

MONDAY December 11th

0700-0800 Registration						
	Energy (B6)	Energy (B7)	Nano (B1)	Nano (B2)	Mining/Construction (B3)	Computational (B4)
0800-0815	Kamogelo Keboletse Investigating the Suitability of Morupule Coal for Coal Gasification Technology	Phindani Dube Photovoltaic properties of Cu_xAl_yS₂ thin films deposited by chemical-bath deposition	Delight Mutonhori Design of a process to produce 428L/day of silver nanoparticle infused antimicrobial paint	Mahmud Maryam Abdulrahman Mechanical Properties of Metal Organic Frameworks (MOFs) and their Emerging Applications	Ahmed Galmed Three Dimensional Characterization of Laser Ablation Craters Using High Resolution X-Ray Computed Tomography	Yoseph Abebe The effect of cold spots on two symmetric locations of a quartic potential and the study of stochastic resonance in a semiconductor layer
0815-0830	Mathias A. Kiefer Exploring the Y_xBi_{2-x}O₆ Family for an Improved SOFC Electrolyte	Stefan T. Omelchenko Tuning Heterogeneous Electrocatalysts for the Chlorine Evolution and Oxygen Evolution Reactions Using Atomic Layer Deposition	Oluwagbenga Fatile Co-precipitation synthesis of zinc oxide nano-particles in fermented palm-wine for various applications	Puleng Alina Molete Deposition of multilayered iron and nickel sulphide thin films	Ayeni Olugbenga Geopolymers as potential sustainable materials for the construction industry	Caroline R. Kwawu Computational Studies on Transition Metal Catalysts for CO₂ Conversion to Hydrocarbon Fuels
0830-0845	Newton.R. Matandirotya The application of remote sensing techniques for energy conservation in low-income housing units.	Keketso Mosalagae Zinc Oxide nanorod structures grown by chemical bath deposition on a seed layer prepared by a successive ionic layer adsorption and reaction (SILAR) method	Orebotse Joseph Botlhoko Immiscible Polylactide/Poly(ε-caprolactone)-Containing Graphite and Graphene Oxide Biocomposites: Comparative Study	Rebecca T. Papane Synthesis of ZnS nanoparticles from Zn(II) dithiocarbamate complexes, and a study of the effect of growth time on particles sizes	Killian Onwudiwe Effect of Particle Size of Pozzolanic Addition on the Properties of MgO-based Cement	Gloria Murila Simulation of gravimetric capacity, structural and electronic properties of vanadium disulphide
0845-0900	Patrick Nonjola Quaternized PPO/PSF Anion Exchange Membranes doped with Nanoparticles for Fuel Cell Application	Musibau Francis Jimoh Effects of Bending and Stretching on Composite Organic-Inorganic Trihalide Perovskite Solar Cells	Adeleke Sufianu Structural and Magnetic Properties of Multiferroic Chromite Nanoparticle thin films and Core-shell particles	Sachin Shaw Influence slip and convective boundary condition on MHD 3D stretched flow of nanofluid through porous media inspired by non-linear thermal radiation	Ekwe Nneka Blessing Production and characterization of cellulose fibre cement composites	Reheman Ndeda Determination of effective properties of granite rock: A numerical investigation
0900-0915	Robinson J. Musembi Characterization of PbSO Thin Films by ESCA Technique for	Vitalis Chioh Anye Nanomechanical and Morphological Characterization of solution-processed	Lawrence K. Dintle Dependence of structural and optoelectronic properties on thickness of γ-CuI thin films deposited	Genu Aurelia Radionuclide liquid wastes treatment of ⁶⁸Ge	Maxwell Vhareta Micro-Raman and X-ray Diffraction stress analysis of residual stresses in fatigue loaded leached	Yohanna Jacob Baro Structural Properties and The Liquid-Liquid Phase transition of Elemental Phosphorus

