

Olaleru Solomon Akin

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Career Objective: Developing students' interest and competence in Physics through simplified and sound academic approaches as well as engaging in Solution- driven researches in the field of Condensed Matter Physics & Material Science with particular focus on low-cost and high efficiency photovoltaic devices utilizing nanoscale materials

RESEARCH INTERESTS

Solid state physics, Condensed matter physics, Optoelectronic devices, Quantum mechanics, Material science, Energy sources

EDUCATION

Ph.D., Physics, University of Venda, South Africa **2020**
Thesis: Metal oxide nanostructures and hybrid perovskite semiconductor for photovoltaic application
M.Sc., Physics, University of Lagos, Nigeria **2011**
B.Sc., Physics, Lagos state university, Nigeria **2004**

EMPLOYMENT

Teaching/Research Assistant, Dept. of Physics **2016-2019**
University of Venda, South Africa
Lecturer, Dept, of Physical Sciences **2006-Present**
Yaba College of Technology, Nigeria
Physics/Further Mathematics Teacher **2003**
Wisdom Academy, Lagos, Nigeria

PUBLICATIONS

Elucidating the Trajectory of the Charge Transfer Mechanism and Recombination Process of Hybrid Perovskite Solar Cells. Joseph K Kirui, Solomon Akin Olaleru, Lordwell Jhamba, Daniel Wamwangi, Kittessa Roro, Adam Shnier, Rudolph Erasmus, Bonex Mwakikunga . *Materials* **2021**, *14*(11), 2698

Green Technology: Solution to Global Climate Change Mitigation. SA Olaleru, JK Kirui, FI Elegbeleye, TE Aniyikaiye. Energy, Environment and Storage (2021) 01-01-26-41

Enhanced optical properties of perovskite thin film through material optimization for photovoltaic application. **SA Olaleru**, JK Kirui, D Wamwangi, L Jhamba, R Erasmus, B Mwakikunga, K Roro. E3S Web of Conferences **239**, 00020 (2021) *ICREN 2020*

Perovskite solar cells: The new epoch in photovoltaics
SA Olaleru, JK Kirui, D Wamwangi, KT Roro, B Mwakikunga Solar Energy 2020 196, 295-309

The impact of synthesis techniques on the properties of hybrid perovskite materials for photovoltaic application
SA Olaleru, D Wamwangi, JK Kirui, KT Roro, B Mwakikunga, Nithyadharseni Palaniyandy, Naheed El-Mahallawy, Mohammed Rashad, Materials Express 2020 10 (7), 1127-1134

Green Nanotechnology: Taking the lead for sustainable environment
SA Olaleru, JK Kirui, TE Aniyikaiye, FI Elegbeleye
Proceedings of International Conference on Energy, Environment and Storage of Energy, ICEESEN 2020 Kayseri, Turkey

Primordial radionuclides in drinking water from former tin-mining area elevated activity
OI Adekoya, KA Adewoyin, **SA Olaleru** – 2014

Physico-Chemical Properties, Heavy Metal Content and Radioactivity Levels in Soils around a Cement Production Facility in Ogun State, Nigeria., accepted for publication in Jordanian Journal radiology.

Hybrid Perovskite Thin Film, chapter in the Intech Open Access book. “Thin Films Photovoltaics”. ISBN: 978-1-83969-906-1. 2022

Optimal conditions for preparation of perovskite materials for optoelectronic devices in the Intech Open Access book. Accepted 2022

WORKSHOP/CONFERENCES ATTENDED

Oral presentation of paper entitled “Optimal conditions for preparation of perovskite crystals and thin film”. Paper presented at Virtual Conference on Chemistry and its Applications 8 th to 12 th August 2022.

Poster presentation of paper entitled “Optimal conditions for preparation of perovskite crystals and thin film”. Paper presented at African Light Source

(AfLS3 – 2021) Pan-African Conference on Crystallography online (ePCCr - 2021) African Physical Society (AfPS – 2021) [From 15th – 19th November 2021.](#)

Oral presentation of paper entitled “Charge Transfer Mechanism and Recombination Process of Hybrid Perovskite Solar Cells” Paper presented at the 2021 Annual South African Institute of Physics at the North-West University, Thursday 22 July 2021 - Friday 30 July 2021.

Oral presentation of paper entitled “Green Nanotechnology: Taking the lead for sustainable environment”. Paper presented at the International Conference on Energy, Environment and Storage of Energy, ICEESEN 19-21 November 2020 Kayseri, Turkey

Oral presentation of paper entitled “Effect of synthesis Approach on the structural and optical properties of hybrid perovskite materials for photovoltaic Application.” Paper presented at the 1st International Conference on Nanotechnology: Theory and Applications Cairo – Egypt, December 10th - 13th 2018.

Oral presentation of paper entitled “Characterisation of the optical properties of silver.” Paper presented at the 2017 annual South African Institute of Physics at the University of Stellenbosch from 9th July to 13th July 2017.

Attended the 6th CSIR Conference at Pretoria, South Africa from 5-6 October 2017.

Active learning in Optics and Photonics’ workshop held at University of Lagos. April 2016.

School of Science International Scientific Conference, Yaba College of Technology, Yaba Lagos. June 2020.

Round Table Discussion, Grooming the Next Generation Scientist in Nigeria: Proven Strategies used in Nigeria and United States at MPR, PAS, US Consulate General Lagos. November 2012

TEACHING & SUPERVISION EXPERIENCE

University of Venda:

2016-2019

- * General Physics
- * Practical Class Year one and Two
- * Third year experiment
- * Modern physics

Yaba College of Technology:

2006-Present

- * Mechanics
- * Electromagnetism
- * Optics and Waves
- * Modern Physics
- * Structure of Matter
- * Electricity and Magnetism

- * Quantum Physics

- * Material Science

Assist in supervising Honours and Masters Projects

Supervision of Higher National Diploma Projects

MEMBERSHIP

- South African Institute of Physics (July 2016 – date)
- Member, Nigeria Institute of Physics (November 2011- Date)
- Member, Material Science of Nigeria 2015
- Member, Society for Environmental Toxicology and Pollution Mitigation (SETPOM) (2013 –Till date)

SERVICE AND ACTIVITY

- Community Engagement Project: SAIP-Limpopo Vhembe District Online Teacher Training Facilitators September 2020
- Community Engagement Project: SAIP-Limpopo Vhembe Teacher Development Training Facilitator 2018
- General Coordinator, Deeper Life Campus Fellowship, University of Venda Chapter, South Africa 2016-2020

SKILLS AND COMPETENCIES

- Strong written and oral communication skills
- Proficient user of the computer and software packages relevant to Physics
- Good problem-solving skills
- Excellent organization and planning skills
- Ability to work well in a team environment and a diverse culture
- Proven ability to undertake fundamental research

- Strong interpersonal skills
- Excellent administrative skills
- Experience in thin film fabrication & device characterization

AWARD

Best Postal award at Pan-African Conference on Crystallography online (ePCCr - 2021) African Physical Society (AfPS – 2021) [November 2021](#).

REFERENCES

Dr. JK Kirui

(Ph.D Supervisor)

Department of Physics, University of Venda, South Africa

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Dr. K Roro

(Ph.D Co-supervisor)

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Dr. OI Adekoya

(Research scientist)

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