The 26th Congress of the International Commission for Optics

Venues

Track 1	Somerset 1
Track 2	Somerset 2

Monday, October 21, 2024

7:30 - 17:00	Registration
8:30 - 8:50	Coffee/Tea
8:50 - 9:00	Venue Overview
9:00 - 9:40	**Opening Session - Chair: Dr Yaseera Ismail** **Venue: Somerset 1 and 2** **Welcome: Dr Yaseera Ismail (Chair of ICO26, Stellenbosch University, South Africa)** **Address of the President of ICO: Prof John Howell (Chapman University, USA)** **Stellenbosch University DVC of Research: Prof Sibu Moyo (Stellenbosch University, South Africa)** **Academy of Science of South Africa: Prof Himla Soodyall (ASSAf, South Africa)** **African Laser Centre: Hardus Greyling (CSIR, South Africa)**
9:40 - 10:50	**Plenary Session-Chair: Dr Yaseera Ismail** **Venue: Somerset 1 and 2**
9:40 - 10:15	**Plenary 1: Space-based Quantum Physics Experiments** **Prof Juan Yin (University of Science and Technology of China, China)**
10:15 - 10:50	**Plenary 2: Field quantization from the viewpoint of classical optics** **Prof Gerd Leuchs (OPTICA President, Max-Planck Institute, Germany)**
10:50 - 11:20	Coffee/Tea Break
11:00 - 12:30	**ICO Executive Committee Meeting (Somerset 3)**

11:20-12:35	**Theme: Optical Materials and Nanophotonics** **Chair: Prof Gerd Leuchs** **Venue: Somerset 1** **11:20-11:45** Prof Crina Cojocaru (Universitat Politècnica de Catalunya, Spain) - Tailoring harmonic generation at the nanoscale in strategic materials for nanophotonics **(Invited Talk)** **11:45-12:10** Prof Mark Tame (Stellenbosch University, South Africa) - Quantum Nanophotonics **(Invited talk)** **12:10-12:30** Prof Yidong Huang **(**Tsinghua University, China**) -** Nano-structures Bring New Mechanism of Interaction between Electrons and Photons	**Theme: Advances in Optical Imaging and Spectroscopy** **Chair: Prof Nathalie Westbrook** **Venue: Somerset 2** **11:20-11:45** Prof Kaoru Minoshima **(**University of Electro-Communications, Japan**) -** Highly functional spectroscopy with versatile optical phase control using optical frequency comb **(Invited Talk)** **11:45-12:10** Prof Frederique Vanholsbeeck (University of Auckland, New Zealand) - Multimodal imaging platform to study cartilage degeneration using compression-based depth-resolved polarisation-sensitive optical coherence tomography and vibrational spectroscopy **(Invited Talk)** **12:10-12:35** Prof Hans-Martin Frey (University of Bern, Switzerland) – Waveguide enhanced rotational alignment in the gas phase **(Invited Talk)**
12:35-14:00	Lunch	
14:00-15:00	**Keynote Address - From Nonlinear Optics to High-Intensity Laser Physics** **2018 Nobel Laureate Prof Donna Strictland (University of Waterloo, Canada)** **Venue: Somerset 1 and 2 Chair: Dr Yaseera Ismail**	
15:00-15:10	Conference Photo	
15:10-15:30	Coffee/Tea Break	
15:30-18:00	**ICO Bureau Meeting (Venue: Somerset 3)**	
15:30-17:00	Poster Session	
18:30-19:30	Cocktail Welcome Session President of ICO- Prof John Howell ICO26 Co-Chair- Prof Ahmadou Wague	