	Photovoltaic Application	MoO₃ and MEH-PPV inter-layer for OLED applications	by vacuum thermal evaporation	by graphene-based nanomaterials	Polycrystalline Diamond discs	
0920-0940 Tea						
0945-1145 Official opening Session						
1145 - 1245 Opening Plenary (B5) Jean-Marie Lehn “Dynamic Materials Towards Functional Adaptive Materials”						
1250-1400 Lunch						
Breakaway sessions x6						
	Energy (B6)	Nano (B7)	Water (B1)	Health (B2)	Mining (B3)	Education (B4)
1400-1430	Boppana V.R. Chowdari Advanced Nanofunctional Materials for Li-ion Batteries	Malik Maaza Green bio-synthesis of multifunctional nanoscaled oxides using natural extracts as effective bio-chelating agents	Benjamin Hsiao To Purify Water with Nanocellulose	Luisa torsi Organic bioelectronics for bio-chemical detections at ultra-low detection limits	Joseph Ramotshabi Mining contribution to the Botswana economy through local content	Michael Adewumi Educating Engineers for Africa in the 21st Century
1430-1450	Chinwe O. Ikpo High Performance Lithium Manganese Silicate Nanoparticulate Cathode Material for Secondary Lithium Batteries	Kharouna Talla Structural and optical properties of MgXZn1-XO (0≤X≤0.39) nanorods grown by metalorganic chemical vapour deposition	Nozipho N. Gumbi Fabrication of macrovoid-free polyethersulfone/sulfonated polysulfone/o-MWCNT support UF membranes with improved mechanical strength, antifouling and performance properties	Shathani Nkhwa Designing affordable biomaterials for the developing world	Takashi Kaneta Effect of lignin-degrading enzymes on the decomposition of large aromatic hydrocarbons: Coronene as a surrogate for powdered activated carbon	Francis Barchi Scientific integrity in 21st century Africa: The case for responsible conduct of research training in materials science education
1450-1510	Montse Galceran Insights into the development of advanced electrode materials for rechargeable sodium ion batteries	Patrizio Antici Laser-Generated Proton Beams for High-Precision Ultra-Fast Crystal Synthesis	Nomcebo H. Mthombeni Adsorptive removal of Cr(VI) and V(V) ions using clinoptilolite modified with polypyrrole and iron oxide nanoparticles	Abram Madiehe Selective induction of cell death (apoptosis) using multifunctional gold nanoparticles	David O Afoloyan Safe Mining Strategies to Reduce Hazards Associated with Artisanal Mining in Nigeria	Ganpati Ramanath A perspective on the role of key collaborations in creating new directions in nanomaterials and interface science
1510-1530	Xxx xxxx	Ayodele Odo Improved electrical conductance through direct assembly of colloidal silicon	Joe Modise The use of NF membranes for rejection of nickel (Ni), copper (Cu) and palladium	Chukwuemeka Joseph Ani Numerical modeling of laser heating of hydrogel/gold	Ambasi Wenbary Synthesis of a Nanocomposite Liner Material for Mineral	Elizabeth Dickey Integrating Data Sciences into Materials Science and Engineering Graduate Education

		nanoparticles using electrophoresis	(Pd): A hope for mine effluent treatment	nanoparticles composites for localized hyperthermia	Processing Size Reduction Equipment	
1530-1545	Bhekumusa Mathe Elastic Properties of Strontium difluoride single crystal by means of Brillouin Scattering	Eubert Mahofa Catalytic soot oxidation using ceria and copper nanocomposites	Kwena D. Modibane Syntheses of metal organic framework composites for removal of nitrophenol in wastewater and electrocatalytic hydrogen evolution reaction	Tintswalo Mgwenya Metal Oxide-Carbonaceous-Polymer nanocomposite based sensors for the detection of lung cancer volatile organic compounds Biomarkers	Sabine Verryn Advanced XRD analysis of samples on modern multipurpose diffraction platforms – looking beyond simple powder diffraction	
1545-1600 Tea						
<i>Breakaway sessions x6</i>						
	Energy (B6)	Nano (B7)	Water (B1)	Computational (B2)	Mining (B3)	Education (B4)
1600-1630	XXXX xxxxx	Simon Billinge How to get the structure of nanomaterials: In the US and in Africa	Sabelo Mhlanga Synthesis of hybrid nanostructured membranes for use in water purification	Phuti Ngoepe Simulated synthesis and characterisation of metal oxide nano-architectures	Francis P. Gudyanga Translating Africa's comparative advantages in minerals into competitive advantages in materials	Solomon Assefa Recent scientific & technological advances: Potential implications for the African continent
1630-1645	Nutifafa Y. Doumon Photostability of polymer-fullerene and polymer-non-fullerene solar cells: the effect of UV on the material chemical structure and on DIO in the active layer	Boitumelo J. Matsoso The effect of N-configurations on the detection of dopamine at N-doped graphene-modified ITO electrodes	Lutendo E. Macevele Investigation of Antibacterial and Fouling Resistance of Silver and Multi-Walled Carbon Nanotubes Doped Poly(Vinylidene Fluoride-co-Hexafluoropropylene) Composite Membrane	Godfrey Mulaudzi Computational modelling study of pyrite surfaces and adsorption of xanthates, dithiophosphates and dithiophosphate onto pyrite	Joe Zimba “Value Addition...Some Thoughts...”	Margaret-Anne Mazzi Wampamba International-related activities and funding
1645-1700	Benjamin Agyei-Tuffour Effects of Annealing and Pressure on the Grazing Incidence X-ray Scatterings of Conjugated Polymer blends used in Organic Solar Cells	Itani G. Madiba Deep-space radiations like hardness of VO₂ based active smart radiation device for nano-satellites applications	Eugene Mosikatsi Preparation of hyperbranched polyethyleneimine(HPEI)-cysteamine intergrated thin film composite membranes for heavy metal removal	Mulatedzi Gandamipfa Computational study of anatase TiO₂ nanotube as an anode material for lithium ion batteries	Cyprian Moyo Development of palladium selective reagents and materials	Musa Muawiyya Modibbo Aiding learning process and creating a collaborative network in materials science through the use of mobile and web based platform

