



# SAIP2014

## Tuesday 08 July 2014

### Applied: Biophysics - D Les 103 (10:00-10:40)

**-Conveners: Tjaardt Kruger**

| time  | [id] title   | presenter        |
|-------|--|------------------|
| 10:00 | [35] Investigation of carotenoid excited electronic states in the main plant light-harvesting complex (LHCII) via femtosecond pump-probe spectroscopy      | Ms SINGH, Asmita |
| 10:20 | [377] Using single-molecule spectroscopic methods to investigate the environmental dependencies of photoprotection in main plant light harvesting complex. | Mr BOTHA, Joshua |

### Applied: Biophysics, Materials. - D Les 103 (11:10-12:10)

**-Conveners: Frederik Vorster**

| time  | [id] title  | presenter              |
|-------|---|------------------------|
| 11:10 | [381] The role of low-energy fluorescence bands in the photoprotection of the major plant light harvesting complex.               | Mr STOLTZ, Herman      |
| 11:30 | [370] Investigation of the involvement of specific carotenoids in the major plant light harvesting antenna during photoprotection | Mr PARADZAH, Alexander |
| 11:50 | [57] Preparation and characterization of poly(vinyl alcohol)/graphene composite nanofibers via electrospinning                    | Mr BARZEGAR, Farshad   |

### Applied: Materials, Optics, Radiation. - D Les 103 (14:00-15:40)

**-Conveners: phil ferrer**

| time  | [id] title  | presenter                      |
|-------|---|--------------------------------|
| 14:00 | [217] Thermal measurements on epoxy-expandable graphite composite material  | Ms MODIBA, Fortunate           |
| 14:20 | [335] An all printed LRC resonant circuit   | Mr ASHEBIR, Getinet            |
| 14:40 | [197] Using a VCSEL to Accurately Measure the Chromatic Dispersion in Single Mode Fibre by the Phase Shift Technique  | Mr WASSIN, Shukree             |
| 15:00 | [224] Simulation of the Egyptian 2nd Testing Research Reactor (ETRR-2) experimental benchmark in aid of verification and validation of the OSCAR-4 system.                                    | Mr MASHAU, Maurice             |
| 15:20 | [8] Microstructure evolution of rutheniumwith 6H-SiC interface under vacuum annealing and the implications for the performance of its Schottky contact for high temperature operating diodes. | Mr MUNTHALI, Kinnock Vundawaka |

## Wednesday 09 July 2014

### Applied: Materials - D Les 103 (10:00-10:40)

-Conveners: Ernest van Dyk

| time  | [id] title   | presenter           |
|-------|--|---------------------|
| 10:00 | [26] Investigation of Fatigue-Type Processes in Polycrystalline Diamond Tools Using Raman Spectroscopy | Mr VHARETA, Maxwell |
| 10:20 | [432] X-ray reflectivity and surface Brillouin studies of rf magnetron sputtered NbN thin films        | Mr KURIA, Jonah     |

### Applied: Modelling - D Les 103 (11:10-12:10)

-Conveners: Indresan Govender

| time  | [id] title   | presenter                           |
|-------|--|-------------------------------------|
| 11:10 | [56] Granular Flow Modelling of an Annular Shear Cell                                  | Ms BREMNER, Sherry                  |
| 11:30 | [63] An investigation of granular rheology using Positron Emission Particle Tracking   | Mr PATHMATHAS, Thirunavukkarasu     |
| 11:50 | [64] Axial Segregation in Rotating Drum - Extension of the Basic Axial Diffusion Model | Mr ELBASHER AHMED, Elbasher Mohamed |

### Applied: Optics, General. - D Les 103 (14:00-15:40)

-Conveners: Frikkie De Beer

| time  | [id] title  | presenter                        |
|-------|---|----------------------------------|
| 14:00 | [141] Improving the laser brightness of a commercial laser system   | Mr NAIDOO, Darryl                |
| 14:20 | [196] A single DFB laser for multilevel directly modulated signal for high speed optical fibre communication system | Mr CHABATA, Tichakunda Valentine |
| 14:40 | [354] Polarization alignment system for quantum key distribution  | Mr MARIOLA, Marco                |
| 15:00 | [46] Characterization of Corona Ionization Based Micro-thrusters  | Mr WRIGHT, William               |
| 15:20 | [131] The Alan Cousins Telescope - A Multi-Purpose Automatic and Remote Access Telescope                            | Mr VAN HEERDEN, Pierre           |

# Thursday 10 July 2014

## **Applied: Renewable Energy - D Les 103 (10:00-10:40)**

**-Conveners: Frederik Vorster**

| time  | [id] title   | presenter                 |
|-------|--|---------------------------|
| 10:00 | [278] The evaluation and simulated performance of the potential current produce from Multi-junction cells. | Mr SCHULTZ, Ross          |
| 10:20 | [350] Simulation of Thermal Processes in a Hot Mirror Parabolic Trough Solar Receiver                      | Mr KALUBA, Victor Siuluta |

## **Applied: APF Meeting, Modelling (11:10-12:10)**

**-Conveners: Frederik Vorster**

| time  | [id] title   | presenter                |
|-------|--|--------------------------|
| 11:10 | APF Meeting  |                          |
| 11:30 | [425] Modelling Flow Phenomena in Time Dependant Store Release from Transonic Aircraft | Dr GLEDHILL, Irvy (Igle) |

## **Applied: General - D Les 103 (14:00-15:40)**

**-Conveners: Trevor Derry; Indresan Govender**

| time  | [id] title  | presenter                |
|-------|---|--------------------------|
| 14:00 | [30] Non-Specialist Lecture: Optimization of the PEGASES plasma thruster  | Dr LAFLEUR, Trevor       |
| 14:40 | [186] Characterisation of plume and thrust for the corona ionisation space propulsion system  | Dr FERRER, Phil          |
| 15:00 | [430] Discrete Element Models applied to Aggregate Properties in Pavement Design  | Dr GLEDHILL, Irvy (Igle) |
| 15:20 | [40] The design and development of a force comparator standard machine to provide national traceability in force measurement to industry. | Mr DLAMINI, Siphon       |

# Friday 11 July 2014

## **Applied: Radiation - D Les 103 (10:00-10:40)**

**-Conveners: Joseph Asante**

| time  | [id] title   | presenter                    |
|-------|--|------------------------------|
| 10:00 | [73] A new probe to detect multiple turn extraction of a beam bunch from Injector Cyclotron 1 at iThemba LABS. | Dr DE VILLIERS, John Garrett |
| 10:20 | [328] Research projects Utilising Penetrating Radiation: What to Expect when using Radiation Beams for Imaging | Mr DE BEER, Frikkie          |

## **Applied: Renewable Energy - D Les 103 (11:10-12:10)**

**-Conveners: Mmantsae Diale**

| time  | [id] title  | presenter                    |
|-------|---|------------------------------|
| 11:10 | [85] Analysis of the temperature models for the evaluation of global solar radiation in the coastal and interior regions of South Africa. | Dr MALUTA, Eric              |
| 11:30 | [320] Performance analysis of a 3.2 kWp grid-connected PV system in the Eastern Cape, South Africa  | Dr OKELLO, Denis             |
| 11:50 | [283] Enhanced light harvesting and conversion efficiency by plasmonic Ag nanoparticles incorporated in organic photovoltaics             | Dr RANGANATHAN, Kamalakannan |