



Department of Chemistry
Faculty of Science / University of Peradeniya



Dr. H. A. I. Rangeeka Perera

B.Sc. (Perad.), Ph.D. (Monash, Australia)

Senior Lecturer

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About Me

Rangeeka Perera obtained her PhD on “[Novel Redox Mediators for Dye Sensitized Solar Cells](#)” from Monash University, Australia in 2016 under the supervision of Late Professor Leone Spiccia. Following this she moved to the University of Peradeniya, Sri Lanka as a Senior Lecturer where she continues her research on developing 1D, 2D, and 3D coordination polymers to be utilized in photovoltaics and photocatalysis.

Higher Education Qualifications

🎓 **PhD**

Monash University
Australia
(2016)

🎓 **BSc**

University of Peradeniya
Sri Lanka
(2010)

Awards, Scholarships, Memberships & Fellowships



Faculty Award for the Excellence in Research for the year 2021



President's Awards for Scientific Publications 2016



Bhikaji Framji Khan Gold Medal for Chemistry 2009/ 2010



University award for academic excellence 2009/ 2010



Wijitha Malewana Memorial Scholarship for Chemistry 2006/2007









Ashoka Amunugama Memorial Prize for Computer Science 2006/ 2007

Positions Held

-  Chairperson, Student Academic Advisory Committee- (2022- Present)
-  Coordinator, Applied Sciences Programme- (2020-Present)
-  Coordinator, Science Resource Center- (2018- Present)
-  Member of the Faculty Research Committee- (2021-Present)
-  Member of Student Advisory and Welfare Committee- (2022- Present)
-  Member of Career Guidance and Enhancement Committee- (2022- Present)
-  Coordinator (Chemistry), M.Sc. in Science Education- (2016- 2020)
-  Deputy Coordinator, Applied Science Programme- (2019- 2020)

My Teachings

-  CH211: Inorganic Chemistry I
-  CH212: Inorganic Chemistry II
-  CH218: Inorganic Chemistry Laboratory I
-  CH319: Advanced Inorganic Chemistry Laboratory
-  CH416: Advance Inorganic Chemistry
-  CH417: Topics in Solid State Inorganic Chemistry

Research Interests (Research Fields/ Projects)

- Development of novel metal organic frameworks.
- Development of 1D, 2D and 3D coordination polymers for photovoltaics and photocatalysis.

Ongoing Research and Projects



Fine-Tuning Electronic/Semiconductor Properties of an Iso-reticular Metal Organic Framework Series to be Applied in Dye-Sensitized Solar Cells

National Research Council (Investor Driven Grants)



Investigation of Doping Capacity and Controlled Release Kinetics of Ferulic Acid in Fe-MOF/ Montmorillonite Composite for Cosmetic and Pharmaceutical Applications

University Research Grant



Improve applicability of metal organic framework thin films in dye-sensitized solar cells.

The World Academy of Sciences (TWAS) Research Grant



Development of metal organic frameworks for dye sensitized solar cells



1D, 2D, 3D coordination polymers for photocatalysis

Key Publications



J. Photochem. Photobiol. C: Photochem. Rev., 2016 - (2016)

Developments in and Prospects for Photocathodic and Tandem Dye-sensitized Solar Cells,



Angew. Chem. Int. Ed. 2015 - (2015)

Application of the Tris(acetylacetonato)iron(III)/(II) Redox Couple in p-Type Dye-Sensitized Solar Cells;

Conferences



6th International Conference on Functional Materials and Devices

HELD AT : Malacca, Malaysia - (15th - 18th August 2017)

TOPIC : *A new TiO₂ based photocatalyst for degradation of methylene blue under visible light*



Postgraduate Institute of Science Research Congress

HELD AT : University of Peradeniya, Peradeniya, Sri Lanka - (8th-9th October 2016)

TOPIC : *Increasing the stability of dye-sensitized solar cells by reducing the volume of iodide/triiodide redox mediator*



Postgraduate Institute of Science Research Congress

HELD AT : University of Peradeniya, Peradeniya, Sri Lanka - (8th-9th October 2016)

TOPIC : *Graphene as hole conducting material in pervoskite solar cells*



Peradeniya University International Research Sessions

HELD AT : University of Peradeniya, Peradeniya, Sri Lanka - (4th November 2016)

TOPIC : *Convenient method to seal dye-sensitized solar cells*



Solar Energy Materials, Solar Cells and Solar Energy Applications

HELD AT : National Institute of Fundamental Studies, Kandy - (4th - 6th January 2018)

TOPIC : *Enhanced Photocatalysis of H₂O₂ in the Presence of a Cobalt-Trimasic Coordination Polymer*

My Publications

Please goto the website.

<https://sci.pdn.ac.lk/chemistry/staff/Ishanie-Rangeeka-Perera>