1700-1715	Sarah Holliday Improving the Photooxidative Stability of Organic Photovoltaic Technologies	Hamza Mohamed Green Synthesis of BiVO₄ Nanorods Via Aqueous Extracts of Callistemon viminalis and its photocatalysts application.	Agatha W. Wagutu Crustacean derived biocomposite for decontamination of drinking water in northern Tanzania	Lethole Ndanduleni Computational Studies of NaMn₂O₄ and MgMn₂O₄ polymorphs	Tatenda Madzokere Adsorptive Recovery of Auro-Dicyanide Anions from Aqueous Solutions using Activated Carbon-Magnesium Oxide (C-MgO) Nanocomposite as Adsorbent	Sean Hearne Scientific User Facilities Role in Education
1715-1730	Richard Kethwaafetse Comparative performance of non-conventional Ga_{1-x}In_xN_yAs_{1-x} sub-junction for tandem solar cells	Moletlanty Tshipa Tuning spherical nanostructures through spatially dependent electric confining potentials	Anthony Muliwa Adsorption behaviour of mercury from aqueous solution using polymer/carbon nanocomposite	Chukwuka N. Ojiugwo Spiking neural network architecture development towards the design of a scalable neuro-inspired system for complex cognition applications	David Konadu Solidification cracking susceptibility of type AISI 430, 436, and 439 ferritic stainless steels	
1730-1930		Poster session				

TUESDAY December 12th

0700-0800 Registration						
0800-0845 2nd Plenary (B5) Tobin Jay Marks “Hybrid Organic/Inorganic Materials Design For Flexible Electronics and Solar Cells”						
Breakaway sessions x6						
	Energy (B6)	Nano (B7)	Water (B1)	Health (B2)	Construction (B3)	Education (B4)
0850-0920	Boateng Onwona-Agyeman Porous Structured Wide Bandgap Semiconductors and Light Harvesting Materials for Solar Cell Applications	Neerish Revaprasadu Delivering Interesting Functional Materials at the Nanoscale using Simple Chemistry	Soo Wahn Lee Visible-light-induced BiVO₄ semiconductors for efficient wastewater treatment	Patrick Sharrock Emerging biomaterials for complex applications in medical surgery	Yunus Ballim Minimizing the risk of thermally induced cracking in mass concrete structures through suitable materials selection	Clive Randall The Early Days of Cold Sintering: Where We Are, Where We Are Going, and Our Dreams
0920-0940	Joelle Margot Plasma patterning of advanced material: achievement and application to photonics	Cosmas Muiva Hydrothermal synthesis and gas sensing response of nanostructured La₂O₃-CuO-Co₃O₄ mixed oxides	Vusumzi Pakade Novel Macadamia nutshell powder grafted with 1,5-diphenyl-carbazide for enhanced removal of Cr(VI) from aqueous solution	Previn Naicker Quantitative analysis of Foot-and-mouth disease virus-host interactions using a stable isotope labelling proteomics workflow	Mike Otieno Effect of concrete quality on the sensitivity of the chloride conductivity test to salt concentration and capillary voltage	Birgit Schwenzer Educating the next generation of materials scientists is more than just a side note to the National Science Foundation's Division of Materials Research

0940-1000	Genee Tessema Mola Highly environmentally stable inverted thin film organic solar cells using tri-metallic nanocomposites	David Dodoo-Arhin Synthesis, Characterization and Applications of Nanostructured Copper Oxide.	Amanda Corcos Precisely designed polymer membranes for use in water purification and desalination	Martin Thuo Functional Materials through Surface and Interface Engineering	Victor A. Atiemo-Obeng Technologies for sustainable roads infrastructure development	Stanley Meiburg Training the Next Generation of Leaders: Graduate Education in Sustainability
1000-1020	Michael Feser The Lyncean Compact Light Source: A Miniature Synchrotron for your Laboratory	Aboubaker Chedikh Beye Designs, Simulation and Integration of negative-permeability meta-material based new Ultra Large Band (ULB) antennas with rejected bands	David E. Delgado Charged Polymer Complexes for Membrane Applications	Kasinathan Kaviyarasu Antiproliferative effects on human lung cell lines A549 activity of cadmium selenide nanoparticles extracted from cytotoxic effects: Investigation of bio-electronic application	Philbert Nshimiyimana Compressive strength of compressed earth blocks stabilized with calcium carbide residue and rice husk ash.	Boppana V Chowdari Advanced Materials for Sustainable Development
1020-1035 Tea						
Breakaway sessions x6						
	Energy (B6)	Nano (B7)	Water (B1)	Health (B2)	Construction (B3)	Education (B4)
1040-1110	Mohamed Henini Development of Advanced Semiconductor Materials and Devices For Next Generation Photovoltaics: Opportunities And Challenges	Neil Coville Measuring spillover effects using nanoreactors	Habauka M. Kwaambwa From curiosity-driven basic research to new insights and improved applications of moringa in water treatment and materials research	Nicholas Spencer Imitating Cartilage with Polymers	Said Kenai Performance of Cement Mortar with waste ground clay brick	Federico Rosei Mentorship for Young Scientists: Developing Scientific Survival Skills
1110-1130	Mohamed Chaker Pulsed Laser Deposition of metal-insulator transition materials	Tariro Tecla Manhongo Preparation of nano-sized high purity graphite from Zimbabwean flotation concentrates	Boitumelo Matshediso Synthesis and Surface Modification of Cellulose Nanofibrils Derived from Citrus Waste for Industrial Wastewater Treatment	Joey Chifamba Development and Nano-optimisation of actinic damage retarding treatments for Albinistic persons incorporating various nanotechnologies	Samuel Ibekwe Influence of Laser Processing Parameters on the Surface Quality of 316L Stainless Steel Manufactured Components by Selective Laser Melting (SLM)	Kwadwo Osseo-Asare Mother is Gold: Experiments in Teaching and Learning Materials Science and Engineering with African Proverbs
1130-1150	David G. Billing Structure Property correlation in SOFC & SOEC materials	Werner E. van Zyl Nanocellulose in Catalytic and sensor applications	Kate Kotlhao Enhancing the photocatalytic degradation of selected	W B Du Preez Materials Research on Additive Manufacturing	Esther Obonyo Leveraging People, Process, and Data to Advance the Large-scale	Nava Setter Enabling Science Learning in Tanzanian Rural High Schools: A

