road users must be oriented in data acquisition to ensure quality data collection.



#SAN160

## **GOVERNING TOURISM TOWARDS SUSTAINABILITY: PUBLIC-PRIVATE PARTNERSHIPS AND CORPORATE SOCIAL RESPONSIBILITY IN THE NAMIBIA TOURISM SECTOR**

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### **Abstract**

The Namibian government strategies and policies include the governance of the tourism sector through public-private partnerships (PPP), while utilizing corporate social responsibility (CSR) to achieve the United Nations Sustainable Development Goals (SDGs). However, the partners' perceptions of their interactions and ideals in this partnership are unknown. An understanding of these can aid in stimulating and nurturing effective PPP, while leveraging CSR to achieve the sustainable goals. This qualitative study collected data from informants at government, tourism business associations and NGOs level. The study focused on leveraging CSR in achieving SDG1: No poverty and SDG 17 target 14: enhance policy coherence for sustainable development, target 17: encourage and promote effective public, public-private and civil society partnerships and target19: develop measurements of progress on sustainable development. Findings indicated that despite the partners' awareness of the strategies and policies, it was felt that, with the exception of a few tourism businesses, there was a disconnect between these and CSR practices. Limited communication, mistrust, unequal power relations and limited view of social capital were seen as some of the barriers to effective partnerships. Progress on sustainable development was said to be evident, however mechanisms to measure progress or failure, were lacking. In conclusion, recommendations for effective partnerships were made such as inclusivity of all partners from the onset and capacity building on successful partnerships in leveraging CSR while achieving the SDGs.

**Keywords:** Tourism, governance, public-private partnerships, corporate social responsibility, sustainable development goals



#SAN161

## EL SISTEMA IN FINLAND: BEHIND THE SCENES

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### Abstract

El Sistema, a social music education idea originating from Venezuela, has been active in Vantaa, Finland since 2009. Tempo orchestra is the central tool for targeting musical and social goals. They include mutual partnerships between children of diverse backgrounds, as well as a good and meaningful life. This study examines the experiences gained in Sistema Finland's Vantaa's Tempo orchestra. The study is current and important as it explores "Finnish model"-like, low-threshold goal-oriented leisure activities. In addition, the study provides information about the school system as a holistic and supportive context for pupils at increased marginalization risk. Sistema Finland's activities are supported by strong socio-cultural animation. This study examines the realization of sociocultural animation through participants' experiences. The research question is: What experiences have Sistema Finland's Tempo orchestra participants had in the Finnish school context? We used theme interviews with a retrospective approach as the research method. It was carried out one-on-one and in groups (N=21, 11–16 years). The data content analysis was undertaken using a phenomenological approach, abductively based on both data and theory. The results were mostly positive. The action brought enriching elements to the growth and development of participants. The realization of the more profound goals of sociocultural animation could also be found in some of the experiences of interviewees. One clear developmental task is to ensure continuity of operations more broadly for both the whole group and for individuals. According to this study, Finland's El Sistema is music education which functions well when properly funded. Based on this research it seems to suit Finnish Society when carried out with "Finnish model" of pursuits.

**Keywords:** Social music education, El Sistema Finland, Sociocultural animation, Partnership between children from diverse backgrounds



**#SAN161**

**DEVELOPMENT'S DISAPPEARANCE: A METAPHOR ANALYSIS OF  
SUSTAINABLE DEVELOPMENT IN NORWEGIAN CORE CURRICULUM**

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**Abstract**

The article presents findings from a critical metaphor analysis of 'sustainable development' in the current and former versions of the 'core curriculum' of the Norwegian formal education curriculum. By combining conceptual metaphor analysis with an interaction approach, the article explores how experiences with 'reality' shape sustainable development and discuss how the metaphor's content in turn might shape perceptions of 'reality'. The former version reads like a priest's sermon placing sustainable development in a context of crises, complexity, and conflicts, requiring a holistically oriented education encouraging a collective effort. In the new version the interaction process of 'sustainable development' has culminated in a tension-reduced, individually oriented, and technology-optimistic metaphor. What then becomes backgrounded is the focus on sustainable development also being about meeting the needs of the present. With no explicit economic content, there is little in the curriculum that encourages debates about economic growth, the current economic paradigm, or exploration of alternative paradigms. These central issues are left out and the metaphor is falling asleep. Development education (DE), as a field of research and exploration of approaches to discuss and teach about the missing issues, can be a useful source of inspiration and contribute to reawakening the dormant metaphor.

**Keywords:** Sustainable Development; Critical Metaphor Analysis; Development Education; Economic Growth.



#SAN152

**STUDENT TEACHERS PROFESSIONAL DEVELOPMENT AND IDENTITY DURING AN INTERNSHIP ABROAD.**

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**Abstract**

The focus of this presentation will be on an undergraduate research project undertaken by Norwegian ECEC teacher bachelor students on international internship in Durban, South Africa. A core function of international exchange is to provide teacher students with international experience and learning opportunities, in order to develop teacher competencies for increasingly globalized and multicultural societies.

Students undertake a small action research project on their own role as active learners during their internship, linking their experiences of being a student teacher in an unfamiliar setting to their own professional identity development and processes. On completion of the project the students present a poster at an inhouse research conference. The use of action research provides students with an opportunity to engage in their own learning, thus empowering them as ECEC teachers with the ability to continually upgrade their competences and identities as lifelong, multicultural and international oriented learners and ECEC teacher. However, a limitation of action research that Waters-Adams (2006) points out is the timeframe of the data collection period and the impact this will have on the rigour of the data collection process. In addition, he raises the issue of the validity of the data due to bias given that the students are researching and reporting on their practice for assessment purposes. In presenting this paper, the students will discuss incidents, activities, experiences and the online ecosystem during their Internship Abroad that they recognised to be moments of clarity in terms of their professional development and identity.

**Keywords:** Action research, ECEC student teacher, Ecosystem, International internship, Professional identity



#SAN043

**STUDENT TEACHERS PERCEPTIONS OF THE BENEFITS OF AN INTERNSHIP ABROAD PROGRAMME.**

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Abstract

The focus of this presentation will be on an undergraduate research project undertaken by Norwegian ECEC teacher bachelor students on international internship in Durban, South Africa. A core function of international exchange is to provide teacher students with international experience and learning opportunities, in order to develop teacher competencies for increasingly globalized and multicultural societies.

Students undertake a small action research project on their own role as active learners during their internship, linking their experiences of being a student teacher in an unfamiliar setting to their own professional identity development and processes. On completion of the project the students present a poster at an inhouse research conference. The use of action research provides students with an opportunity to engage in their own learning, thus empowering them as ECEC teachers with the ability to continually upgrade their competences and identities as lifelong, multicultural and international oriented learners and ECEC teacher. However, a limitation of action research that Waters-Adams (2006) points out is the timeframe of the data collection period and the impact this will have on the rigour of the data collection process. In addition, he raises the issue of the validity of the data due to bias given that the students are researching and reporting on their practice for assessment purposes. In presenting this paper, the students will discuss their experience of learning abroad and the online ecosystem and if it was a valuable experience in terms of their identity, professional and knowledge growth.

**Keywords:** Action research; ECEC student teacher; Ecosystem; Learning abroad; Professional identity





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