Quantum Science & Technology Across Africa

INTERNATIONAL YEAR OF Quantum Science and Technology



Workshop to forge an African network in Quantum Science &Technology (QST)

- Get overview of QST activities in Africa
- Build strong African QST network to connect with networks in Germany and globally
- Initiate collaborations attracting Industry investments

23-27 JUNE 2025
Durban
South Africa

CQCtec
Centre for Quantum Computing & Technology

WILHELM UND ELSE HERAEUS-STIFTUNG

alc african laser centre

SA QuTI South African Quantum Technology Initiative

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI
COLLEGE OF AGRICULTURE, ENGINEERING AND SCIENCE
SCHOOL OF CHEMISTRY & PHYSICS

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Quantum Science & Technology Across Africa

Aims of the seminar and target audience:

- to bring together leading researchers and experienced research administrators with documented commitment to QST, from across the African continent, and from DPG, WEH and ICTP;
- to map out the existing QST higher education and research landscape across the continent;
- to map out existing interfaces between QST research and industrial use-cases, to the benefit of African economies;
- to identify elementary needs of the diverse players in QST across the continent, as well as impediments for sustainable progress;
- to identify potential, realistic roles of non-African partners, through a dedicated effort to resolve mutual perspectives and constraints;
- to define realistic short- and mid-term goals for establishing a sustained dialogue on QST across the continent, with the involvement of specifically targeted partners from public administration, industry and learned societies, and involving established as well as young researchers and students at the graduate level;
- to set-up a Steering Committee and a slim and easily sustainable web-platform for the continuation of the discourse seeded by the Durban meeting.

MONDAY 23rd JUNE 2025

Opening of the Workshop
Speaker: Thomas Konrad, University of KwaZulu-Natal
Time: 9:00 - 9:30

Who's Who Introduction of Attendees
Time: 9:30 - 10:00

AFRICAN PERSPECTIVES

Quantum Science & Technology in South Africa
Speaker: Andrew Forbes, University of the Witwatersrand, Johannesburg
Time: 10:00 - 10:30

Practically Secure QKD Implementations: Challenges and Solutions
Speaker: Salem Hegazy, Nile University
Time: 11:00 - 11:30

Abstract: Practical implementations of quantum key distribution (QKD) have been shown to be subject to various detector side-channel attacks that compromise the promised unconditional security. Most notable is a general class of attacks adopting the use of faked-state photons as in the detector-control and, more broadly, the intercept-resend attacks.

In this talk, we present a simple scheme to overcome such class of attacks: A legitimate user, Bob, uses a polarization randomizer at his gateway to distort an ancillary polarization of a phase-encoded photon in a bidirectional QKD configuration. Passing through the randomizer once on the way to his partner, Alice, and again in the opposite direction, the polarization qubit of the genuine photon is immune to randomization. However, the polarization state of a photon from an intruder, Eve, to Bob is randomized and hence directed to a detector in a different path, whereupon it triggers an alert. We demonstrate theoretically and experimentally that, using commercial off-the-shelf detectors, it can be made impossible for Eve to avoid triggering the alert, no matter what faked-state of light she uses.
In the talk, we will shed light on the implementation status of this novel QKD system at Zewail City of Science and Technology and Nile University.

Quantum Science and Technology in Tunisia
Speaker: Mourad Telmini, University of Tunis El Manar
Time: 11:30 - 12:00

Abstract: Tunisia joins the global celebration of the International Year of Quantum Science and Technology (IYQ2025), building on decades of expertise in quantum research and education. Across the nation's universities, teaching and research activities in Quantum Science and Technology (QST) continue to thrive.

In this talk, I will highlight Tunisia's contributions to QST, particularly the impactful work of Tunisian teachers and researchers in advancing the field both nationally and across Africa. Additionally, I will discuss outreach initiatives led by the Tunisian Quantum Network (QUANTUN), which engage the scientific community, students, and the general public.

