

SAIP2012

Tuesday 10 July 2012

DCMPM1: MSc Prize (11:00-12:20)

-Conveners: Albert Chawanda

| time | [id] title | presenter |
|-------|--|------------------------|
| 11:00 | [120] Improving the microhardness and wear resistance of Titanium and Titanium carbide based metal matrix composite | Mr OCHONOGOR, FRANKLIN |
| 11:20 | [128] Effects of the substrate temperature on the properties of vanadium dioxide nano-coatings deposited on glass substrate by inverted cylindrical magnetron sputtering | Mr MADIBA, itani given |
| 11:40 | [142] Angle Resolved PhotoEmission Spectroscopy (ARPES) Study of Sr ₄ Ru ₃ O ₁₀ | Mr NGABONZIZA, Prosper |
| 12:00 | [149] Luminescent dynamics of GdTaO ₄ :Pr ³⁺ | Mr NOTO, Luyanda Lunga |

DCMPM1: MSc Oral Prize (14:30-15:50)

-Conveners: Andre Botha

| time | [id] title | presenter |
|-------|---|-------------------------------|
| 14:30 | [156] First principle stability study of FePO ₄ and LiFePO ₄ polymorphs | Mr LETHOLE, NDANDULENI LESLEY |
| 14:50 | [165] Conversion of FeCl ₃ into FeSi fibrous structures at high temperature for gas sensing applications | Mr THABETHE, SIBONGISENI |
| 15:10 | [216] A Molecular Dynamics Simulation of Platinum Nanoparticle Formation During Vapour Deposition | Mr WESSELS, Leon |
| 15:30 | [217] RBS-Channelling Investigation of Radiation Damage and Diffusion of Krypton implanted into 6H-SiC | Mr MABENA, Chemist |

Wednesday 11 July 2012

DCMPM1: MSc Oral Prize (08:00-09:20)

-Conveners: Francis Dejene

| time | [id] title | presenter |
|-------|--|-----------------------|
| 08:00 | [224] First-Principle Study on Stabilities of Reactive Products of Sulphur and Oxygen in Lithium- and Sodium- air Batteries. | Mr MASEDI, CLIFFTON |
| 08:20 | [260] Structural and Magnetic Properties of $\text{MgCe}_x\text{Fe}_{2-x}\text{O}_4$ Nanoferrites | Mr MKWAE, Prince |
| 08:40 | [310] Nitrogen-doped carbon nanospheres | Mr MARSICANO, Vincent |

DCMPM1: MSc Oral Prize (10:55-11:55)

-Conveners: Enrico Lombardi

| time | [id] title | presenter |
|-------|---|----------------------|
| 10:55 | [343] An investigation of the structural and magnetic properties of Ho substituted BiFeO_3 | Mr NCUBE, Mehluli |
| 11:15 | [347] Synthesis, Structural Characterization and Magnetic Properties of $\text{Mg}_{1-x}\text{Zn}_x\text{Fe}_2\text{O}_4$ Nanoparticles | Mr MASINA, Patrick |
| 11:35 | [380] Synthesis and characterization of SnO_2 Nanostructures for gas sensing applications | Mr THABETHE, Bongani |

DCMPM1: MSc Oral Prize (16:30-17:50)

-Conveners: Bonex Mwakikunga

| time | [id] title | presenter |
|-------|--|-------------------------|
| 16:30 | [406] The influence of spin on electronic transport in reduced graphene oxide | Mr MCINTOSH, Ross |
| 16:50 | [480] Study of iodine implanted in pyrolytic carbon after heat treatment | Mr MUKHAWANA, Mxolisi |
| 17:10 | [206] Mechanisms of luminescence in carbon-doped alpha aluminium oxide: Investigations using time-resolved optical stimulation technique | Mr NYIRENDA, Angel |
| 17:30 | [440] Laser Surface Alloying of Aluminium (AA1200) Alloy for Improving Hardness Property | Mr RAMBAU, Tshimangadzo |

Thursday 12 July 2012

DCMPM1: Hons Oral Prize (08:00-09:20)

