

# CURRICULUM VITAE

## 1. Personal Information

- **Name:** Dr. Sharon Kiprotich
- **Sex:** Female
- **Birth Place:** Baringo, Kenya
- **Date of Birth:** 8<sup>th</sup> August 1988
- **Marital status:** Married
- **Address and contact:**

Department of Physical and Biological sciences,  
MUT Murang'a, P.O BOX 75-10200 Murang'a, Kenya

Cell: +254(0)794-418079

E-mail: [skiprotich@mut.ac.ke](mailto:skiprotich@mut.ac.ke);

[sharonkiprotichj@gmail.com](mailto:sharonkiprotichj@gmail.com)



## 2. Summary of Qualification

*I obtained my bachelor's degree B.Ed. (Physics/Mathematics) in 2011 at the Kenyatta University, in Kenya. I obtained the degree B.Sc. Hons (Physics) in 2015, the degree M.Sc. (Physics) in 2017 and graduated my PhD (physics) on 7<sup>th</sup> October, 2020 at the University of the Free State, South Africa. I had served the Teachers Service Commission of Kenya as a teacher of Physics and Mathematics at Moyale Boys Secondary School from May 2012 to May 2014. At the University of the Free State I served as Laboratory and Research Assistant.*

## 3. Education and Employment Information

### 3.1 Education

YEAR	INSTITUTION	ACTIVITY	OVERALL GRADE
2018-2020	UNIVERSITY OF THE FREE STATE, SA	PhD (PHYSICS)	PASS
2016-2017	UNIVERSITY OF THE FREE STATE, SA	MSc (PHYSICS)	PASS WITH CUM LAUDE (88%)
2014-2015	UNIVERSITY OF THE FREE STATE, SA	B.SC (HONS. PHYSICS)	PASS (66%)
2007-2011	KENYATTA UNIVERSITY, KENYA	B. ED (SCIENCE) PHYSICS & MATHEMATICS	SECOND-CLASS HONS.
2002-2005	SACHO HIGH SCHOOL, KENYA	K.C.S.E	A- (75/84)
1994-2001	KIBOINO PRIMARY SCHOOL, KENYA	K.C.P.E	A- (386/500)

### 3.2 Employment

- **Murang'a University of Technology (October 2020 to date):** Lecturer (Physics) in the department of Physical and Biological Sciences.  
**Responsibility:** Teaching, research and other duties assigned by the COD and the University.
- **University of the Free State (July 2014 to December 2019):** Research/Laboratory Assistant  
**Responsibility:** Helping the undergraduate classes in Practical Sessions and Tutorials

- **Moyale Boys Secondary School, Moyale Kenya (May 2012 to May 2014):** Teachers service commission employed teacher  
Responsibility: Teaching and other support services delegated by the Principal.
- **Macci Mixed Mission Secondary School, Kenya (1<sup>st</sup> July 2011 to 31<sup>st</sup> April 2012):** Employed Teacher.  
Responsibility: Teaching, Guidance/Counseling and other activities delegated by Principal.

#### 4. Computer, other skills and trainings

- **Operating system:** WINDOWS,
- **Programming language:** C++ (basic), MATLAB (working knowledge), and Java: Visual Basic windows operating system
- **Trained and developed expertise in operating various instruments/systems** like, XRD. PL, UV spectrophotometer, SEM, FTIR etc. for research at University of Free State

#### 5. Scholarly Achievement

##### 5.1 Professional Membership

- South African Institute of Physics (SAIP) 2014 till now
- Materials Research Society (MRS), 2014 till now

##### 5.2 Research Interests

- Experimental Condensed Matter Physics
- Material sciences and technologies
- Experimental spectroscopy
- Fabrication and Characterization of Organic electronic devices
- Charge transport phenomena across semiconductor interfaces
- Semiconductor characterizations
- Nanomaterial science and nanotechnology

##### 5.3 Publications

1. The influence of reaction times on structural, optical and luminescence properties of cadmium telluride nanoparticles prepared by wet-chemical process.  
<https://doi.org/10.1016/j.physb.2015.08.062> **Physica B: Condensed Matter.**  
**Authored by: S. Kiprotich, Prof F.B. Dejene, Dr. J. Ungula, Prof M.O. Onani**
2. A comparison investigation of optical, structural and luminescence properties of CdO<sub>x</sub>Te<sub>1-x</sub> and CdTe<sub>x</sub>Se<sub>1-x</sub> nanoparticles prepared by a simple one pot.  
<https://doi.org/10.1016/j.physb.2017.06.057> **Physica B: Condensed Matter.**  
**Authored by: S. Kiprotich, Prof F.B. Dejene, Prof M.O. Onani**
3. High luminescent L-cysteine capped CdTe quantum dots prepared at different reaction times. <https://doi.org/10.1016/j.physb.2017.07.037> **Physica B: Condensed Matter.**  
**Authored by: S. Kiprotich, Prof F.B. Dejene, Prof M.O. Onani**