On the research front, I will provide an overview of key areas of exploration, including:
- Theoretical Quantum Physics, Quantum Information, and Quantum Computing
- Condensed Matter Physics, Quantum Dots, and Quantum & Topological Materials
- Atomic & Molecular Physics, and Optics & Photonics

Finally, I will focus on our ongoing work at the Laboratory of Atomic and Molecular Spectroscopy & Applications (LSAMA), mainly in two topics:
- Quantum coherent control of ultra-cold atoms
- Hybrid quantum-classical algorithms for electronic structure calculations

Quantum Science and Technology (QST) in Ghana: A way to address the Quantum Divide and ensure Inclusiveness
Speaker: Henry Martin, Kwame Nkrumah University of Science & Technology, Mathematical & Computational Physics Unit
Time: 12:00 - 12:30

Abstract: Physics, the central backbone of science known for describing nature (thus Quantum Theory or Quantum Mechanics), unlocks the secrets in many areas of materials science, energy and others. This has led to technologies and innovations such as crystalline porous materials (CPMs), solid solutions, superconductors and others. In Ghana, the lack of funds for laboratory setup and maintenance and other

factors have caused the decline of research and education in physics. Mathematical and computational physics, on the other hand, have become a path to address the issue and champion inclusiveness. This discipline, accredited by the Ghana Tertiary Education Commission (GTEC) in 2021, has seen several improvements as the unit rejuvenates the study and research in physics. In this talk, I will show some of our training, outreach, research and other activities we have taken within the last four (4) years and the benefits. The activities address SDGs 4 (quality education), 5 (gender equality), 6 (availability and sustainable clean water supply), 3 (good health and well-being), and 8 (economic growth).

Spin Quantum Computing and Landau-Zener Transitions
Speaker: Lukong Cornelius Fai, University of Dschang
Time: 14:30 - 15:00

Abstract: To realize spin quantum computing, quantum mechanical properties are harnessed and in particular, the electronic spin. In the context of quantum computing, quantum logic gates can be built from spin qubits. This involves the implementation of basic quantum operations (like NOT, CNOT, Toffoli and Hadamard gates) using the spin of an electron as the qubit, where the manipulation of the spin state through applied magnetic fields allows for the execution of these quantum logic gates. We observe that the presence of a universal set of quantum gates, CNOT, between neighbouring qubits would be sufficient for universal quantum computation.

From the fact that in quantum algorithms, precise control of state transitions determines computation accuracy, we investigate the influence of a dipole interaction with a laser pulse (with sufficiently large amplitude) on a qubit when a control parameter is tailored for an adiabatic quantum computation. The phase accumulated between transitions in the so-called Stückelberg phase may result in constructive (or destructive) interference. Therefore, the physical observables of the system may exhibit a periodic dependence on the various system parameters in the so-called Landau–Zener–Stückelberg interferometry phenomenon. Besides, fast and reliable control of the quantum system could be tailored by strong driving. We explore the non-adiabatic transitions, which occur when the qubit is swept with a speed, which is time – dependent, and observe that the physical origin of a coupling between the two levels stems from the dipole interaction of the system with a laser pulse. We observe that [an] essential ingredient to computations is a

set of parameters, which can be tailored at any time for the qubits to undergo one-qubit or two-qubit gate operations.

TUTORIAL TALK - The Nuts and Bolts of Hot Vapour Based Quantum Technologies
Speaker: Robert Loew, University of Stuttgart
Time: 15:00 - 16:00 (Part 1)
Time: 16:30 - 17:30 (Part 2)

FISHBOWL - What Industries exist in your country?
Time: 20:30 - 21:30

TUESDAY 24th JUNE 2025

GERMAN PERSPECTIVES

The Scientific Publishing Landscape & the Essential Ingredients for Original Science
Speaker: Roderich Moessner, Max Planck Institute for the Physics of Complex Systems, Dresden
Time: 9:00 - 9:30

The Wilhelm and Else Heraeus Foundation and its international activities
Speaker: Stefan Jorda, WE-Heraeus Foundation
Time: 9:30 - 10:00

Abstract: The Wilhelm and Else Heraeus Foundation is Germany's most prominent private institution supporting physics. This talk will present the Foundation's growing international engagement in fostering scientific exchange and collaboration. Highlighted will be its support for binational events (Binational WE Heraeus-Seminars) with the aim of initiating new or fostering existing collaborations between research groups in Germany and in another country worldwide. Through these activities, the Foundation strengthens global networks in physics and contributes to the advancement of science beyond national boundaries.