-Conveners: Rapela Maphanga

| time | [id] title | presenter |
|-------|--|-------------------------|
| 08:00 | [411] Semi-metallic transport in ultra-thin layers of carbon films deposited by laser ablation | Mr COLEMAN, Christopher |
| 08:20 | [503] Extracting device parameters of pn-junction diodes using sigmoidal properties of resistance – voltage curves: theory, simulation and application | Ms HANGOMA, Pesi |
| 08:40 | [242] Density Functional Tight-Binding (DFTB) Study of Si as an Anode Material | Mr PHOSHOKO, Katlego |
| 09:00 | [222] Laser surface alloying of Al with Mo for hardness improvement | Mr NKOSI, Humphrey |

DCMPM1 (11:00-12:20)

-Conveners: Bhekumusa Mathe

| [id] title | presenter |
|--|----------------------------|
| [437] Comparative study of luminescence properties of Eu^{2+} , Dy^{3+} and Tm^{3+} co-doped CaAl_2O_4 powder phosphors | Dr DHLAMINI, Mokhoti Simon |
| [418] Thermoluminescent properties of $\text{Ba}_{1-x}\text{Mg}_x\text{Al}_2\text{O}_4:\text{Eu}^{2+}, \text{Dy}^{3+}$ prepared by combustion method | Dr MOTHUDI, Bakang Moses |
| [279] Synthesis and electrochemical properties of cation doped spinel $\text{LiM}_x\text{Mn}_{2-x}\text{O}_4$ (M=Ni, Al and x=0, 0.5) cathode materials for Li-ion battery | Dr KEBEDE, Mesfin |
| [210] Absorption and site-selective laser spectroscopy of $\text{BaF}_2:\text{Nd}^{3+}$ single crystals | Dr MUJAJI, Marjorie |

DCMPM1 (14:10-15:30)

-Conveners: Bakang Moses Mothudi

| time | [id] title | presenter |
|-------|---|-----------------------|
| 14:10 | [350] Depth profiling and thickness measurements of transition metal based thin hard coatings using Heavy Ion ERD time of flight spectrometry | Dr MSIMANGA, Mandla |
| 14:30 | [249] Electronic transport in a rope of metal filled single walled carbon nanotubes | Ms NCUBE, Siphephile |
| 14:50 | [385] Enhanced tunnel transport in disordered carbon superlattice structures incorporated with nitrogen | Mr MCINTOSH, Ross |
| 15:10 | [261] Large Area CVD Graphene for Photovoltaic Applications: Synthesis, Transfer and Characterisation. | Dr DODOO-ARHIN, David |

DCMPM1 (16:00-17:20)

-Conveners: Japie Engelbrecht

| time | [id] title | presenter |
|-------|---|------------------------------|
| 16:00 | [402] Study of irradiation-induced primary defects in wide bandgap semiconductors | Mr JANSE VAN RENSBURG, Johan |

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|-------|---|-----------------------------|
| 16:20 | [429] On the T2 Deep-Level in Zinc Oxide Thin Films | Dr SCHMIDT, Matthias |
| 16:40 | [537] CMPMS Division Group Meeting | Prof. ENGELBRECHT, Japie |

Friday 13 July 2012

DCMPM1 (08:00-09:20)

-Conveners: Erasmus Koena Rammutla

| time | [id] title | presenter |
|-------|---|---------------------------|
| 08:00 | [453] Real-time XRD/RBS study of platinum germanide formation on Ge<100> and Ge<111> substrates | Prof. COMRIE, Craig |
| 08:20 | [50] Tunable half-metallicity in substitutionally-doped boronitrene | Dr UKPONG, Aniekan Magnus |
| 08:40 | [570] Non-Specialist Talk - Materials analysis of the fuels for the next generation of nuclear reactors | Prof. MALHERBE, Johan |

DCMPM1 (11:00-12:20)

-Conveners: Hendrik Swart

| time | [id] title | presenter |
|-------|---|------------------------------|
| 11:00 | [160] The Lattice Dynamics of Mercuric Chloride | Dr KEARTLAND, Jonathan |
| 11:20 | [60] Volume element structure and roton-maxon-phonon excitations in superfluid helium-4 beyond the Gross-Pitaevskii approximation | Dr ZLOSHCHASTIEV, Konstantin |
| 11:40 | [466] Analysis of Iodine Implanted 6H-SiC | Prof. MALHERBE, Johan |