



International Water-Climate Summer School

Venue: North-West University, Mahikeng Campus, North-West Province, South Africa

Dates: 4 – 18 October 2022

Description: A **hybrid**, interactive, transdisciplinary summer school aimed to strengthen capacity to achieve the Sustainable Development Goal 6 (SDG6) – “Ensure access to water and sanitation for all”, and SDG13 – Climate Action. The programme includes interactive lectures, engagement of the participants in a theatre performance for outreach to local communities, practical sessions, fieldwork/excursions, a science slam competition, poster session, three-minute thesis competition, and an award ceremony.

Who should attend: Masters and Doctoral Students and other emerging researchers in water-climate and related fields of study/ research.

Programme

Tuesday, 4 October 2022		
11h30 – 13h00	Arrival & Final Registration of Participants	Ms Abigail Phori
13h00 – 15h00	Lunch & Campus Tour	Dr Naledi Seheri-Jele
16h00 – 18h30	Public Lecture & Welcome	
16h00 – 16h30	Welcome Address	Dr Bismark Tyobeka – Principal & Vice Chancellor, NWU
16h30 – 17h00	Remarks by Partner institutions - Prof David Modise – Executive Dean, FNAS, NWU - Prof Jean-Marie Kileshye Onema, SADC WaterNet - Prof Daniel Egbe, BALEWARE	
17h00 – 18h00	Public Lecture:	Prof Nico Smit
18h00	Dinner/Refreshments & End of Day 1	
Wednesday, 5 October	Ethics and Intersectionality of Water- Climate Studies Facilitators: Prof Krasposy Kujinga	
8h00 – 8h15	Welcome, Expected Outcomes and Rules of Engagement for Day 2	



8h15– 9h45	Research ethics in contemporary water-climate studies	Prof Chantelle Gray, Institute of Contemporary Ethics, NWU, South Africa
9h45 – 10h45	Incorporating intersectionality in Water-Climate research – Part 1	Prof Alinah Segobye, NWU, South Africa
10h45 – 11h15	Break	
11h45 – 13h15	A 3-dimensional approach to Do-It-Yourself Ethics of Water-related Research	Dr Ineke Malsch, Malsch TechnoValuation, Netherlands
13h15 – 14h15	Lunch	
14h15 – 15h15	Incorporating intersectionality in Water-Climate research – Part 2	Prof Alinah Segobye, NWU, South Africa
15h15 – 16h15	Group Assignment - Preparations for Research Proposal Presentations/Poster Session	
16h15 – 16h45	Conclusion & Evaluation of Day 2	Dr Naledi Jele, North-West University, South Africa
18h00	Dinner	
19h30	Raising awareness on SDG 6 and SDG13 using Theatre for Development	Dr. Emelda Samba Ngufor, University of Yaounde I, Cameroon

Thursday, 6 October	Integrated Water Resources Management Facilitators: Prof Lobina Palamuleni	
8h00 – 8h15	Reflection on Day 3 & Expected Outcomes and for Day 4	
8h15 – 9h15	Introduction to Integrated Water Resources Management (IWRM)	Prof Innocent Nhapi, Zimbabwe
9h15 – 10h15	Water for agriculture and food production in a changing climate: Challenges for management and sustainable development.	Dr Hilma Amwele, Namibia University of Science and Technology, Namibia
10h15 – 10h45	Break	
10h45 – 11h45	Principles of IWRM	Prof Innocent Nhapi, Zimbabwe
11h45– 12h45	Methodologies for the quantification of the environmental impact: Environmental Radioactivity	Prof Sylvanus Onjefu, Namibia University of



		Science and Technology, Namibia
12h45 – 13h45	Lunch	
13h45 - 15h00	Transboundary Water Governance in Southern Africa	Dr Dumisani Mndzebele, SADC Water Division
15h00 - 16h00	Principles and Negotiation Skills for Transboundary Water Allocation	Prof Samuel Nii Odai, Kwame Nkrumah University of Science and Technology, Ghana
16h00 – 16h30	Conclusion & Evaluation of Day 4 Proceedings	Dr Naledi Jele, North-West University, South Africa
18h00	Dinner	
19h30	Raising awareness on SDG 6 and SDG13 using Theatre for Development - Theatre Rehearsals	Prof Emelda Samba Ngufor, University of Yaounde I, Cameroon

Friday, October 7	Groundwater and Climate Adaptation	
	Facilitators:	
8h00 – 8h30	Expected Outcomes and Rules of Engagement for Day 3	
8h30 – 9h30	Groundwater Governance 1	Dr Kawawa Banda, Department of Geology, University of Zambia, Zambia
9h30 – 10h30	Groundwater-Climate Modelling 1	Prof Ingrid Dennis, Centre for Water Sciences, NWU, South Africa
10h30 – 11h00	Break	
11h00 – 12h00	Groundwater Governance 2	Dr Kawawa Banda, Department of Geology, University of Zambia, Zambia
12h00 – 13h00	Groundwater-Climate Modelling 2	Prof Ingrid Dennis, Centre for Water Sciences, NWU, South Africa
13h00 – 14h00	Lunch	
14h00 – 16h00	Group Assignment - Preparations for Fieldwork	
16h00 – 16h30	Conclusion & Reflection on/Evaluation of Day 3	
18h00	Dinner	