Variational Quantum Eigensolvers applied to Carbon Capture (TBC)
Speaker: Walter Hahn, Universität Freiburg
Time: 10:00 - 10:30

AFRICAN PERSPECTIVES

Quantum Science & Technology in Egypt (TBC)
Speaker: Ahmed Younes, Alexandria Quantum Computing Group, Alamein International University
Time: 11:00 - 11:30

Building Quantum Futures in Africa: Curriculum Development, Challenges, and Opportunities in Experimental Physics Education
Speaker: Abderrahim El Allati
Time: 11:30 - 12:00

Abstract: The establishment of experimental quantum physics curricula in Africa represents a crucial step toward fostering technological innovation and scientific capacity on the continent. This proposal seeks international collaboration to address a significant gap in African higher education by developing a specialized Master's program in Experimental Quantum Physics. Additionally, we propose a groundbreaking initiative to create Africa's first dedicated Master's program in Experimental Quantum Physics. This program aims to bridge the important gap between theoretical training and practical quantum experimentation, addressing both regional needs and global scientific priorities.

Experimental Quantum Science / Ion Trapping
Speaker: Christine Steenkamp, Stellenbosch University
Time: 12:00 - 12:30

Photosynthesis and Quantum Mechanics: Science and Techniques
Speaker: Towan Nöthling
Time: 14:30 - 15:00

Abstract: Quantum mechanics is often associated with intricate experiments and carefully controlled settings—not with the warm, wet, and chaotic environment where photosynthesis occurs. In this talk, we give an overview of the quantum mechanical processes taking place during photosynthetic light harvesting and how linear and nonlinear spectroscopic techniques can be used to investigate these quantum dynamics. We discuss the use of quantum light to probe photosynthetic light-harvesting complexes and how these complexes can be used, in turn, to

generate quantum light. Finally, we consider the use of light-harvesting complexes as quantum switches, sensors, and scales.

ROUND TABLE - Quantum Communication & Quantum Sensing in Africa
Time: 15:00 - 16:00

TUTORIAL TALK - Quantum Optics 1: Experiments
Speaker: Isaac Nape,University of the Witwatersrand, Johannesburg
Time: 15:00 - 16:00

ROUND TABLE - Quantum Computing & Education in Africa
Time: 16:30 - 17:30

TUTORIAL TALK - Quantum Optics 2: Theory
Time: 16:30 - 17:30

Poster Session
Time: 20:30 - 21:30

Solving a Quadratic Optimization Problem by means of quantum Computing Using Amplitude Encoding
Presenter: Helarie Rose Medie Fah

Abstract: Quantum computers have the potential to be faster at solving certain problems, such as optimization problems, than their conventional equivalents [1]. These speedups are made possible by the fact that quantum computers are based on quantum bits (qubits), which may use superposition or entanglement, two peculiar properties of quantum physics. In this work, we explore the quantum gradient descent method [2] and describe a modified version of it to find the minimum of a quadratic cost function. We simulate the algorithm using the so-called amplitude encoding technique, to approach the minimum of a quadratic cost function of 2 variables and of 8 variables and verify the result. We present the quantum circuit for one step and iterate it to find the optimal solution after several steps.

Quantum Teleportation of Coherent States of Structured Light
Presenter: Tanita Permaul

Abstract: We present a scheme to teleport both the spatial and number-of-photons degrees of freedom of light. This is achieved by teleportation of each pixel of a target image. We take coherent states as the input and demonstrate the scheme for the cases with ideal and realistic entanglement resources.

Quantum State Preparation via Coherent Feedback Control in the Continuum Limit
Presenter: Shamik Maharaj

Abstract: We present here the theoretical model of a time-continuous scheme to drive an initially unknown quantum state into a known target state. The model is based on the idea that a system can be forced to converge to a desired state by means of sequential application of appropriate quantum channels. We derive a Gorini-Kossakowski-Lindblad-Sudarshan (GKLS) Master Equation (ME), which describes such a state convergence process continuously in time, as well as find exact analytical solutions for specific channels. The quantum channels can be implemented stochastically by measurement-based feedback or deterministically by Coherent-Feedback Control (CFC), while our primary focus is CFC. We describe the preparation process by means of two examples. In the first, information about the target state of a two-level system is encoded into the interaction with ancilla systems corresponding to an indirect unsharp measurement with feedback. In the second example the target state of a N-level system is encoded into the initial state of the ancilla systems, corresponding to a sequence of weak swaps. The respective ME's were solved directly to reveal deterministic evolution to the target state for any initial state.

