



EMBASSY LECTURE

Intraseasonal Climate Variability and Its Impact on Society: South Africa and the Czech Republic in Partnership

Date: 11 November 2025
Time: 10:00–12:00
Venue: Online via Zoom
RSVP: [Click here](#) to register

Background

Climate change presents significant global challenges, including more frequent and severe extreme weather events such as heat waves, droughts, and floods. These events impact ecosystems and human health, affecting food and water security.

The Embassy Lecture promotes bilateral scientific cooperation between South Africa and the Czech Republic, advancing science diplomacy through collaboration between the Academy of Science of South Africa, the Czech Academy of Sciences, the Department of Science, Technology and Innovation, and the Embassy of the Czech Republic in South Africa. This initiative supports national and international science policy, innovation, and sustainable development by fostering knowledge exchange and strategic collaboration.

South Africa's 2024–2025 G20 Presidency, themed "Solidarity, Equality, and Sustainability," has prioritized inclusive development and climate resilience. ASSAf's hosting of the 2025 Science20 (S20) on "Climate Change and Well-being" further demonstrates commitment to international science-driven climate action.

Objectives

- Address extreme events including heat waves, cold spells, droughts, flash floods, and compound events
- Explore human health impacts related to extreme weather phenomena
- Examine short-term (intraseasonal) climate variability
- Understand relationships with atmospheric circulation



PROGRAMME

Facilitator: Professor Stephanie Burton MASSAf, Professor in Biochemistry, Faculty of Natural and Agricultural Sciences, University of Pretoria		
10:00-10:30	Opening and Welcome Remarks	<p>Dr Zdeněk Kresl Deputy Director of the Division of International Cooperation, Czech Academy of Sciences</p> <p>Mr Daan Du Toit Deputy Director-General: International Cooperation and Resources, Department of Science, Technology and Innovation</p> <p>Mr Petr Čáp Deputy Head of Mission, Embassy of the Czech Republic in Pretoria</p>
10:30-11:00	<p>Session 1: Lead Presentations (15 min each)</p> <p>Dr Katlego Ncongwane Senior Manager, Research and Development, South African Weather Service</p> <p>Dr Aleš Urban Research Fellow, Czech University of Life Sciences Prague</p>	
11:00-11:40	<p>Session 2: Panel Discussion: Moderator: Dr Thandeka Kapwata, Scientist, South African Medical Research Council</p> <p>Dr Ondřej Lhotka Principal Investigator, Institute of Atmospheric Physics of the Czech Academy of Sciences</p> <p>Professor Willem Landman Professor in Meteorology, University of Pretoria</p> <p>Dr Katlego Ngonwane</p> <p>Dr Aleš Urban</p>	
11:40-11:55	Q&A	
11:55-12:00	Closing Remarks	Professor Stephanie Burton



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BIOGRAPHIES



Professor Stephanie Burton is a Professor of Biochemistry in the Faculty of Natural and Agricultural Sciences and a Senior Professor at Future Africa, University of Pretoria (UP). She previously served as UP's Vice-Principal for Research and Postgraduate Education (2011–2020) and is an Honorary Professor at Rhodes University. Her research focuses on applied biochemistry, biocatalysis, and sustainable bioprocesses. She has held leadership roles including interim President and Council member of the Academy of Science of South Africa (ASSAf), and immediate past President and Fellow of the Royal Society of South Africa (RSSAf). Professor Burton is a Research Fellow for Universities South Africa (USAf), a member of the Governing Council of Future Earth, and Co-Chair of the Board of the InterAcademy Partnership (IAP). She leads national projects on postgraduate training, research capacity development, and mentoring for early career academics. She represented ASSAf at the 2024 S20 Science Forum in Brazil and co-chaired the organising committee for the 2025 S20 Science Forum hosted by South Africa alongside the G20 Summit. She also serves on the Steering Committee of the 2025 G20 Initiative on Bioeconomy.



Dr Zdeněk Kresl currently serves as Deputy Director of the Division of International Cooperation at the Czech Academy of Sciences since 2020. His responsibilities include managing the division's operations and coordinating international cooperation initiatives. Dr Kresl holds a degree in Regional and Political Geography from Charles University in Prague. His professional interests focus on global scientific partnerships and promoting the Czech research environment abroad.