Tuesday, October 22, 2024

8:30 – 17:00	Registration	
8:30 - 9:00	Coffee/Tea	
9:00 - 10:10	**Plenary Session - Chair: Prof Roberta Ramponi** **Venue: Somerset 1 and 2**	
9:00 - 9:35	**Plenary 3: How to make photons feel magnetic fields, and implications thereof** **Prof Mikeal Rechtsman ICO Award 2018 (Penn State University, USA)**	
9:35 - 10:10	**Plenary 4: Programmable photonics based on phase-change materials** **Prof. Carlos Rios Ocampo (ICO-IUPAP Young Scientist in Optics Award 2023) (Maryland Energy Innovation Institute, USA)**	
10:10 - 10:50	**Panel Session: Sustainable Development Goals facilitated by Prof Malik Maaza (Venue: Somerset 1 and 2)**	
10:50 - 11:10	Coffee/Tea Break	
11:10 - 12:00	**Theme: Quantum Optics, Atom Optics, and Information Processing** **Chair: Prof John Howell** **Venue: Somerset 1** **11:10-11:35** Prof Humberto Michinel (University of Vigo, Spain) - Liquid Solitons in Quantum and Photonic Devices **(Invited talk)** **11:35-12:00** Prof Roberta Ramponi (Politecnico di Mlian/CNR-IFN) - Laser and Ion beam writing for integrated Quantum Chips in Diamond **(Invited talk)**	**Theme: Advances in Optical Imaging and Spectroscopy** **Chair: Prof Eric Rosas** **Venue: Somerset 2** **11:10-11:35** Prof Neil Hunt (University of York, UK) **-** High-throughput 2D-IR Spectroscopy Screening – Rapid Access to Biomolecular Structure and Dynamics under Physiological Conditions **(Invited Talk)** **11:35-12:00** Dr Humberto Cabrera *(*Abdus Salam International Centre for Theoretical Physics, Italy*)* - LED-based photothermal spectroscopy with simultaneous fluorescence detection **(Invited talk)**
12:00 - 14:00	**Lunch**	
13:30 - 16:30	**ICO General Assembly** **(Venue: Somerset 3)**	

14:00-15:10	**Theme: Quantum Optics, Atom Optics, and Information Processing** **Chair: Prof Mark Tame** **Venue: Somerset 1** **14:00-14:25** Prof Yasuhiko Arakawa (University of Tokyo, Japan) - Advances in quantum dot photonics: From the early days to practical applications **(Invited talk)** **14:25-14:50** Prof Francesco Petruccione (Stellenbosch University, South Africa) - TBA **(Invited talk)** **14:50-15:10** Ms Si-Yuan Sun (University of Science and Technology of China, China) - Non-local interference using quantum entanglement: towards optical very long baseline interferometry	**Theme: Advances in Optical Imaging and Spectroscopy** **Chair: Prof Pieter Neethling** **Venue: Somerset 2** **14:00-14:25** Dr Barbara Procacci (University of York, UK) - Ultrafast 2D-IR spectroscopy paves the way to a quantitative view of solvation in transition metal catalysis **(Invited Talk)** **14:25-14:45** Prof Erich Rohwer (Stellenbosch University, South Africa) - Recent developments in time domain ptychography **14:45-15:05** Ms Anneke Erasmus (Stellenbosch University, South Africa) - Using Mie theory to measure changes in optically trapped aerosol droplets when changing the incident trapping power
15:10-15:30	Coffee/Tea Break	
15:30-16:40	**Theme: Photonic Devices and Technologies** **Chair: Prof Carlos Hernandez-Garcia** **Venue: Somerset 1** **15:30-15:55** Dr Ulrike Fuchs (Asphericon, Germany) - Democratization of Laser Technology: A Journey of Unlimited Opportunities **(Invited Talk)** **15:55-16:20** Dr Angela Dudley (University of Witwatersrand, South Africa) - Spatial and Polarisation Control in Optical Fields **(Invited Talk)** **16:20-16:40** Prof Hubertus von Bergmann (Stellenbosch University, South Africa) - Compact Multi-TW Picosecond Mid-IR Laser Systems Based on Large-Aperture High-Pressure CO2 Amplifiers	**Theme: Light-Matter Interactions and Nonlinear Optics** **Chair: Prof Malik Maaza** **Venue: Somerset 2** **15:30-15:55** Prof Mohammed Chaker (INRS-Energie Matériaux Télécommunications, Canada) - Smart Materials for Photonics: Vanadium Dioxide **(Invited Talk)** **15:55-16:20** Prof Valdas Pasiskevicius (Royal Institute of Technology, KTH, Sweden) - Recent advances in backward wave optics parametric oscillators **(Invited Talk)** **16:20 -16:40** Prof Changxi Yang (Tsinghua University, China) **-** Temporal and spatiotemporal dissipated solitons in mode-locked fiber lasers
17:30-19:30	**Special Event: Nobel Evening at the Edler, Stellenbosch University, Stellenbosch**	