Verification Scheme for Universal Quantum Computers
Presenter: Alain Giresse Tene

Coherent Control of Atomic States using Photons
Presenter: Yastheer H.Baochoo

WEDNESDAY 25th JUNE 2025

NETWORKS

The Role of AIMS for Across Africa Discourse (TBC)
Speaker: Prince Osei, African Institute for Mathematical Sciences, Accra, Ghana
Time: 9:00 - 9:30

SA QuTI's Framework: Building a Quantum Future
Speaker: Jodie Watson, South African Quantum Technology Initiative
Time: 9:30 - 10:00

Abstract: The South African Quantum Technology Initiative (SA QuTI) is a national programme designed to coordinate and advance quantum research, education, and technology across South Africa. This presentation outlines the structure of SA QuTI, including its flagship domains, node system, and focus on capacity-building, industry partnerships, and collaboration. We explore how this coordinated framework not only accelerates local quantum innovation but can also support the broader development of quantum technologies across the continent.

Forming an International Quantum Computing Network
Speaker: Happy Sithole, NICIS
Time: 10:00 - 10:30

How to Start a QST Network across the African Continent
Speaker: Riche-Mike Wellington, Unesco-Ghana
Time: 11:00 - 11:30

Towards Establishing Research Ecosystems on the African Continent
Speaker: Ali Hassanali, International Center for Theoretical Physics
Time: 11:30 - 12:00

The Role NITheCS and Beyond
Speaker: Francesco Petruccione, Stellenbosch University
Time: 12:00 - 12:30

Hunting for High-Value Applications of Quantum Computing: African Perspective
Speaker: Chinonso Onah, Department of Physics, RWTH Aachen University/ Volkswagen AG, Germany
Time: 14:30 - 15:00

Abstract: Deriving high-value applications of quantum computing demands a full-stack engineering approach that begins with real-world problem formulation, proceeds through rigorous mathematical modelling, and culminates in both classical benchmarking and quantum-hardware validation. In this talk, I will walk you through two flagship projects from my recent work, showing step-by-step how we translate complex industry challenges into quantum-ready models and extract tangible performance benefits.

In Quantum-Enhanced Shared Transportation (QUEST)' QUEST: QUantum-Enhanced Shared Transportation], we introduce "Windbreaking-as-a-Service" (WaaS), a low-tech platooning concept in which leading vehicles ("windbreakers") shelter trailing vehicles ("windsurfers") to reduce aerodynamic drag. After capturing timing, speed, and vehicle-class constraints as a mixed-integer quadratic problem (MIQP), we systematically map it into a Quadratic Unconstrained Binary Optimization (QUBO) model. A single-segment prototype—validated against the Hungarian algorithm, Gurobi solver, and brute-force enumeration—demonstrates that the quantum pipeline recovers the exact optimal assignment. We then build and run a QAOA instance on IBM's 127-qubit hardware, confirming the robustness of our approach and laying the groundwork for multi-segment, large-scale deployments. In addition, last-mile delivery and fleet routing problems are recast as Ising Hamiltonians through an Ising-formulation of shortest-path and capacity constraints. In simulation, our hybrid quantum framework yields ~10 % reduction in CO_2 emissions. I'll present recent follow-up work—hybrid perturbative techniques and quantum annealing that push these gains closer to production readiness.

FISHBOWL - Non African Partners DPG, WEH, ICTP
Time: 15:00 - 16:00

TUTORIAL TALK - Quantum Optics 3: Experiments
Speaker: Isaac Nape,University of the Witwatersrand, Johannesburg
Time: 15:00 - 16:00

FISHBOWL - How to get Funding
Time: 16:00 - 17:00

TUTORIAL TALK - Quantum Measurement & Control
Speaker: Thomas Konrad, University of KwaZulu-Natal
Time: 16:00 - 17:00

SCIENCE WITH JAZZ - Sensing the Invisible with Quantum Ghost Imaging
Time: 17:00 - 19:00

SYNOPSIS: Conventional imaging, as you do with your smartphone, has remained more or less unchanged for centuries. In this talk Professor Forbes will outline how spooky quantum light allows us to break the rules of traditional imaging systems, including imaging without interacting with the object, high resolution photos with low resolution detectors, and making the invisible visible. Finally, he will outline how intelligence and quantum imaging can be combined for fast sensing and recognition of unknown objects.