			chlorophenols using Ag/ZnO nanocomposites	of Titanium Alloys for Medical Implants	Deployment of Sustainable Structural Materials	collaborative project of Tanzanian and Swiss Materials Engineers and Educators (2009-2016)
1150-1210	Gunnar Westin Complex composition and structure materials by solution chemistry	Venkataraman Vishwanathan Synthesis, Characterisation and Reactivity of Nano Au/SBA-15 catalysts for Vapour Phase Aerobic Oxidation of Benzyl Alcohol	Phumelele Kleyi Quaternary imidazolium-modified montmorillonite clay for disinfection of water	Charnay Cunningham The interaction of 200 MeV Protons with green and chemically synthesized AuNPs in malignant and non-malignant cells.	Sunday Nwaubani Addressing Africa's development challenges through use of waste materials in concrete	Pushpendra K Jain To achieve research excellence in Africa through networking and collaboration: Lessons learnt from the African Materials Science and Engineering Network
1210-1230	David Dodoo-Arhin Graphene based inkjet-printable electrodes for Dye sensitized solar cells	George Bepete Surfactant-free, aqueous dispersions of carbon nanomaterials	Lebea Nthunya Green synthesis of PVDF nanofibres decorated with biocidal Ag nanoparticles	Carlos Silva Photophysics of Excited-State Dynamics in Conjugated Polymers and Polyelectrolytes for Biological Applications	Ndebombuya Mokaloba Exploration of local Cellulosic fibers, Modification and potential use for the local Industry	Josephine P Ouma Building Research, Agribusiness and Innovation Capacities of HEI's in Agriculture through Regional Partnerships
1230-1250	Griffin Ruehl Phenol and Benzaldehyde Hydrogenation on Metallic Catalysts: Model Compounds for Biomass Conversion	Makhangel Mbambo Deep space radiation-like induced defects in selected smart nano-scaled carbon based materials	Joy G. Mokone Biosorption of Hg²⁺ from aqueous solutions by <i>Cladophora sp</i> alga immobilized in calcium alginate beads: a continuous flow study	Chukwudalu C Nwazojie Preparation and Characterization of Chitosan-Ascorbic Acid Complex Microspheres with Encapsulated Prodigiosin for Localized Drug Release in Breast Cancer Treatment	Henda Uananisa The relationships between grain orientation, deformation-induced surface roughness and taylor factor in an AISI 436 ferritic stainless steel	Wilbert Mtangi Towards Industrialization Through Value Addition
1250-1400 Lunch						
<i>Breakaway sessions x6</i>						
	Energy (B6)	Nano (B7)	Water (B1)	Health (B2)	Computational (B3)	Education (B4)
1400-1430	Kenneth Ozoemena Microwave and Fluorination Treatments for Enhanced Electrochemistry of P2-type Na_{0.67}[Mg_{0.28}Mn_{0.72}]O₂ Cathode Material for Sodium-ion Batteries	Balla D. Ngom Laser-Produced Sm_{1-x}Nd_xNiO₃ Plasma Dynamic Through Langmuir Probe and ICCD Imaging Combined Analysis and Their Correlations to Films Properties	Dickson Andala Biopolymer Metal Oxide Nanocomposite for Fluoride and Arsenic removal from water: An Invention	Cho Nam-Joon Engineering Approaches to Combat Infectious Diseases: An Example of Broad-Spectrum Antiviral Peptides	Christian Lorenz Investigation of the hydration and structure of model lipid membranes	Teresa Guraya Educational networks to face new challenges in global teaching: Project Based Learning and Service Learning in Materials Science courses

