

# PROGRAM

---

---

## *Wednesday, 14 November*

---

- 10:00 – 18:00 Arrive at Venue
- 19:00 – 20:00 **Opening Proceedings - Chairman: Prof E G Rohwer**
- Welcoming by Dr N. Cingo, Chairman ALC Board
  - Introductory remarks by Dr R Steenkamp
  - Welcoming by Dr F Gideon
  - Address by Alfred van Kent
- 20:00 Dinner

---

## *Thursday, 15 November*

---

- 07:00 – 08:00 Breakfast

---

### *Session 1 Chair: Erich Rohwer*

---

			<b>Abstract</b>
08:00 – 09:00	Coherent THz spectroscopy and imaging.	Prof Thomas Feurer	INV 01
09:00 – 09:20	Insight into PMD Regimes: An Analysis on Buried Optical Fibres.	<u>W.T. Ireeta</u> , V. Musara, L. Wu, and A.W.R. Latch	T1
09:20 – 09:40	Integrating spectral measurements into solar light beam induced current (S-LBIC) measurements.	<u>N. Kwarikunda</u> , E.E. van Dyk, F.J. Vorster, W. Okullo and M.K. Munji	T2
09:40 – 10:00	Thickness dependence of pulsed laser deposited MWCNT/NiO selective solar absorbers.	<u>B. Yalisi</u> , A. Forbes and Kittessa Roro	T3
10:00 – 10:20	Laser shock peening for fatigue life enhancement of aluminium alloy airframe structures.	<u>D. Glaser</u> , <u>R.D. Bedekar</u> , C. Polese and B. Masina	T4
10:20 – 10:40	Tea		

<i>Session 2</i>		<i>Chair: Andrew Leitch</i>	
			<b>Abstract</b>
10:40 – 11:40	A special kind of white light.	Dr Alex Heidt	INV 02
11:40 – 12:00	Experimental studies on spectral broadening and polarisation state of white light generated in a laterally stressed photonic crystal fibre.	<u>P. Baricholo</u> , W. Ndebeka, P.H. Neethling, A. Heidt and E. Rohwer	T5
12:00 – 12:20	Electric field induced second harmonic measurements on Si/SiO <sub>2</sub> interface from silicon membranes.	<u>W.I. Ndebeka</u> , P.H. Neethling, C.M. Steenkamp, H. Stafast and E.G. Rohwer	T6
12:20 – 12:40	Prism Pulse Compressor.	<u>R.Okoye</u> E.G Rohwer, P.H. Neethling	T7
12:40 – 13:00	An efficient all-solid-state switched exciter for pumping a TEA CO <sub>2</sub> laser.	<u>F. Kyeyune</u> , H.M. von Bergmann and E.G. Rohwer	T8
13:00 – 14:00	Lunch		
<i>Session 3</i>		<i>Chair: Ernest van Dyk</i>	
			<b>Abstract</b>
14:00 – 14:20	Photo-induced Electron Spin Resonance (ESR) phenomena in $\alpha$ -Cr <sub>2</sub> O <sub>3</sub> mono-dispersed spherical particles.	<u>S. Khamlich</u> , V.V. Srinivasu, A. Konkin, R. McCrindle, N. Cingo and M. Maaza	T9
14:20 – 14:40	Pulsed laser deposition of VO <sub>2</sub> based smart IR coatings for heat management in CubeSat space applications.	<u>L. Mathevula</u> , B.D Ngom, C Kotsedi, P.Sechogela, V.V Srinivasu, M.Maaza	T10
14:40 – 15:00	Novel tunable transparent conductive oxides by pulsed laser ablation.	<u>T.P. Sechogela</u> , M. Nkosi, G. Hardie, R. Bucher, R. Madjoe, M. Maaza	T11
15:00 – 15:20	Nonlinear optical properties of selected natural dyes investigated in the femtosecond regime.	<u>S. Zongo</u> , L. Kotsedi, P. Mthunzi, S.Khamlish, S.Y. Alqaradawi, M. Maaza	T12
15:20 – 16:00	Poster Introduction		