4. Effect of growth temperature on the structural, optical and luminescence properties of CdTe nanoparticles. <https://doi.org/10.1007/s10854-018-8574-6> **Journal of Materials Science: Materials in Electronics.**  
**Authored by: S. Kiprotich, Prof F.B. Dejene, Prof M.O. Onani**
5. Effect of tellurium concentration on the structural, optical and luminescence properties of CdTe nanoparticles. <https://doi.org/10.4172/2324-8777.1000245> **Journal of Nanomaterials & Molecular Nanotechnology.**  
**Authored by: S. Kiprotich, Prof F.B. Dejene, Prof M.O. Onani**
6. Effects of precursor pH on structural and optical properties of CdTe quantum dots by wet chemical route. <https://doi.org/10.1007/s10854-018-9699-3> **Journal of Materials Science: Materials in Electronics.**  
**Authored by: S. Kiprotich, Prof F.B. Dejene, Prof M.O. Onani**
7. Capping ligand influence on the structural, optical and luminescence properties of CdTe nanoparticles prepared by a simple wet chemical process. <https://doi.org/10.1002/slct.201803974> **Chemistry select Journal.**  
**Authored by: S. Kiprotich, Prof F.B. Dejene, Prof M.O. Onani**
8. Structural, optical and luminescence properties of CdTe quantum dots: Investigation on the effect of capping ligand ratio. <https://doi.org/10.1088/2053-1591/aac938> **Materials Research Express.**  
**Authored by: S. Kiprotich, Prof F.B. Dejene, Prof M.O. Onani**
9. Effects of selenium concentration in the precursor solution on the material properties of cadmium selenide flower-like nanoparticles. <https://doi.org/10.1007/s00339-018-2303-0> **Journal of Applied Physics A.**  
**Authored by: S. Kiprotich, Prof F.B. Dejene, Prof M.O. Onani**
10. Structural and optical properties of novel CdSe nanoparticles produced via a facile synthetic route: Studies on the effects of cadmium source. <https://doi.org/10.1002/sia.6643> **Surface and Interface Analysis.**  
**Authored by: S. Kiprotich, Prof F.B. Dejene, Prof M.O. Onani**
11. Investigation on the influence of growth time on the material properties of CdTe/CdSe core/shell nanoparticles prepared by a facile wet chemical route (**Ready for submission**).  
**Authored by: S. Kiprotich, Prof F.B. Dejene, Prof M.O. Onani**

#### **5.4 Presentations at conferences**

- **6<sup>th</sup> South African Conference of Photonic Materials (SACPM) Mabula (RSA) 3rd - 8th May 2015**, The influence of reaction times on structural, optical and luminescence properties of cadmium telluride nanoparticles prepared by wet-chemical process; Kiprotich S., Dejene B.F., Ungula J. and Onani M.O.
- **61<sup>st</sup> Annual conference of the South African institute of Physics (SAIP) University of Capetown (UCT), Capetown (RSA) 4th - 8th July 2016**, Effect of refluxing growth

time on optical, structural and luminescent properties of ZnTe quantum dots, Kiprotich S., Dejene B.F. and Onani M.O.

- **7<sup>th</sup> South African Conference of Photonic Materials (SACPM) Amanzi (RSA) 27th - 31st March 2017**, A comparison investigation of optical, structural and luminescence properties of CdOxTe1-x and CdTexSe1-x nanoparticles prepared by a simple one pot; Kiprotich S., Dejene B.F. and Onani M.O.
- **7<sup>th</sup> South African Conference of Photonic Materials (SACPM) Amanzi (RSA) 27th - 31st March 2017**, High luminescent L-cysteine capped CdTe quantum dots prepared at different reaction times; Kiprotich S., Dejene B.F. and Onani M.O.

## 6. Language Skill

*Language Speaking Reading Writing*

- a) **Tugen**, mother Tongue, Excellent
- b) **Swahili**, Kenyan national language, Excellent
- c) **English**, Official and Language of instructions, Excellent.

## 7. References

- Prof. F. B. Dejene

**Department of Physics:**

**QwaQwa Campus, Private Bag X13, Phuthaditjhaba, 9866, South Africa**

**Tel: +27-(0)58-718-5263**

E-mail: [dejenebf@ufs.ac.za](mailto:dejenebf@ufs.ac.za)

- Prof M.O. Onani

**Department of Chemistry:**

**University of the Western Cape, Private Bag X17, Bellville, 7535, South Africa**

**Tel: +27-(0)21-959-3050**

E-mail: [monani@uwc.ac.za](mailto:monani@uwc.ac.za)

- Dr. J. Ungula

**Department of Physics,**

**Kenya Methodist University, P.O Box 267-60200, Meru, Kenya**

**Cell: +254(0)768 135143**

E-mail: [jatani.ungula@kemu.ac.ke](mailto:jatani.ungula@kemu.ac.ke), [aabalakhejataniu@gmail.com](mailto:aabalakhejataniu@gmail.com)