1430-1445	Iwnetim Iwnetu Abate Combining Experimental and Computational Techniques to Understand the Solid Electrode Interphase Formation on Si Electrode in Li-Ion Batteries	Juliet Sackey Structural and Optical studies of the papilio crino Fabricius, 1792 wings	Acacia Leakey Thermodynamic Analysis of the Membrane Distillation System for Desalination of Brackish Water	Akeem Azeez Effect of Sintering Time on Mechanical Properties of Porous Ti-6Al-4V Implant	Peter O Egbele An ab initio molecular dynamics study of guest atom rattling in Binary type-I Sn clathrates	Paul Weiss Nanoscience, Nanotechnology, and Beyond
1445-1500	Loza F. Tadesse Biotemplating Pores with Size and Shape Diversity for Li-Oxygen Battery Cathodes	Aphiwe Matiwane Neutron Tunneling in Nano-Structured Systems: Isotopical Effect	David E. Vlotman Bimetallic Immobilized Hyperbranched Polymer embedded on a Polysulfone Membrane for removing Organic pollutants in water	Itisha Chummun Polysucrose-based scaffolds for tissue engineering applications	James Sifuna Pressure Tuning of Thermal Expansion in Cubic ScF₃: An Industrial Application for Sustainable Development	Birgit Schwenzer, Sean Hearne, Stan Meiburg, Margaret-Anne Wampamba, Pushpendra K. Jain, and Winston Ireeta Tumps "Panel discussion" Developing Resilient International Research Networks: Opportunities and Challenges
1500-1515	Rasmita Barik Metal Organic Frameworks (MOF)-Derived Nano porous Carbon as Efficient Sulphur Host for Lithium-Sulphur Batteries	Zamavezi Kweyama Green synthesis of Europium oxide Nanoparticles by Hibiscus sabdariffa flower extract: Main physical and optical properties	Sakhile T. Dube Hyperbranched polyethyleneimine-multi-walled carbon nanotubes (HPEI/MWCNTs) polyethersulfone (PES) membrane incorporated with Fe-Cu bimetallic nanoparticles for water treatment.	Nancy Sarpong Development of a nystatin-loaded micellar system for oral mucoadhesion	Kagiso. Mpshe Electronic Properties of Layered Semiconductor materials	
1515-1530	Michelle Thiebaut Structure Comparison of Lithium Iron Cathode materials	Touria Khamliche Synthesis and thermal conductivity enhancement of silver nanowires dispersed ethylene glycol based nanofluid	Khathu A. Makhado Bio-adsorbent from avocado peel for removal of As³⁺ and Cd²⁺ from water	Tapiwa Manyarara Formulation and characterization of a paediatric nanoemulsion dosage form with modified oral drug delivery system for improved dissolution rate of nevirapine	Evans M. Benecha Tuning the magnetic and electronic properties of transition metal doped monolayer WS₂ by Fermi level engineering	
1530-1545	Cecil K. King'ondo Orienting Short Octahedral Molecular Sieve (OMS-2) Nanorods into Long 1D Microyarn Superstructures and Highly Flexible Membranes	Temesgen Kebede The Green Approach: Preparation and characterization of electrospun nanofiber from <i>Moringastenopetala</i> seed protein	Wondimagegne mamo Zeolites for the purification of water (removal of hardness and heavy metal specifically Cr and Pb)	Emmanuel Diabor The effect of cassava cellulose microfibre reinforcement on the mechanical, morphological and microstructural characteristics of three-	Lawan Mukhtar Muhammad Study of energetics of lithium (Li) adsorption on different phases of manganese oxide (MnO₂) as cathode materials for supercapacitors	

				dimensional gelatin composite scaffolds	and compute the electrochemical potential, relative stability and volume change upon insertion	
1545-1600 Tea						
			<i>Breakaway sessions x6</i>			
	Energy (B6)	Nano (B7)	Water (B1)	Health (B2)	Agriculture (B3)	Education (B4)
1600-1630	Meifang Zhu 1D, 2D, and 3D Electro-fabrication of Nanofiber-based Devices for Flexible Energy Storage Applications	Robert Tshikhudo Industrial development of nano-enabled products and technologies: Challenges and Opportunities	Emily A. Obuya The challenge of sustainable potable water supply: Consideration of novel and appropriate technologies	Archana Bhaw-Luximon Biopolymers in 2D, 2.5D and 3D scaffolds for tissue engineering	Ange Nzihou Biowaste as a source for nutriments, micro-elements and sustainable fertilizers (biofertilizers)	John Paul Eneku Building the SciBridge: Bringing together African and U.S. Scientists
1630-1645	Joshua K. Ngoret Degradation of Aluminide Thermal Barrier Coating (TBC) on Inconel 713 LC used for Compressor Turbines (CT) of Short-haul Aircrafts	Kateřina Rubáčková Nanospider™ needle-free electrospinning – the technology enabling nanofiber material integration into industrial end applications	Kebadiretse Lefatshe Potential Wastewater Purification Nanosystem Based On Renewable Polymers	Azeez Butali Reducing infant Mortality in Developing Countries Using mHealth: Help My Pikin App	Phepafatso K Tsae Target-Molecule-Triggered Release Technology for Smart Fertilizers	Guebre Tessema Funding for Tools for Materials Research at the National Science Foundation
1645-1700	James G. Mallett The Development of a CSP based Milk Pasteuriser for use in rural areas of South Africa	Alexandria Cruz Patterning and Substrate effects on Coercivity for Cobalt Ferrite and Nickel Ferrite	John T. Moima Poly(vinylidene fluoride) ultrafiltration membranes incorporating catalytic Metal Organic Frameworks for degradation of dyes in water	Daramola, O. Bamidele Green synthesized silver nanoparticles for optical detection of <i>Escherichia coli</i>	Rabiul Hussain Controlled release of urea from chitosan microspheres prepared by emulsification and crosslinking method	Nithaya Chetty African School on Electronic Structure Methods and Applications (ASESMA) - Building African Networks for Computational Materials and Biological Sciences
1700-1715	Alex Hsain Reclaiming Ambient Energy for Portable Electronics: Reverse Electrowetting Energy Harvesting	Nyangasi Leah Preparation and Characterization of Pd modified TiO₂ nanofiber catalyst for carbon – carbon coupling Heck reaction	Benton Otieno Application of natural South African zeolite as catalyst and biomass support in an integrated photodegradation and anaerobic digestion of textile wastewater	Shingirayi Zengeni Development and Nano-optimization of <i>Burkea africana</i> (Mukarati) and <i>Zanthoxylum chalybeum</i> (Mukundanyoka) for the management of actinic keratosis	Mokgaotsa J. Mochane The effect of EG and its synergistic effect on the thermal conductivity, flammability and properties of Polybutylene succinate	Kudakwashe Mzembe Fostering an Entrepreneurial Mindset
1715-1730	Ruocun Wang Electrochemical Intercalation of Mg-Ion	Kudakwashe T. Penyai	Morlu G. F. Stevens Employing valorized waste remains for the	James T.P. Matshwele Synthesis and characterization of	Humphrey Lumadede	Nam Joon Cho Youth Science Laboratory Kits for