16:00 – 18:00	Tea & Poster Session	P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11
18:00 – 19:30	ALC Board Meeting	
19:30 – 20:30	Dinner	
20:30 – 22:30	ALC Annual General Meeting	

---

***Friday, 16 November***

---

07:00 – 08:00 Breakfast

***Session 4 Chair: Heinrich Schwoerer***

---

			<b>Abstract</b>
08:00 – 09:00	Photonic Crystal Fibres : Fundamentals and applications.	Prof Mourad Zghal	INV 03
09:00 – 09:20	Non-invasive mediators of photothermal cancer ablation.	<u>S. Nyoni</u> and T. Nyokong	T13
09:20 – 09:40	The use of lasers for the development of phthalocyanines and derivatives for nonlinear optical applications.	<u>S. O. Sanusi</u> , J. Mack and T. Nyokong	T14
09:40 – 10:00	Influence of annealing temperature on $Y_3(Al,Ga)_5O_{12}:Tb$ thin films grown by PLD.	<u>A. Yousif Mohammed</u> , H.C. Swart, O.M. Ntwaeaborwa and E. Coetsee	T15
10:00 – 10:20	Densification kinetics of selective laser melted (SLM) pure and pre-alloyed aluminium powders.	<u>E. O. Olakanmi</u> , R.F. Cochrane, K. W. Dalgarno and M. Doyoyo	T16
10:20 – 10:40	Tea		

***Session 5 Chair: Hendrik Swart***

---

			<b>Abstract</b>
10:40 – 11:40	Charge density wave dynamics in transition-metal dichalcogenides, probed with femtosecond electron diffraction.	Prof Heinrich Schwoerer	ST1

11:40 – 12:00	Prototype development of fibre Bragg grating based vibration sensor.	<u>S. Mukarugina</u> and R. Martinez	T17
12:00 – 12:20	Design and experimental development of an actively mode-locked fibre ring laser.	<u>P. V. Nimwa</u> , R. Martinez Manuel and J J M Kaboko	T18
12:20 – 12:40	Plasmionics at metallic thin layers.	<u>S. Rehman</u> , A.Rahmouni, T. Mahfoud, D. Nesterenko, K. Nouneh, and Z. Sekkat	T19
12:40 – 13:00	Conclusion of Reports and Certificates		
13:00 – 14:00	Lunch		

---

***Session 7***      ***Chair: Erich Rohwer***      ***Nitrogen Laser Construction***

---

	<b>Abstract</b>		
	ST2		
14:00 – 15:00	Select aspects of Levitron magnetic trapping and its relevance to laser trapping.		Lab W116 Physics Department
	Prof Max Michaelis		
	ST3		
15:00 – 16:00	Molecular beam epitaxy: From quantum wells to quantum dots: From research to mass production.		
	Prof Mohamed Henini		

---

			<b>Abstract</b>
16:00 – 16:20	Tea		
16:20 – 17:20	THz generation, manipulation, and detection.	Prof Thomas Feurer	ST4
19:30 – 22:00	Dinner		
20:30 – 22:30	ALC General Members Meeting		

---

***Saturday, 17 November***

---

07:00 – 08:00 Breakfast

---

***Session 8 Chair: Erich Rohwer***

---

**Abstract**

08:00 – 09:00 Quantum coherent control using ultrafast lasers. Dr Lourens Botha ST5

09:00 – 10:00 Light Beam Induced Current measurements for the characterization of Photovoltaic devices. Prof Ernest van Dyk ST6

10:00– 10:30 Tea

10:30 – 11:30 Controlling Nonlinear Optics in Specialty Fibers. Dr Alex Heidt ST7

11:30 – 12:30 Basics of optical fibre communication. Prof Mourad Zghal ST8

12:30 -12:40 Conclusion and Awards Ceremony

12:40 – 19:00 Lunch & Excursion to Ukapuka

19:30 – 21:00 Dinner

---

***Sunday, 18 November***

---

07:00 – 08:00 Breakfast

08:30 – 12:00 Departure for Airport