

Science and Disaster Management for Social Justice

an NSTF Discussion Forum in collaboration with the
Science Councils and Statutory Bodies Sector

Day 2: 06 December 2022

Speakers' Biographies



Water-related disasters: Projected extremes at climate change scale and the need to build a resilient water future

Dr Brilliant Petja currently works as the Research Manager for Climate Change at the Water Research Commission (WRC) of South Africa. He received a Bachelor of Environmental Sciences in Ecology and Resource Management, and Geography from the University of Venda. He also obtained a Master of Science in Geosciences (with specialization in Remote Sensing) from the University of the Witwatersrand. He received different certificates in remote sensing and environmental science from various institutions. He obtained a Doctor of Philosophy in GIS and Remote Sensing from the University of Limpopo. He attended postgraduate training in Climate Change Mitigation and Adaptation at the Swedish Meteorological and Hydrological Institute. His area of expertise includes applications of GIS and Remote Sensing in global change (climate change), natural resource management, aquatic resources, rural development and agriculture, public health and epidemiology. He previously worked as a Remote Sensing Researcher at the Agricultural Research Council – Institute for Soil, Climate and Water, Pretoria where he served as a Project Manager and Remote Sensing Research Scientist. He also worked for the Limpopo Department of Agriculture as a Specialist Researcher: Site Specific/ Precision Farming and Scientific Manager. He served the World Meteorological Organization (WMO) in 2006 as a WMO Regional Expert on Management of Natural and Environmental Resources for Sustainable Agricultural Development (Africa Region) where he was also a member of the WMO Commission for Agricultural Meteorology. He previously served as an Expert

Advisor for agricultural risk and disaster management and member of the National Agrometeorological Committee (Department of Agriculture, Forestry and Fisheries, South Africa). He was a participant of the United Nations Office for Outer Space Affairs Expert Team activities focusing on applying space technology for disaster management and sustainable development from 2002 to 2008 and currently participate on an ad hoc basis. He is listed in The International Society for Photogrammetry and Remote Sensing (ISPRS) Honor Roll of 2007 and has provided a Keynote Address at the United Nations Symposium for Applying Space Technology for Climate Change in Austria (September 2016). He also serves as a Research Associate at the Risk and Vulnerability Science Centre of the University of Limpopo, South Africa.



Remote sensing applications to flood disasters

Mr Morwapula Mashalane is a remote sensing scientist at the South African National Space Agency (SANSA). He heads the application of remote sensing to disaster management focusing largely on floods disasters. He has extensive experience in remote sensing research and worked on flood events in South Africa and Africa. He is currently the Southern Africa project manager for the International Charter Space and Major Disasters responsible for providing remote sensing support in cases of major disasters such as the KZN floods and Jagersfontein.

Prof Kevin Kirkman graduated from the University of Natal with a PhD in Grassland Science. He worked as a researcher for the Mpumalanga Department of Agriculture for 9 years, involved in research and extension focused on grassland management. He then joined Clover SA for 2 years as a pasture advisor in the dairy industry. In 2001 he joined the University of KwaZulu-Natal as Professor of Grassland Science. He has also been the Head



Management of forests, grasslands and crops to fight fire

of the School of Biological and Conservation Sciences, Deputy Dean of the Faculty of Science and Agriculture and Dean of Research for the College of Agriculture, Engineering and Science at the University of KwaZulu-Natal. His research is focused on all aspects of grassland ecology and management, including research on grazing, fire and restoration.



Prevention and preparation of nuclear disasters

Mr. Charles Kros is a Radiation Protection Specialist at the Nuclear Energy Corporation of South Africa (Necsa) since 1991, with a break of 9 years to work at the South African Bureau of Standards (SABS) as a Radiation Metrologist.

Mr Kros hold a Masters degree in Radiation Science from Witwatersrand University. He initially specialized in the safety and regulation of the transport of radioactive material and published one peer reviewed paper on transport safety assessment in the repatriation of spent nuclear fuel from South Africa. Safety assessment lead to further specialization in environmental and accident safety assessment. He has presented at many international conferences and contributed to publications of the International Atomic Energy Agency, including the Response Assistance Network.

In recent years he has established himself as meteorologist and in the emergency preparedness and response field. He coordinated the emergency planning chapter of the periodic safety review for the Koeberg nuclear power station, and currently finds himself in the role of emergency planner for Necsa. This, together with his knowledge of nuclear instrumentation, enabled him to currently lead a project to establish a radionuclide monitoring station for the Comprehensive Nuclear Test Ban Treaty

	Organization (CTBTO) near Cape Point, one of only 3 on the African Continent.
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