	into Anhydrous and Hydrated WO₃ in Non-Aqueous Electrolytes	Extraction of Nano Silica from Corn cobs: Waste to Value Addition Approach	effective removal of toxic ions from wastewater	ruthenium (II/III) polypyridyl complexes with anti-microbial properties	Scoping study on Kenyan food quality and safety and waste management	Resource-Limited Settings
1730-1930			Poster session			

WEDNESDAY December 13th

0700-0800 Registration						
0800-0845	3rd Plenary (B5) Sossina Haile “Materials for Sustainable Energy”					
Breakaway sessions x6						
	Energy (B6)	Nano (B7)	Agriculture (B1)	Health (B2)	Computational (B3)	Education (B4)
0850-0920	Henrietta Langmi Metal-Organic Framework-based	Laura Fabris	Kofi Adu Conversion of Agricultural Waste	Naomi Matsuura Engineering Materials for	Giuseppe Pellicane	Geraldine Richmond COACH workshop

	Materials for Adsorptive Hydrogen Storage	Nonspherical Colloidal Nanoparticles for Broadband Plasmonics	Streams into Value Added Product	Medical Imaging and Therapy	Polymer topology in surface absorption of binary blends	
0920-0940	Francesca Iacopi 2D Materials grown on silicon as highly efficient electrodes for integrated energy storage	Krish Bharuth-Ram Search for magnetic nanocluster formation of TM ions embedded in metal oxides	Luis Cabedo Fostering the usability of PHA to the biodegradable packaging sector	Iraneus Obioma Ogu Converging blockchain and next-generation artificial intelligence technologies to decentralize and accelerate biomedical research and healthcare	Mesfin Haile Mamme Numerical Insight on the Early Stage Growth of an Isolated Metal Nanoparticle	
0940-1000	Nicholas M. Musyoka Utilization of coal combustion and waste tyres pyrolysis by-products as feedstock and support for producing porous materials for energy storage applications	Elsje Alessandra Quadrelli A new organometallic route for low temperature ALD of atomically-thin MOS₂ layers on 2D SiO₂/Si support	Jerome Claverie Micro-nanoencapsulated <i>Bacillus thuringiensis</i> with a pH triggered release mechanism for the efficient bioprotection of brassica crops	Elayaperumal Manikandan Graphene Oxide/ZnO for Antibacterial Cytotoxic Impact Against MCF-7, A549 and Hep2 Cells Comparative Studies: Bio-Medical Application	Andre Z Clayborne Atomistic insights into the Electrochemical Reduction of Carbon Dioxide on Transition Metal Clusters from First Principles Investigation	
1000-1020	Adeniyi S. Ogunlaja Adsorptive Desulfurization and Denitrogenation of Fuel over Imprinted Polymer Microspheres and Nanofibers	Rueben Pfkwa Investigating the anionic polymerization of aldehydes, promoted by strong organic bases	Tshwafo Motaung Corn Fibres-Polymer Composites	Terry Steele Laser curing of carbene-precursor bioadhesives	Kingsley Onyebuchi Obodo Effect of transition metals clusters on the electronic and magnetic properties of MoS₂	
1020-1035 Tea						
Breakaway sessions x6						
	Energy (B6)	Nano (B7)	Water (B1)	Health (B2)	Computational (B3)	Education (B4)
1040-1110	Elsje Alessandra Quadrelli Surface Organometallic Chemistry on MOFs and inorganic oxides for CO₂ and N₂ reduction: <i>en route</i> to renewable energies storage	Makwena Moloto Metal and Semiconductor Nanoparticles and their Polymer Fibres	Patrick F. Mensah Development of a Laterite Composite for Removal of Fluoride from Borehole Water: Collaboration Research and Educational Experience	Richard Marlink The Importance of HIV and TB Genetic Amplification in the Scaling Up of National AIDS and TB Treatment Programs in Africa	David Perry Application of Molecular Structure Methods to Materials Problems	Geraldine Richmond COACH workshop