19h30	Raising awareness on SDG 6 and SDG13 using Theatre for Development. - Theatre Rehearsals	Dr. Emelda Samba Ngufor, University of Yaounde I, Cameroon
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Saturday, 8 October	Excursion/Fieldwork Facilitators: Prof Collins Ateba & Prof Damian Onwudiwe	
8h00 – 8h30		

Sunday, 9 October	Compilation of Excursion/Fieldwork Reports	
10h00 – 16h00		All In-venue participants/ students

Monday, 10 October	Research Design: Proposal Writing Facilitators: OPTENTIA 8h00 – 16h30	
19h30	Raising awareness on SDG 6 and SDG13 using Theatre for Development. - Theatre Rehearsals	Dr. Emelda Samba Ngufor, University of Yaounde I, Cameroon

Tuesday, 11 October	Research Design: Writing for Publication Facilitators: OPTENTIA 8h00 – 16h30	
19h30	Raising awareness on SDG 6 and SDG13 using Theatre for Development. - Theatre Rehearsals	Dr. Emelda Samba Ngufor, University of Yaounde I, Cameroon

Wednesday, 12 October	Water-Climate Monitoring Tools	
	Facilitators:	
8h00 – 8h30	Reflection on Day 3 & Expected Outcomes and Rules of Engagement for Day 4	
8h30 – 10h30	Introduction to climate modelling	Prof Stuart Piketh, North-West University, South Africa
10h30 – 11h00	Break	
11h00 – 13h00	Climate Risk Informed Decision Analysis (CRIDA)	Dr Naledi Jele & Dr Hilma Amwele
13h00 – 14h00	Lunch	
14h00 – 16h00	Group Assignment - Preparations for Fieldwork	
16h00 – 16h30	Conclusion & Evaluation of Day 4 Proceedings	
18h00	Dinner	
19h30	Raising awareness on SDG 6 and SDG13 using Theatre for Development. - Theatre Rehearsals	Dr. Emelda Samba Ngufor, University of Yaounde I, Cameroon

Thursday, 13 October	Water-Climate Monitoring Tools	
	Facilitators:	
8h00 – 8h30	Reflection on Day 3 & Expected Outcomes and Rules of Engagement for Day 4	
8h30 – 10h30	GIS and Remote Sensing	University of Dar Es Salaam, Tanzania
10h30 – 11h00	Break	
11h00 – 13h00	Flood Hazard Mapping using ArcGIS Pro or ArcGIS Pro Intelligence	Prof Sunday Reju, Namibia University of Science and Technology, Namibia
13h00 – 14h00	Lunch	
14h00 – 16h00	Science Slam (5-minute pitch) Competition: `z Low-cost Solutions to Water and Climate Adaptation problems	
16h00 – 16h30	Conclusion & Evaluation of Day 4 Proceedings	



18h00	Dinner	
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Friday, 14 October	Research Presentations Facilitators:	
8h00 – 8h30	Reflection on Day 3 & Expected Outcomes and Rules of Engagement for Day 4	
8h30 – 11h00	Three-minute Thesis Competition	
11h00 – 11h30	Break	
11h30 – 13h00	Poster Evaluations	
13h00 – 14h00	Lunch	
14h00 – 16h00	Groupwork - Preparations for the Excursion/Fieldwork	
16h00 – 16h30	Conclusion & Evaluation of Day 4 Proceedings	
18h00	Dinner	

Saturday, 15 October	Excursion/Fieldwork Facilitators: Prof Collins Ateba & Prof Damian Onwudiwe	
8h00 – 16h00	Excursion: Groot Marico Biosphere Reserve	NWU & UNESCO

Sunday, 16 October	Compilation of Excursion/Fieldwork Reports	
10h00 – 16h00		All In-venue participants/ students

Monday, 17 October	Water-Energy-Food Nexus Facilitators:	
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8h00 – 8h30	Reflection on Day 3 & Expected Outcomes and Rules of Engagement for Day 4	
8h30 – 9h30	The Water-Energy-Food Nexus 1	Prof. Tafadzwa Mabhaudhi, University of KwaZulu Natal
9h30 – 10h30	The Water-Energy-Food Nexus 1	Prof Graham Jewitt, IHE Delft Institute for Water Education, Netherlands
10h30 – 11h00	Break	
11h00 – 12h00	Thermal & Materials application of Solar Energy: Energy-Water Nexus	Dr Shivaraju HP, JSS University, India
12h00 – 13h00	The Water-Energy-Food Nexus 2	Prof. Tafadzwa Mabhaudhi, University of KwaZulu Natal
13h00 – 14h00	Lunch	
14h00 – 15h00	The Water-Energy-Food Nexus 1	Prof Graham Jewitt, IHE Delft Institute for Water Education, Netherlands
15h00 – 16h00	Global Challenges & Sustainable Development in Context - The Nexus of Technologies and (Polymeric) Materials to SDG 6	Prof Daniel Egbe, JKU Linz, Austria
16h00 – 16h30	Evaluation of Day 14 Lectures and Proceedings	
19h00 - 23:00	Conference Dinner, Theatre Performance & Awards Ceremony	

Tuesday, 18 October		
8h00 – 8h30	Departure to OR Tambo International Airport	
11h00	Departure to Sun City for the WaterNet Symposium	