



# SAIP2013

## Tuesday 09 July 2013

### Photonics: Beam shaping (10:30-12:10)

**-Conveners: Pieter Neethling**

time	[id] title	presenter
10:30	[16] Creating and decomposing vector Bessel beams	Dr DUDLEY, Angela
10:50	[79] A coaxial superposition of coherent Gaussian beams	Mr NAIDOO, Darryl
11:10	[143] Bessel-Gaussian entanglement	Ms MCLAREN, Melanie
11:30	[254] Efficient sorting of Bessel beams	Ms MHLANGA, Thandeka
11:50	[217] Beam shaping with a laser amplifier	Dr LITVIN, Igor

### Photonics: Cold atoms (14:10-15:10)

**-Conveners: Erich Rohwer**

time	[id] title	presenter
14:10	[32] Cold Atoms at UKZN	Dr MORRISSEY, Michael
14:30	[589] DIVISION MEETING	

### Photonics: Ultra fast spectroscopy (15:40-16:40)

**-Conveners: Christine Steenkamp**

time	[id] title	presenter
15:40	[104] Ultrafast photodynamics of charge transfer reactions in Indoline-sensitized ZnO solar cells	Mr ROHWER, Egmont
16:00	[127] Observation of structural dynamics of 1T-TiSe <sub>2</sub> using femtosecond electron diffraction	Ms SULEIMAN, Aminat Oyiza
16:20	[259] Adaptive quantum coherent control of a multilevel molecular system in the time-frequency domain	Dr BOTHA, Lourens

# Wednesday 10 July 2013

## Photonics: Bio photonics (09:00-10:00)

-Conveners: Erich Rohwer

time	[id] title	presenter
09:00	[166] Low Intensity Laser Irradiation (LILI) in combination with Growth Factors in a Co-culture System supports the Differentiation of Mesenchymal Stem Cells	Mr MVULA, Bernard
09:20	[135] The Impact of Low Intensity Laser Irradiation on Lung Cancer Stem Cell Viability and Proliferation	Ms CROUS, Anna Magdalena
09:40	[547] Graphene substrates for increased embryonic stem cell optical transfection efficiency	Dr MTHUNZI, Patience

## Photonics: Laser development (10:30-11:50)

-Conveners: Lourens Botha

time	[id] title	presenter
10:30	[193] A CW and Actively Q-switched Thulium-doped Fibre Laser	Mr COETZEE, Riaan Stuart
10:50	[479] A 2-crystal high-power CW and Q-switched Nd:YLF laser at 1314nm	Mr BOTHA, Roelf
11:10	[468] 5 Watt Zinc Germanium Phosphide Optical Parametric Oscillator	Mr JACOBS, Cobus
11:30	[470] Acousto vs. Electro Optic Modulators in Short pulse, high peak power Q-switched lasers	Mr MAWEZA, Loyiso

## Photonics: Spectroscopy (13:50-15:10)

-Conveners: Pieter Neethling

time	[id] title	presenter
13:50	[83] An improved Nd:YAG laser pumped setup for vacuum ultra violet spectroscopy of carbon monoxide molecules	Mr RIGBY, Charles
14:10	[122] Simultaneous measurement of EFISH in transmission and in reflection from the Si/SiO <sub>2</sub> interface of a thin Si membrane.	Mr NDEBEKA, Wilfrid
14:30	[131] The effect of SLM dependent dispersion on spatial beam shaping	Mr SPANGENBERG, Dirk-Mathys
14:50	[446] Material characterization using Terahertz time-domain spectroscopy	Mr SMITH, Shane

## Photonics: Digital laser (15:40-16:40)

-Conveners: Lourens Botha

time	[id] title	presenter
15:40	[276] The digital laser	Mr NGCOBO, Sandile
16:00	[63] NON-SPECIALIST: Laser spectroscopy of natural light harvesting: unravel, regulate and control	Dr KRÜGER, Tjaart

# Friday 12 July 2013

## Photonics: Fibres optics (09:00-10:00)

-Conveners: Pieter Neethling

time	[id] title	presenter
09:00	[219] Is long distance free-space quantum communication with the OAM state of light feasible?	Ms MCLAREN, Melanie
09:20	[205] Fibre Bragg grating Sensor For Real Time Fence Monitoring	Ms MUKARUGINA, Stephanie
09:40	[438] Hot-Spot Detection and Location over an Optical Fibre	Mr KABOKO, Jean-Jacques Monga

## Photonics: Advances in Laser & optics (10:30-11:50)

-Conveners: Erich Rohwer

time	[id] title	presenter
10:30	[427] Improvement of calibration accuracy in fibre optic wavelength for DWDM applications	Dr ADRIAAN, van Brakel
10:50	[504] A Theoretical Model and Simulation of Low-Reflectivity Active Linear Cavity for temperature and vibration sensing	Mr OKAFOR, Emmanuel E. Mr DELLA TAMIN, Michelin
11:10	[137] Stability of a laser cavity with non-parabolic phase transformation elements	Dr LITVIN, Igor