ANDREW FORBES: Andrew Forbes a Distinguished Professor at the University of the Witwatersrand where he leads a laboratory that focuses on Structured Light and its applications. He is active in promoting photonics in Africa, a founding member of the Photonics Initiative of South Africa and Director of South Africa's Quantum Technology Initiative. He is a Fellow of SPIE, Optica, the South African Institute of Physics (SAIP), PIERS and an elected member of the Academy of Science of South Africa. He has won several awards, including the national NSTF Photonics award (2015), the Alexander von Humboldt Georg Forster Prize and Fellowship (2020), the SAIP Gold Medal (2020), the Sang Soo Lee award from the Korean Optical Society and OPTICA (2022) and the Physics prize by TWAS (2024).

ZIBUSISO MAKHATHINI: Zibusiso Makhathini is a Durban based Jazz Pianist, Composer and Music Tutor. Having grown up in a musical family, music became an inherent attribute that was noticeable throughout his childhood which later influenced him to pursue music as a career by studying and obtaining a degree in music at the University of KwaZulu-Natal. Makhathini is currently teaching jazz piano at Durban High School and Kearsney College. Recently Makhathini made history at the 15th Unisa International Piano Competition by being the first South

AFRICAN QUANTUM NETWORK

African to ever make it to the finals since its inception in 1982. Makhathini won 3rd place alongside Dabin Ryu (South Korea) and Tomas Jonsson (USA). Zibusiso was profiled and featured as an artist on the Insider SA, a national television programme on SABC, under the segment called 'Defying The Norm' for his original project titled Africanva which was premiered at the National Arts Festival. Makhathini has worked with various artist namely; Linda Sikhakhane, Camille Kerani, Salim Washington, Joe Kunnuji, Ndabo Zulu, Siphephelo Mazibuko, Lwanda Gogwana and Benjamin Jephta.

GCINA MHLOPHE: Gcina Mhlophe is a celebrated author, storyteller, and the founding director of the Gcinamasiko Arts & Heritage Trust. Her works have been translated into numerous languages, including all official South African languages, Kiswahili, French, German, Spanish, Portuguese, Japanese, and even Braille. She has directed her theatrical plays in the USA, UK, and Greenland, with her most renowned and studied work being "Have You Seen Zandile?" In addition, her poetry has been transformed into dance and classical music. Recently, she edited and self-published "Our Storytelling Tree: A South African Storytellers Directory" under GAHT, marking the first effort to archive 38 storytellers currently active in South Africa. She has received honorary doctorates from seven universities, both nationally and internationally, in recognition of her literary contributions and her imp act on intangible heritage through storytelling.

THE SCIENCE WITH JAZZ SEMINAR SERIES: 2025 is the UNESCO year of Quantum Science and Quantum Technology. In this context the initiated Centre for Quantum Computing and Technology at UKZN presents a series of science seminars combined with Jazz concerts, that informs about relevant concepts in science and technology and their societal impacts. This monthly series intends to inspire inter-disciplinary discussions and synergies, in particular between the sciences and the arts.

AFRICAN QUANTUM NETWORK

THURSDAY 26th JUNE 2025

AFRICAN PERSPECTIVES

The Arabic Perspective
Speaker: Abdel-Aty Mahmoud, Ahlia University, Bahrain
Time: 9:00 - 9:30

(TBC)
Speaker: David Davis, Sol Plaatje University, Kimberley
Time: 9:30 - 10:00

QST in Morocco
Speaker: Zakaria Bouameur, Mohammed V University In Rabat
Time: 10:00 - 10:30

GERMAN PERSPECTIVES

Setting up Experimental Research in Kenya (TBC)
Speaker: Jackson Ang'ong'a, QUBIG GmBH, Munich
Time: 11:00 - 11:30

Quantum Technologies: An Overview & Activities at the University of Stuttgart
Speaker: Robert Loew
Time: 11:30 - 12:30

