



Join the
Academy of Science of South Africa (ASSAf)
for the
2nd Annual STEMI Lecture
on
Shaping Intelligence: Science, Sovereignty, and South Africa's AI Future
by
Prof Benjamin Rosman,
University of the Witwatersrand

Date: 24 March 2026

Time: 15:00 (SAST)

Platform: Zoom Webinar

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Abstract:

Artificial intelligence is rapidly becoming part of the infrastructure through which knowledge is produced, decisions are made, and societies are organised. Its influence is already extending far beyond the technology sector, reshaping scientific discovery, education, industry, public services, and everyday life. In this context, the question for South Africa is not simply how to adopt AI but how to help shape it.

In this lecture, I argue that AI should be understood not only as a powerful set of tools but also as a strategic scientific domain that will influence national capability, innovation, and sovereignty in the decades ahead. Countries that remain only consumers of these technologies risk inheriting systems designed around others' priorities, assumptions, and realities. By contrast, investing in local scientific capacity, interdisciplinary research, and contextually grounded innovation creates the possibility of building AI that is both globally competitive and locally relevant.

Drawing on examples from autonomous systems, decision-making, and the growth of AI research communities in Africa, I reflect on what it would mean for South Africa to participate more fully in shaping the future of intelligence—not only for economic benefit but in service of scientific leadership, inclusive development, and societal wellbeing.



About the Speaker

Prof Benjamin Rosman

is a Professor in the School of Computer Science and Applied Mathematics at the University of the Witwatersrand, South Africa, where he leads the Robotics, Autonomous Intelligence and Learning (RAIL) Laboratory. In 2024, he became the founding Director of the Machine Intelligence and Neural Discovery (MIND) Institute at the University of Witwatersrand, which focuses on the fundamental science of intelligence in machines, humans, and animals.

He is also a founder of the Deep Learning Indaba machine learning summer school, which aims to strengthen machine learning across Africa, and Lelapa AI, an organisation building AI for Africans by Africans.

In 2025, he was named one of the TIME 100 Most Influential People in AI and was made a Fellow of the Canadian Institute for Advanced Research (CIFAR) in the Learning in Machines and Brains programme. He was also named a National Geographic Explorer in 2024 and received a Google Faculty Research Award in machine learning in 2017.

About the Lecture

The ASSAf Annual STEMI Lecture series provides a platform for leading scholars to reflect on emerging developments in Science, Technology, Engineering, Mathematics and Innovation (STEMI) and their role in addressing complex societal challenges in South Africa, Africa, and globally.



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Programme

Programme Director:
Prof Pat Naidoo

(Faculty of Engineering and the Built Environment, University of Johannesburg; Member, South African Academy of Engineering (SAAE); Vice Chair, STEMI Standing Committee, Academy of Science of South Africa (ASSAf))

15:00 – 15:05	Opening and Welcome	Prof Pat Naidoo
15:05 – 15:10	ASSAf Representative Remarks	Prof Ivy (Irvy/Igle) Gledhill (Honorary Adjunct Professor, University of the Witwatersrand; Vice President, IUPAP; Council Member, ASSAf)
15:10 – 15:15	Introduction of Speaker	Prof Marissa Rollnick (Professor Emeritus in Science Education, University of the Witwatersrand; NRF B2-rated researcher; Member, STEMI Standing Committee, ASSAf; Member of the Academy of Science of South Africa (MASSAf))
15:15 – 16:15	Lecture: Shaping Intelligence: Science, Sovereignty, and South Africa’s AI Future	Prof Benjamin Rosman (Professor, University of the Witwatersrand; Director, Machine Intelligence and Neural Discovery (MIND) Institute)
16:15 – 16:30	Scholarly Reflections	Prof Dane Brown (Associate Professor in Computer Science, Rhodes University; Member, South African Young Academy of Science (SAYAS))
16:30 – 16:40	Discussion and Engagement	Prof Pat Naidoo
16:40 – 16:45	Vote of Thanks	Prof Himla Soodyall (Executive Officer, Academy of Science of South Africa (ASSAf); Member of the Academy of Science of South Africa (MASSAf))
16:45 – 16:50	Closing Remarks	Prof Pat Naidoo