Wednesday, October 23, 2024

8:30-9:00	Coffee/Tea	
9:00-10:30	**Plenary Session- Chair: Prof Humberto Michinel** **Venue: Somerset 1 and 2**	
9:00-9:55	**Keynote Address – The route to attosecond pulses** **2023 Nobel Laureate Prof Anne L'Hullier (Lund University, Sweden)**	
9:55-10:30	**Plenary 5: Structured attosecond pulses to probe ultrafast matter dynamics** **Prof Carlos Garcia Hernandas (Universidad de Salamanca, Spain)** **ICO Award 2023**	
10:30-10:50	Coffee/Tea Break	
10:50-12:00	**Theme: Quantum Optics, Atom Optics, and Information Processing** **Chair: Prof Juan Yin** **Venue: Somerset 1** **10:50-11:15** Prof Nana Liu (Shanghai Jiao Tong University, China) - Quantum: Simulation of partial differential equations **(Invited talk)** **11:15-11:40** Prof Yuan Cao (University of Science and Technology of China, China) - Single-photon interference over 8.4 km urban atmosphere **(Invited talk)** **11:40-12:00** Mr Bo-Yu- Fu (University of Science and Technology of China, China, China) - Testing dragging effect of single photons in a moving media	**Theme: Photonic Devices and Technologies** **Chair: Prof Kaoru Minoshima** **Venue: Somerset 2** **10:50-11:15** Prof Kent Choquette (University of Illinois, USA) - Mode Engineering in Diode Lasers **(Invited Talk)** **11:15-11:40** Prof Ahmadou Wague (Dakar Cheikh Anta Diop University, Senegal) - From atomic physics to laser applications in science and technology: Building optics and photonics laboratories within collaborative actions in Africa **(Invited Talk)** **11:40-12:00** Dr Nataliya Kundikova (Institute of Electrophysics, Russia) - Effect of the circular polarization sign on the topological charge in the longitudinal field of the Gauss beam waist
12:00 -14:00	**Lunch**	
12:30-14:00	**Optica Session on Publishing (Venue: Somerset 1)**	
14:00-15:00	**Hyper spectral Camera Tutorial and Demo Session (Venue: Somerset 2)**	
15:10-17:00	**Cheetah Outreach/Free Time**	

Thursday, October 24, 2024

8:30-17:00	Registration	
8:30-9:00	Coffee/Tea	
9:00-10:45	**Plenary Session-Chair: Prof John Howell** **Venue: Somerset 1 and 2**	
9:00 9:35	**Plenary 6: Photonics at the nano-scale: Multi-disciplinarity & Frontier science** **Prof Maalik Maaza (Ithemba Labs, South Africa)** **2019 Galileo Galilei Medal**	
9:35-10:10	**Plenary 7: Optical and Quantum Manipulation from Microscopic to Large Scale using Light and Matter Waves: Recent Observations of Counterintuitive Forces** **Dr Rahman Chowdhury Mahdy (North South University, Bangladesh)** **2023 Galileo Galilei Medal**	
10:10-10:30	Coffee/Tea Break	
10:30-11:20	**Theme: Biophotonics and Medical Optics** **Chair: Prof Gilles Pauliet** **Venue: Somerset 1** **10:30-10:55** Prof Nathalie Westbrook **(**Université Paris- Saclay, France) **-** Biomechanics with optical tweezers and FRET fluorescence microscopy **(Invited Talk)** **10:55-11:20** Prof Alessia Candeo (Politecnico di Milano, Italy) **-** Light sheet fluorescence microscopy for biophotonics **(Invited Talk)**	**Theme: Optical Metrology and Sensing** **Chair: Prof Kent Choquette** **Venue: Somerset 2** **10:30-10:55** Prof John Howell (Chapman University, USA) - Superfunction Superradar **(Invited Talk)** **10:55-11:20** Mr Eugene Fouche (Stellenbosch University) - Phase control of supercontinuum pulses for high axial resolution in optical coherence tomography
11:20-12:50	**"Roses in Science and Elite" Panel Session (Somerset 1 and 2)**	
12:50 -14:00	**Lunch**	
14:00-17:00	**ICO General Assembly** **(Venue: Somerset 3)**	