Mr Daan du Toit started his career in the South African Government with the then Department of Foreign Affairs where he trained as a diplomat. Since 2002 he has been attached to the Department of Science and Technology (now the Department of Science, Technology and Innovation), where he has notably served as the Department's representative in Europe, based in Brussels. In 2014 he was appointed as Deputy Director-General responsible for the portfolio International Cooperation and Resources. Over the years, he contributed to multiple initiatives in support of a diverse and rich international partnership portfolio for South African science diplomacy. He represented South Africa in diverse multilateral forums, including the OECD, BRICS and United Nations, and various structures related to African regional and continental cooperation. In February 2021, the Square Kilometer Array Observatory, the global radio telescope project, elected him as the Vice Chair of its Council.



Mr Petr Čáp is a graduate of Sociology at Palacký University in Olomouc. Since 2019, he has been a career diplomat at the Ministry of Foreign Affairs of the Czech Republic, where he began as a UNESCO officer in the UN Department. As Secretary of the Czech Commission for UNESCO, he also participated in meetings of the Environmental Section, including the UNESCO Man and the Biosphere Programme. He was later assigned to the Embassy of the Czech Republic in Cairo, where he headed the Consular and Visa Section. During this posting, he was involved, among other things, in the evacuation of Czech citizens from Sudan during the ongoing civil war. He is currently serving at the Embassy of the Czech Republic in Pretoria as Deputy Head of Mission. He speaks English and Italian. His interests include sports, reading, European and African history, and environmental issues. He is married and has two daughters.



Dr Katlego Ncongwane is the Senior Manager: Research and Development at the South African Weather Service (SAWS). She leads the development and implementation of research strategies that strengthen the organization's capability to generate, translate, and apply scientific knowledge across the weather and climate services value chain. Her portfolio includes coordinating research programmes, fostering scientific partnerships, and integrating research outcomes into operational delivery to enhance national and regional services. Dr Ncongwane holds a PhD in Environmental Science and an MSc in Physics from the University of KwaZulu-Natal, and an MPhil in Sustainable Development Planning and Management, specializing in Renewable Energy Application, from the University of Stellenbosch. Her work focuses on advancing the generation and application of climate information that strengthens forecasting capability, service relevance, and user preparedness. Through multidisciplinary research and innovation integration, she contributes to improving South Africa's capacity to anticipate and manage weather- and climate-related risks.



Dr Aleš Urban earned his PhD in Physical Geography and Geoecology from the Faculty of Science at Charles University in Prague, Czech Republic, completing his degree between 2012 and 2016. Since 2020, he serves as a Research Fellow at the Faculty of Environmental Sciences, Czech University of Life Sciences Prague, and as a Research Scientist at the Institute of Atmospheric Physics within the Czech Academy of Sciences.



Professor Landman has worked as a meteorologist for about four decades. He is currently Professor in Meteorology at the University of Pretoria, where he teaches undergraduate and graduate courses in meteorology, and supervises MSc and PhD students on weather and climate modelling topics. His work focuses on the development and testing of prediction systems for seasonal-to-interannual time scales, and on climate dynamics. He is recognised as being central to the development of operational seasonal forecasting in South Africa. His work has impacted on specific applications of seasonal forecasting such as hydrology, agriculture and health in southern Africa.



Dr Thandi Kapwata is a Specialist Scientist within the Climate Change and Human Health Research Programme in the Environment & Health Research Unit of the South African Medical Research Council. Her research portfolio is in environmental epidemiology focused on the impacts of climate change, air, water and soil pollution, on health and wellbeing. One of her main areas of interest relates to the health impacts of exposure to temperature extremes in the form of high temperatures and heatwaves, particularly in rural and vulnerable communities because they often lack the resources to combat the health risks of heat. Dr Kapwata's current projects include cohort studies assessing climate change related health impacts (including mental health and physiology) and the implementation and evaluation of climate change adaptation measures in several African countries.



Dr Ondřej Lhotka is the principal investigator of the project "Heat Waves as Three-Dimensional (3D) Phenomena," funded by the Czech Science Foundation. He previously played a key role in the project "Driving Mechanisms of Extremes in Reanalysis and Climate Models," also supported by the Czech Science Foundation, contributing significantly to its successful completion. He earned his PhD in 2016 from the Faculty of Science, Charles University in Prague, and subsequently completed a postdoctoral internship at the University of Bern, gaining valuable international experience. Ondřej leveraged this expertise as a working group leader and management committee member within the COST Action DAMOCLES. In 2022, as a junior researcher, he received the Otto Wichterle Award from the Czech Academy of Sciences, recognizing his outstanding work on temperature extremes and climate change.