

**Session Program**

**16–19 Dec 2024**

**12th International Conference of the African Materials  
Research Society (AMRS)**

***NANOTECHNOLOGY***

## Tuesday 17 December

11:10

### NANOTECHNOLOGY: PARALLEL

Session

**11:10–11:30** Nonlinear terahertz spectroscopy of narrow bandgap semiconductor

Speaker

Prof. Tsuneyuki Ozaki

**11:30–11:50** Hot electrons widen the promises of plasmonics

Speaker

Prof. Bruno Palpant

**11:50–12:10** Creating Mechanical Work from Smart Polymers by Light

Speaker

Zouheir SEKKAT

**12:10–12:30**

**Harnessing nanotechnology and green chemistry to produce new materials and products for the African economy**

Speaker

Prof. Sabelo Mhlanga

**12:30–12:45** Application of Nanotechnology as a Key Tool Towards Improving Biopolymer Properties

Speaker

Dr Afonso Daniel Macheca

**12:45–13:00** Designing Magnetically Responsive Nanoculture System

Speaker

Huda Usman

13:00

14:00

### NANOTECHNOLOGY: PARALLEL

Session

**14:00–14:20** Materials Discovery for Nanoscale Devices

Speaker

Dr Matthew Hauwiller

**14:20–14:40** Mimicking Nature: Controlling Charge, Heat, and Spin

Speaker

Prof. Paul S. Weiss

**14:40–15:00**

**From solution to surface: applying supramolecular chemistry principles for device manufacturing through molecular self-assembly**

Speaker

Prof. Petra Rudolf

15:00–15:15

**Universal Progression of Structure and Dynamics in Colloidal Nanocrystal Gels During Salt-Accelerated Aging****Speaker**

Charles Kofi Ofori

15:15–15:30

**From Un-Hygienic to Sanitised Water: Nano-Clay Filter for Sustainable Water Supply and Industrial Wastewater Treatment****Speaker**

Oladiran Kamardeen Abubakre

15:30–15:45

**Enhancing Proton Conductivity in PEMFCs through Interfacial Engineering of Ionomer-Catalyst Interfaces****Speaker**

Mr Oghenetega Allen Obewhere

15:45–16:00

**NANO CAGING RADICAL ION INTERMEDIATES FOR EFFICIENT PHOTOINDUCED ELECTRON TRANSFER: MECHANISTIC AND KINETIC STUDIES****Speaker**

Mr Gabriel Takyi

16:00

16:20

**NANOTECHNOLOGY: PARALLEL**

Session

16:20–16:40

**Facile Scaling Up Methodologies of Nanoparticle Production – Research Project Outcomes****Speaker**

Hassan Nageh

16:40–16:55

**Tungsten and Vanadium Co-doped TiO<sub>2</sub> for the Visible Light Organic Wastewater Photoactivity.****Speaker**

GLORIA MURILA

16:55–17:10

**NUMERICAL MODELLING AND EXPERIMENTS OF POLYMER ENHANCED NANOPORE SENSING FOR MATERIAL CHARACTERIZATION****Speaker**

Eugene Gyasi Agyemang

17:10

## Wednesday 18 December

09:50

### NANOTECHNOLOGY: PARALLEL

Session

**09:50–10:10** Capturing the Invisible: Coherent X-ray Vision for the Nanoworld

Speaker

Prof. Edwin Fohtung

**10:10–10:25** Nanostructured carbons: Trends in their synthesis, properties and applications

Speaker

Manoko Maubane-Nkadameng

**10:25–10:40**

**Investigating the Magnetization Behavior and Interactions in Magnetic Nanoparticles and Nanochains**

Speaker

Prof. Amal El-Ghazaly

**10:40–10:55**

**High resolution imaging on  $\text{CaF}_2$  (111) surface with Non-contact atomic force microscopy**

Speaker

Bob Kyeyune

**10:55–11:10**

**A Tetrapod Zinc Oxide UV Filter For Multifunctional Photoprotection and Photostability in Sunscreen Formulations**

Speaker

AJ Addae

11:10

11:30

### NANOTECHNOLOGY: PARALLEL

Session

**11:30–11:50**

**Metallic Glass Nanoparticles Synthesized via Flash Joule Heating for High Performance Catalysis**

Speaker

Andre Taylor

**11:50–12:10** Processing of Magnetic Polymer Materials In Supercritical Fluids

Speaker

Mohd Ghulam Haider Zaidi

**12:10–12:25**

**Thermographic analysis of magnetic hyperthermia in water-based magnetic nanofluids containing citric acid-coated  $\text{Fe}_3\text{O}_4$  nanoparticles**

Speaker

Dr INNOCENT NKURIKIYIMFURA

12:25