

PROGRAM: 13th ALC WORKSHOP 2023

Sunday 12 February

10:00 – 19:00 Arrival Accomodations

Monday, 13 February

07:30 – 08:30 Breakfast (Accomodations)

Session 1

Chair: *Erich Rohwer*

08:30 – 09:30 Registration (Wallenberg Research Centre) **Abstract**

09:30 – 09:40 Opening Proceedings (Wallenberg Research Centre)
Opening address: Prof L Warnich, Dean: Faculty of Science, Univ Stellenbosch

09:40– 10:40 Andrew Forbes Distortion-free light INV 01

10:40 – 11:10

Tea

Session 2

Chair: *H Swart*

11:10 – 11:30 Evaluation of anticancer potential of Punica Granatum fruit extract in combination with photodynamic efficacy of pheophorbide-a against breast cancer cells **Abstract**

Nosipho Fakudze

T1

11:30 – 11:50 Daniella Da Silva Photobiomodulated Differentiation of Adipose-derived Stem Cells into Osteoblasts. T2

11:50 – 12:10 Patricia Kasowanjete Photobiomodulation at 660 nm activates the fibroblast growth factor (FGF) mediated Ras/MAPK signalling pathway in a diabetic wounded fibroblast cell model T3

12:10 – 12:30 W Nkune The Phototoxic Effect of Zinc Phthalocyanine on Melanoma Cells Grown as a Monolayer and Three-Dimensional Multicellular Spheroids T4

12:30 – 12:50 N.W.N Simelane The In Vitro Cytotoxic Efficacy of Zinc Phthalocyanine Tetrasulfonic Acid -mediated Photodynamic Therapy in Colorectal Cancer Spheroids T5

12:50 – 14:00 Lunch (Conference venue)

Session 3

Chair: *P Neethling*

14:00 – 14:50 Bienvenu Ndagano Counting entangled photons with a camera **Abstract**
INV 02

14:50 – 15:10 Alexander Chota Antiproliferative Efficacy of Green Synthesized Nanoparticles in Combination with Pheophorbide a-Mediated Photodynamic Therapy Against A549 Lung Cancer Cells T6

15:10 – 15:30 Paromita Sarbadhikary Berberine Chloride in Cancer therapy: Combining Chemotherapy with Photodynamic Therapy T7

15:30 – 15:50 Tea

Session 4

Chair: *G Bosman*

15:50 – 16:10 Arnold Mutubuki Synthesis of surface modified TiO₂ photoelectrodes for photoelectrochemical water splitting **Abstract**
T8

16:10 – 16:30 Assane Talla Effect of annealing on the structural, morphological and luminescent properties of anodic titanium dioxide T9

16:30 – 16:50 Emeka H Onah Improving the performance of photovoltaic cells using luminescent downshifting material. T10

16:50 – 17:20 Gillian Arendse Every professional was once an amateur

18:00 – 20:00 Dinner (Conference Venue)

Tuesday, 14 February

07:30 – 08:30 Breakfast (accommodations)

Session 5 *Chair: A Forbes*

Abstract

09:10 – 10:00	Gurthwin Bosman	Optical properties of memrestive nanoclustered gold films	ST1
10:00 – 10:20	Proficiency Munsaka	Mid infrared gas absorption spectroscopy using a photonic chip-based supercontinuum	T12
10:20 – 10:40	Geoffrey Mwendwa	Elastic and Magnetic properties of Tb-MnO based Thin Films	T11

10:40 – 11:10 Tea**Session 6** *Chair: G Bosman*

Abstract

11:10 – 11:30	Keshaan Singh	Classical entanglement of vector beams allows us to communicate through noisy channels	T13
11:30 – 11:50	Anneke Erasmus	Optical trapping of microscopic particles	T20
11:50 – 12:10	Leerin Perumal	Twisting broadband light using a digital micromirror device	T14
12:10 – 12:50	Peter Baricholo	Development of SD-OCT and simulation of emw propagation in photonic waveguides using S-SSF and the RK4IP methods	ST2

12:50 – 14:00 Lunch (Conference venue)**Session 7** *Chair: E Rohwer*

Abstract

14:00 – 14:50	Siddharth Ramachandran	How to sculpt light in time, space and frequency, using fibres	INV 03
14:50 – 15:10	Sachleen Singh	Nonlinear frequency conversion of structured light with enhanced efficiency	T15
15:10 – 15:30	Chane Moodley	Quantum images from super-resolved neural networks	T16

15:30 – 16:00 Tea**Session 8** *Chair: E Rohwer*

Abstract

16:00 – 16:50	Thomas Feurer	Nanoscale Transport Phenomena Measured via Nonlinear X-ray Spectroscopy	INV 04
16:50 – 17:10	Vagharshak Hakobyan	Modal characterization of nanostructured silica glasses using the method of modal decomposition	T19
17:10 – 18:00	Demonstrations by the Stellenbosch Chapter of the OSA		

18:00 – 20:00 Dinner (Conference Venue) **Braai**

Wednesday, 15 February

Session 9**Chair: P Baricholo****Abstract**

09:10 – 10:00	Siddharth Ramachandran	Space: the less explored dimension of light in fibres	ST3
10:00 – 10:20	C.M. Mbulanga	Synthesis of epitaxial pentasodium trioxoundecafluoro- trititanate with plate-like morphology on fluorine-doped tin oxide coated glass substrates	T17
10:20 – 10:40	Leonato T. Nchinda	Thermal Stability of Diketopyrrolopyrrole-Based Terpolymers with Tunable Broad-Band Absorption for Organic Solar Cells.	T18

10:50 – 11:10**Tea****Session 10****Chair: E Rohwer****Abstract**

11:10 – 12:00	Robert Pal	Structured illumination microscopy and point spread function engineering for live cell imaging super resolution microscopy	ST4
12:00 – 12:50	Tjaart Kruger	Real-time feedback-driven single-particle tracking	ST5
12:50 -13:00	Conclusion: Certificates and Awards		
13:00 – 14:00	Lunch (Conference venue)		
14:00 – 18:00	Excursion	Stellenbosch	

19:00 – 21:00**Dinner (Conference Venue)**