14:00-15:00	**Theme: Photonic Devices and Technologies** **Chair: Dr Christine Steenkamp** **Venue: Somerset 1** **14:00-14:20** Prof Changgon Kim (Kyung Hee University, Republic of Korea, Korea) - Optimization of trifold flexure structure for an aluminum mirror **14:40-14:40** Prof Walter Furlan (Universidad de Valencia, Spain) - Customizable multiple-focus binary Gabor zone plate lenses **14:40-15:00** Evgenii Menshikov (CNR-INO and University of Brescia, Italy) - Analog computing with nonlinear flat optics	**Theme Optical Materials and Nanophotonics** **Chair: Prof Malik Maaza** **Venue: Somerset 2** **14:00-14:20** Prof Takashi Kato **(**University of Electro-Communications, Japan**) -** Broadband Simple Operation using Optical Phased Array with Optical Frequency Comb **14:40-14:40** Dr Wakana Kubo (Tokyo University of Agriculture and Technology, Japan) - Nonradiative Cooling **14:40-15:00** Dr Luke Ugwoke (Stellenbosch University, South Africa) - Emitter-in-a-nanocavity as a quantum plasmonic sensor
15:00-15:30	**Coffee/Tea Break**	
15:30-17:15	**Theme: Advances in Optical Imaging and Spectroscopy** **Chair: Prof Pieter Neethling** **Venue: Somerset 1** **15:30-15:50** Dr Bertus van Heerden (University of Pretoria, South Africa) - Real-time feedback-driven single-particle tracking spectroscopy of light-harvesting complexes **(Invited Talk)** **15:50-16:15** Prof Gianluca Valentini (Politecnico di Milano, Italy) - Multiscale hyperspectral imaging platform for material science and heritage science **16:15-16:35** Prof Wei Zhang (Tsinghua University, China) **-** Reconstructive photon-counting spectrometer and its application on high-dimensional imaging. **16:35-16:55** Prof Andrei Naumov (Russian Academy of Sciences, Russia) - Spectroscopy and optical nanoscopy of single quantum emitters in a broad temperature range **16:55-17:15** Dr Johan Nöthling (University of Pretoria, South Africa) - Modelling linear spectra and shining light on photosynthesis	**Theme Optical Metrology and Sensing** **Chair: Dr Christine Steenkamp** **Venue: Somerset 2** **15:30-15:55** Prof Shaojuan Li **(**Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences, China**) -** Broadband giant in-plane optical anisotropy in ternary van der Waals crystals **(Invited Talk)** **15:55-16:15** Prof Akifumi Asahara (University of Electro-Communications, Japan**) -** Mid-infrared Dual-comb Spectroscopy with Absolute Frequency Determination using Dual-comb Fiber Laser **16:15-16:35** Prof Yukitoshi Otani (Utsunomiya University, Japan) - Microplastic imaging in marine animals using RGB polarization camera **16:35-16:55** Prof Takeshi Yasui (Tokushima University, Japan) - Photonic RF Biosensing of SARS-CoV-2 nucleocapsid protein using dual combs **16:55-17:15** Ms Jane Dai (Stellenbosch University, South Africa) - Singlet quenching: How does TMBP make avobenzone feel?

18:00-22:00	**Banquet Dinner – Crystal Ballroom at the Lord Charles Hotel (Closing Ceremony)**	