Johannes Kepler - More than just an Astronomer
Speaker: Robert Loew
Time: 17:00 - 18:00

FRIDAY 27th JUNE 2025

WRAP UP

To Do List
Time: 9:00 - 10:00

Formation of a Steering Committee
Time: 10:00 - 10:30



ABOUT THE TALK:
We all know Johannes Kepler as the pioneer of modern astronomy in the early 17th century, to be followed up by Galileo Galilei and Isaac Newton, to change our entire view of the world and cosmos we live in. But this is only one aspect of Johannes Kepler's life. The shape of snowflakes; how can one fill a floor with fivefold symmetry tiles; writing the first science fiction novel of mankind; inventing the first computer of all; writing horoscopes for General Wallenstein just to get the money in ... These and many more anecdotes of his extraordinary path through life will be told.

ABOUT THE SPEAKER:
Dr Robert Loew studied physics at the University of Regensburg (Germany), Wesleyan University (USA) and at the Massachusetts Institute of Technology (USA). In 2006 he finished his PhD on ultra-cold Rydberg atoms at the University of Stuttgart, where he is today a senior group leader in experimental physics. His research interests are mainly the spectroscopy of ultra-cold, as well as room temperature gases of atoms and molecules. The topics range from fundamental science to quantum technologies. Besides this he is an author of popular science books, cooperates with science-and-art-museums, and supports artists in the realisation of physics-themed art pieces.

	MONDAY 23 JUNE	TUESDAY 24 JUNE	
9:00-9:30	Opening Thomas Konrad	The Scientific Publishing Landscape & the Essential Ingredients for Original Science. Roderich Moessner, MPIPCS, Dresden	
9:30-10:00	Who's Who All Delegates	The Wilhelm and Else Heraeus Foundation & its international Activities Stefan Jorda, WE-Heraeus Foundation	
10:00-10:30	Quantum Science & Technology in South Africa: Andrew Forbes, South African Quantum Technology Initiative, WITS	Variational Quantum Eigensolvers applied to Carbon Capture (TBC) Walter Hahn, Universität Freiburg	
10:30-11:00	COFFEE BREAK	COFFEE BREAK	
11:00-11:30	Practically Secure QKD Implementations: Salem Hegazy, Nile University	Quantum Science & Technology in Egypt (TBC): Ahmed Younes, Alamein International University	
11:30-12:00	Quantum Science and Technology in Tunisia: Mourad Telmini, University of Tunis El Manar	Building Quantum Futures in Africa: Curriculum Development, Challenges, and Opportunities in Experimental Physics Education:Abderrahim El Allati	
12:00-12:30	Quantum Science and Technology (QST) in Ghana: A way to address the Quantum Divide: Henry Martin, Kwame Nkrumah University	Experimental Quantum Science / Ion Trapping: Christine Steenkamp, Stellenbosch University	
12:30-14:30	LUNCH	LUNCH	
14:30-15:00	Spin Quantum Computing and Landau-Zener Transitions: Cornelius Fai, University of Dschang	Photosynthesis and Quantum Mechanics: Science & Techniques Towan Nöthling	
15:00-16:00	TUTORIAL TALK - The Nuts and Bolts of Hot Vapour Based Quantum Technologies: Robert Loew, University of Stuttgart (Part 1)	ROUND TABLE - Quantum Communication & Quantum Sensing in Africa	TUTORIAL TALK - Quantum Optics 1: Experiments Isaac Nape,WITS
16:00-16:30	TEA	TEA BREAK	
16:30-17:30	TUTORIAL TALK - The Nuts and Bolts of Hot Vapour Based Quantum Technologies: Robert Loew, University of Stuttgart (Part 2)	ROUND TABLE - Quantum Computing & Education in Africa	TUTORIAL TALK - Quantum Optics 2: Theory
18:00 - 20:30	DINNER	DINNER	
20:30 - 21:30	FISHBOWL - What Industries exist in your country?	Poster Session	