1110-1130	Patrick Dedetemo Kimilita High discharge capacities of Ti-based quasicrystal electrodes synthesized by mechanical alloying	Force. T. Thema Nano ZnO doped graphite via Agathosma betulina natural extract with improved bandgap	Fulbert T. Kanga Downscaling the conventional iron barrier technology to safe drinking water	Diallo Abdou Karim Electrochemical field effect transistor for glucose detection	Eric Abavare First principle calculation of direct and indirect phase transition of the early transition metals carbonitrides: Ti, Zr and Hf
1130-1150	Mmantsae Diale Catching the sun at low cost	Mike Masukume Nanomaterials Industrial Development Facility (NIDF): Crossing the innovation chasm	Francis W. Nyongesa Electrophoretic Deposition of TiO₂ Thin Films for Photocatalytic Degradation of Organic Pollutants in Water	Omolola E. Fayemi Electrochemical determination of serotonin in urine samples based on metal oxide nanoparticles / MWCNT on modified Glassy Carbon Electrode	Claire Saunders Anharmonic Phonons in Cuprite
1150-1210	Innocent Nkurikiyimfura Long term stability of magnetite nanofluids for solar engineering applications	Malesela K. Moutlana Frequencies of a nano beam with Spring-mass Attachment, used for Tapping atomic force microscopy (TM-AFM) in tapping mode	John Mmbaga Design and fabrication of polymer layered silicate nanocomposites for water purification	Alain Ibanez Organic@silicate core-shell nanoparticles and garnet-type oxide nanocrystals as luminescent tracers for biophotonics	Mahmoud Mahmoud Effect of pressure on structural, mechanical, dynamical and electronic properties of ReSe₂:A theoretical investigation
1210-1230	Akito Takasaki Hydrogenation of Ti-based Quasicrystalline Powders Produced by Mechanical Alloying	Katherine L. Jungjohann An Initiation Mechanism of Corrosion in Low-Carbon Steel: Identified by In-Situ Transmission Electron Microscopy	Mary Taabu Simiyu Use of Diatomaceous Earth (DE) Wastes for Nano-Porous Composite Membranes in Water Purification Systems	Fulvio Ratto Complementary strategies to target the tumor microenvironment with gold nanorods	Tibebe Birhanu Stochastic resonance in a double well potential with non-homogeneous temperature of a semiconductor layer
1230-1245	Abu Yaya Development of electroporcelain insulators from local materials in Ghana	Lerato F.E. Machogo Structural influence of amine and thiol surfactants on AuSe synthesis	Monaheng L. Masheane PES/quaternized-PES blend anion exchange membranes for use water purification: Investigation of the polymer compatibility and properties of the blend	Danyuo Yiporo Kinetics of PaclitaxelTM Release from Multi-Coated Metallic Stents: Solution to Coronary Cardiovascular Disease	Nura Ibrahim Investigation of two-dimensional (2D) graphene-like layers as potential safe anode material for Li-ion batteries

1250-1400 Lunch

1400-1800 Free afternoon/Tour of Gaborone
1900-2200 Conference Dinner

THURSDAY December 14th

0700-0800 <i>Registration</i>						
0800-0845 4 th Plenary (B5) Paul Weiss “Global Opportunities in Nanoscience and Nanotechnology”						
Breakaway sessions x6						
	Energy (B6)	Nano (B7)	Water (B1)	Health (B2)	Computational (B3)	Education (B4)
0850-0920	Veronica Augustyn The Role of Structural Water in Electrochemical Energy Storage of Tungsten Oxides	Nosipho Moloto Syntheses and characterization of 2D-layered metal chalcogenide nanocrystals for application in chemo-resistive sensors	Richard Moutloali Photodegradation of organic dyes using Cobalt-based metal organic framework (ZIF-67) catalysts supported on graphene oxide under simulated solar irradiation	Anne Andrews Neurotransmitter Sensing via Aptamer-Field-Effect Transistors	Ismaila Dabo Large-scale simulations of solid-liquid interfaces under realistic electrochemical conditions for energy conversion and storage	Budzanani Tacheba Facilitating Industry Driven Research and Innovation: a fully integrated systems approach
0920-0940	Chris Nicklin Synchrotron Radiation Grazing Incidence Wide Angle X-ray Scattering Studies of Photovoltaic and Battery Materials	Esmeralda Yitamben Engineering Chiral Quantum Corrals on Surfaces	Nomcebo Khumalo Dual-Functional Ultrafiltration SiO₂ PSE/PVA Membrane for Simultaneous Removal of disinfection by products	Lucien E. Weiss Characterizing the Motions of Hedgehog-Signaling Proteins on the Surfaces of Live Cells by Single-Molecule Tracking	Nithaya Chetty Li states on a C-H vacancy in graphene: A first-principles study	Steven Mufamadi Lack of Entrepreneurship Skills as a Barrier to Nanotechnology Commercialization in Africa
0940-1000	Nithyadharseni Palaniyandy α-MnO₂/Onion Like Carbon (OLC)	Stephen Majoni Interlayer Interaction dynamics: towards understanding controlled	Mahadi Lesaoana Chemical Oxidation Of Macadamia Activated Carbon Through	Mamello Mohale Developing FRET assays to study the binding of Fibroblast growth factor to its receptor	Nicola Seriani Ab-initio simulations of photocatalysts for hydrogen production	Winston Ireeta Tumps Materials science research in Uganda