Biographies



Prof Pat Naidoo is a Visiting Scholar in the Department of Mechanical Engineering Science and Professor of Practice in the Faculty of Engineering and the Built Environment at the University of Johannesburg. He is a Fellow of the South African Academy of Engineering, a Fellow of the South African Institute of Electrical Engineers, a Senior Member of the IEEE (USA), and a member of the Institute of Directors South Africa (IoDSA) and CIGRÉ (France).



Prof Ivy (Irvy/Igle) Gledhill is an Honorary Adjunct Professor of Flow Physics at the University of the Witwatersrand. She completed postdoctoral research at the University of California, Los Angeles, and at Stanford University. Upon returning to South Africa, she moved into the field of aerodynamics at the Council for Scientific and Industrial Research (CSIR). As an applied computational physicist, she has actively pursued interdisciplinary collaborations, working on methane explosions in mines, molecular modelling for HIV, and ocean breakwaters. She has a strong commitment to gender and science, as well as to improving the work environment for both women and men. She is a Vice President of the International Union of Pure and Applied Physics (IUPAP) and previously served as Vice President of the Network of African Science Academies (NASAC). In 2024, she was awarded a Doctor of Science (honoris causa) by Rhodes University, and she is a Fellow of The World Academy of Sciences (TWAS).



Prof Marissa Rollnick is Professor Emeritus in Science Education at the University of the Witwatersrand and an NRF B2-rated researcher. She holds a doctorate from Wits University and is a recognised specialist in academic development and science education. Throughout her distinguished career, she has held a range of roles, including teacher, teacher educator, lecturer, and professor in chemistry education. She is currently involved in consulting work for several universities. Her research focuses on language in science education, student access to science in higher education, and pedagogical content knowledge in science education. She has authored over 70 refereed publications and has supervised more than 20 PhD graduates. Prof Rollnick has received several prestigious awards, including the *Distinguished Contribution to Research Award* from the National Association for Research in Science Teaching (NARST), USA, in recognition of her significant contributions to the field. She has also been recognised by Taylor & Francis as an inspirational woman in STEM.



Prof Dane Brown is an Associate Professor in Computer Science at Rhodes University. His research focuses on computer vision and machine learning, bridging theoretical computer science with practical AI applications. He obtained his PhD in multimodal biometrics from Rhodes University, following an MSc in GPU-accelerated South African Sign Language recognition at the University of the Western Cape. After completing his doctorate, he served as a visiting professor at the University of Warwick, where he advanced deep learning algorithms for robust biometric security. His research has since expanded into biodiversity conservation, including early crop disease detection using multispectral imagery in collaboration with the Forestry and Agricultural Biotechnology Institute (FABI). He is currently applying AI techniques in marine conservation, working with the South African Institute for Aquatic Biodiversity (SAIAB) and the South African National Biodiversity Institute (SANBI) to monitor aquatic life across diverse environments. Prof Brown is a passionate lecturer and an active member of the South African Young Academy of Science (SAYAS) and the Institute of Electrical and Electronics Engineers (IEEE), where he champions initiatives for early-career researchers and the development of scalable AI systems.



Prof Himla Soodyall is the Executive Officer of the Academy of Science of South Africa (ASSAf) and a Member of the Academy of Science of South Africa (MASSAf). She previously served as a Research Professor in Human Genetics at the University of the Witwatersrand (Wits) and as a Principal Medical Scientist at the National Health Laboratory Service (NHLS). She has conducted groundbreaking genetic research on the peoples of sub-Saharan Africa, with her studies identifying some of the oldest DNA found in living populations today. This work has contributed significantly to understanding human origins, supporting the view that modern humans have evolved in what is now southern Africa. Prof Soodyall is an international member of the United States National Academy of Sciences (NAS). She is a renowned geneticist, science communicator, and advocate for respect, inclusion, and equality.