	WEDNESDAY 25 JUNE	THURSDAY 26 JUNE
	The Role of AIMS for Across Africa Discourse (TBC) Prince Osei, African Institute for Mathematical Sciences, Accra, Ghana	The Arabic Perspective: Abdel-Aty Mahmoud, Ahlia University, Bahrain
	SA QuTI's Framework: Building a Quantum Future Jodie Watson, South African Quantum Technology Initiative	(TBC) David Davis, Sol Plaatje University, Kimberley
	Forming an International Quantum Computing Network: Happy Sithole, NICIS	QST in Morocco: Zakaria Bouameur, Mohammed V University In Rabat
	COFFEE BREAK	COFFEE BREAK
	How to Start a QST Network across the African Continent: Riche-Mike Wellington, Unesco-Ghana	Setting up Experimental Research in Kenya (TBC): Jackson Ang'ong'a, QUBIG GmBH, Munich
	Towards Establishing Research Ecosystems on the African Continent: Ali Hassanali, International Center for Theoretical Physics	Quantum Technologies: An Overview & Activities at the University of Stuttgart: Robert Loew, University of Stuttgart
	The Role NITheCS and Beyond Francesco Petruccione, Stellenbosch University	
	LUNCH	LUNCH
	Hunting for High-Value Applications of Quantum Computing: African Perspective: Chinonso Onah, Aachen University/ Volkswagen AG, Germany	Group Discussion Quantum Communications
	FISHBOWL - Non African Partners DPG, WEH, ICTP	TUTORIAL TALK - Quantum Optics 3: Experiments Isaac Nape, WITS
	FISHBOWL - How to get Funding 16:00 - 17:00	TUTORIAL TALK - Quantum Measurement & Control: Thomas Konrad, UKZN
	SCIENCE WITH JAZZ - Sensing the Invisible with Quantum Ghost Imaging 17:00 - 19:00	
	DINNER 19:30	

FRIDAY 27 JUNE
WRAP-UP To Do List 9:00 - 10:00
Formation of a Steering Committee 10:00 - 10:30
TEA BREAK 10:30 - 11:00
END OF CONFERENCE