	composite cathode material for aqueous Zn-ion battery	release in layered metal hydroxides	Impregnation By Inorganic Acids For Enhanced Cr(VI) Adsorption			
1000-1020	Emeka E. Oguzie Natural products for materials protection	Richard KK Mbaya Modern synthesis of metallic nanoparticles production	Ebenezer Annan Sustainable water treatment technology for rural/urban communities	Colette Robinson Water Solubilization of CuInS₂/ZnS QDs and their Bioconjugation to Fibroblast Growth Factor for In-vitro Imaging	Richard Tia A Density Functional Theory Investigation of Hydrogen Adsorption on the LaFeO₃(010) Surface for Use in Nickel-metal Hydride Batteries	Francesca Iacopi R&D in Semiconductor Industry: from Materials to Microchips
1020-1035 Tea						
Breakaway sessions x6						
	Energy (B6)	Nano (B7)	Water (B1)	Agriculture (B2)	Computational (B3)	Education (B4)
1040-1110	Sean Hearne Energy Storage for the Electric Grid – MegaWatts from picoWatts	Geraldine Richmond Mulling over Emulsions: Molecular Assembly at Nano emulsion Surfaces	Lilian Tichagwa Lignocellulose-based nanocomposites: synthesis, characterization and possible application as adsorbents in water treatment	Jose Lagaron High Throughput Electrospinning/Electrospraying Applications of Interest in Food, Pharma, Biomedicine and Packaging	Thomas Schulthess Dusk of Moore’s Law: opportunities for HPC and materials science	Phillip Rodenbough Learning Chemistry on Computers in African Contexts
1110-1130	Jerome Claverie Novel photocatalytic materials for hydrogen production	Elayaperumal Manikandan Structural Optical Electrical Studies of ZnO/SnO₂ core-shell structure nanocomposites formation: Field-Emission Enhancement and Sensor	Semakaleng Kganyago Effect of the cobalt oxide nanoparticles size on the fenton catalytic activity	Yuki Hasegawa Novel Agriculture Support System Using Plant Bioelectric Potential and Gas Sensor Response	Mesfin Tsige Effect of Confinement on the Structure and Dynamics of Hydrogen Bonding: Role of the Instantaneous Surface	Elizabeth Melenbrink Promoting Interests in Energy Research: Developing a Low Cost Potentiostat for African Universities as Teaching Tool
1130-1150	Fabian I. Ezemaa Electrochemical properties and Effect of Deposition Cycles on the Properties of SILAR deposited Cobalt Sulphide thin films	Gnanasekaran. Kavitha Enhanced antibacterial and Photocatalytic Activity for capping agent of Ni-doped ZnO nanoparticles star-like flower nanostructures	Immaculate L.A. Ouma Optimization of magnetite nanoparticle and pine cone based nanocomposite synthesis for water treatment	Lorenzo Pastrana Bio-based nanostructures for food applications	Omololu Akin-Ojo Catalysts for African Development and Advancement [CADA]	Maxwell Terban Generating partnership for collaborative research: synchrotron light source data for African materials science

1150-1210	Caren Billing Questions around Electrochemical Impedance Studies of Pelletized Materials	Uche E. Ikhuoria Synthesis and characterization of nanomagnetite by thermal decomposition	Paul N. Diagboya Adsorptive removal of toxic organic and inorganic cations from solution using novel facile magneto-carbon black-clay composite adsorbent	Ludovico Cademirri “Programmable” Ecosystems: Engineered Environments for the Study of Plant Environment Interactions	Mofuti Mehlaphe Molecular dynamics simulations of the structural and dynamic properties of Pyrite (FeS₂) nanoparticles	Jill Wenderott Implementation of professional and academic development camp for Liberian women undergraduate engineers at the University of Liberia
1210-1230	Sossina Haile Fundamental and High Throughput Advances in Electrochemical Energy Technologies	Don Okpala Uche Nano technology applications, solution to mitigating global climate change in this present time	Mahmud A. Maryam Modeling and Simulation of the Adsorption Process of Fluoride to the Surface of Porous Clay-Hydroxyapatite Filter	Benedetto Marelli Silk Fibroin-Based Edible Coatings to Control Crops’ Post-Harvest Physiology	George Amolo Computational modeling as a complementary and predictive tool in materials science research	Alex Hsain Fostering Renewable Energy Research Collaboration between U.S. and African Universities through SciBridge
1230-1245	Riad Nechache Perovskites for efficient hybrid optoelectronic devices	Nolufundo Sintwa Factors affecting structural and optical properties of biosynthesized ZnO nanoparticles	Luthando Nyaba Application of magnetic Fe₃O₄@Mg/Al- layered double hydroxide (LDH) nanocomposite as an adsorbent for ultrasound assisted solid phase microextraction of trace metals in water matrices	Levison T. Murombo Synthesis of a Chitosan Nano Polymeric Slow Releasing Fertilizer: A Novel Approach of Improving Agricultural Productivity	Noeliarinala.F. Andriambelaza First-principles studies of chromium line-ordered alloys in a molybdenum disulfide monolayer	Panel discussion JUAMI next steps
1250-1400 Lunch						
1400-1445 Closing Plenary (B5) Nelson Torto “A fantastic personal Materials story”						
1445-1545 Closing session/Future planning						
1545-1730 Executive meeting						
1830 – 2100 Cocktail at French Ambassador’s residence						