LIST OF DELEGATES

Mahmoud	Abdel-Aty	Zewail City	Egypt/Bahrain	amisaty@gmail.com
El Allati	Abderrahim	Abdelmalek Essaadi University	Morocco	eabderrahim@uae.ac.ma
Muhammad	Al-Zafar Khan	University Of Kwazulu-Natal	South Africa	muhammadalzafark@gmail.com
Jackson	Ang'ong'a	QUBIG GmbH	Germany/Kenya	
David Yao	Ansi	Kwame Nkrumah University	Ghana	dansiyao@gmail.com
Godfred	Badu	University of Kwazulu-Natal	South Africa	225194242@stu.ukzn.ac.za
Zakaria	Bouameur	Mohammed V University In Rabat	Morocco	zakaria.bouameur@um5r.ac.ma
Andreas	Buchleitner	Uni Freiberg	Germany	abu@uni-freiburg.de
Francois	Conradie	University of Pretoria	South Africa	u18063676@tuks.co.za
David	Davis	Sol Plaatje University, Kimberley	South Africa	david.davis@spu.ac.za
Andrew	Forbes	SAQuTI, WITS,Jhb.	South Africa	andrew.forbes@wits.ac.za
Saarisha	Govender	University of Kwazulu-Natal	South Africa	221009853@stu.ukzn.ac.za
Walter	Hahn	Universität Freiburg	Germany	walter.hahn@iaf.fraunhofer.de
Sirine	Hammami	University of Tunis El Manar	Tunisia	sirine.hammami144@gmail.com
Ali	Hassanali	ICTP, Trieste	Italy	ahassana@ictp.it
Salem	Hegazy	Zewail City of Science & Technology	Egypt	shegazy@zewailcity.edu.eg
Stefan	Jorda	WE-Heraeus Foundation	Germany	stefan.jorda@t-online.de
Achraf	Khoudiri	Abdelmalek Essadi Uni., Tétouan	Morocco	achrafkhoudiripro@gmail.com
Thomas	Konrad	University of Kwazulu-Natal, Durban	South Africa	konradt@ukzn.ac.za
Robert	Loew	University of Stuttgart	Germany	r.loew@physik.uni-stuttgart.de
Cornelius Fai	Lukong	University of Dschang	Cameroon	corneliusfai@yahoo.fr
Shamik	Maharaj	University of Kwazulu-Natal, Durban	South Africa	213536178@stu.ukzn.ac.za
Nokwanda	Majola	University of Kwazulu-Natal, Durban	South Africa	majolan6@ukzn.ac.za
Henry	Martin	KNUST, Accra	Ghana	hmartin@knust.edu.gh
King	Massinga	University of Kwazulu-Natal, Durban	South Africa	218060168@stu.ukzn.ac.za
Alan	Matthews	University of Kwazulu-Natal, Durban	South Africa	matthewsa@ukzn.ac.za
Helarie Rose	Medie Fah	University of Kwazulu-Natal, Durban	South Africa	223153323@stu.ukzn.ac.za
Roderich	Moessner	MPIPKS, Dresden	Germany	mo2011@pks.mpg.de
Mervlyn	Moodley	University of Kwazulu-Natal, Durban	South Africa	moodleym2@ukzn.ac.za
Thalente	Mthembu	University of Kwazulu-Natal, Durban	South Africa	mhlengithalente@gmail.com
Isaac	Nape	WITS, Johannesburg	South Africa	isaac.nape@wits.ac.za
Johan	Nöthling	University of Pretoria	South Africa	janothling@gmail.com
Chinonso	Onah	Aachen University/VW AG, Germany	Nigeria	chinonso.calistus.onah@volkswagen.de
Prince	Osei	AIMS, Accra	Ghana	prince@aims.edu.gh
Tanita	Permaul	University of Kwazulu-Natal, Durban	South Africa	216044254@stu.ukzn.ac.za
Francesco	Petruccione	Stellenbosch University	South Africa	francesco.petruccione@nithecs.ac.za
Henry Elorm	Quarshie	KNUST, Accra	Ghana	hequarshie2@st.knust.edu.gh
Ahmed	Saad El Fiky	Zewail City, Nile Uni., Alexandria	Egypt	ah.saadfiky@gmail.com
Shihal	Sapry	Toyota, Durban	South Africa	ssapry@toyota.co.za
Happy	Sithole	NICIS, Pretoria	South Africa	hsithole@csir.co.za
Christine	Steenkamp	Stellenbosch University	South Africa	cmsteen@sun.ac.za
Mourad	Telmini	University of Tunis El Manar	Tunisia	mourad.telmini@fst.utm.tn
Alain Giresse	Tene	University of Kwazulu-Natal, Dbn.	South Africa	tenea@ukzn.ac.za
Anikan	Ukpong	University of Kwazulu-Natal, PMB	SA, Nigeria	ukponga@ukzn.ac.za
Bertus	Van Heerden	University of Zululand	South Africa	bertus.mooikloof@gmail.com
Jodie	Watson	SAQuTI, WITS, Jhb.	South Africa	jodie.watson@wits.ac.za
Rich-Mike	Wellington	Unesco-Ghana, Accra	Ghana	riche-mike.wellington@unescoghana.gov.gh
Brandon	Willnecker	University of Kwazulu-Natal, Durban	South Africa	willneckerb@ukzn.ac.za
Ahmed	Younes	Alamein International University	Egypt	ayounes@alexu.edu.eg

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Quantum Science and Technology Across Africa Workshop

Invitation to a

Public Talk

Johannes Kepler:
More than an Astronomer

By

Dr Robert Loew,
University of Stuttgart, Germany

DATE:
Thursday 26 May 2025

TIME:
17h00-18h00

VENUE:
Premier Resort Cutty Sark, Scottburgh

Enquiries: Sally Frost / frosts@ukzn.ac.za / 031 260 7642

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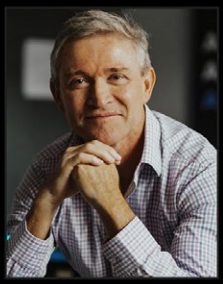
"Where Science and Jazz combine"



25 JUNE Wednesday 2025 | **17h00** | Premier Resort Cutty Sark, Scottburgh

SPEAKER:

Professor Andrew Forbes
School of Physics, University of the Witwatersrand



TOPIC:

Sensing the invisible with quantum ghost imaging

JAZZ ARTIST



Mr Zibusiso Mahkathini

POET



Dr Gcina Mhlope

TRANSPORT PROVIDED

Refreshments and a cash bar will be available

ENQUIRIES: Thulile Zama / zamat1@ukzn.ac.za / 031 260 3385

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