Department of Physics

Faculty of Science / University of Peradeniya



Prof. V. Sivakumar

B.Sc. (Perad.), M.Sc., Ph.D. (Atlanta, USA)

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About Me

I was born in Jaffna and educated at Our Lady's Primary School in Nuwara Eliya, S. Thomas' College, Gurutalawa, S. Thomas' College, Bandarawela and Central College Velanai, Jaffna. Entered the University of Peradeniya in 1990. Joined the Department as a temporary assistant lecturer in 1994 and became the lecturer probationary in 1995. Went for higher studies in 1999 to Georgia State University, Atlanta. Came back to the Department, with a Ph.D in 2004 and continued as senior lecturer till 2014. After resigning, served as a Postdoctoral Researcher at Qatar University for three years and rejoined the Department as senior lecturer in 2017.

Higher Education Qualifications

PhD	MSc	BSc
Georgia State University, Atlanta USA (2004)	Georgia State University, Atlanta USA (2002)	University of Peradeniya Sri Lanka (1993)

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Awards, Scholarships, Memberships & Fellowships

- Excellence in Teaching (Undergraduate Courses) for the academic years 2018/19, 2019/20, 2020/21 and 2021/22 Faculty of Science, University of Peradeniya, Sri Lanka.
- Presidential Awards for Scientific Excellence (Sri Lanka) – Years 2007 and 2008
- Outstanding Advanced Graduate Student Award in Physics 2002/2003: For superior research accomplishments and service to the department, Department of Physics and Astronomy, Georgia State University, Atlanta, USA
- Outstanding Graduate Teaching Assistant Award in Physics 2001/2002:
  For performance in meeting instructional responsibilities,
  Department of Physics and Astronomy, Georgia State University, Atlanta, USA
- Member of Sigma pi Sigma, The National Physics Honor Society
- Faculty Award for Excellence in Research for the Year 2024, University of Peradeniya, Sri Lanka.

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Positions Held

- Chairperson, Faculty Research Comittee, Faculty of Science- (04 12- 2024 to Date)
- Head of the Department of Physics- (15-01-2021 - 15-01-2024)
- Graduate Coordinator, M.Sc. in Medical Physics, Postgraduate Institute of Science (PGIS)- (06-06-2019 - 06-06-2022)
- Coordinator, Faculty Quality Assurance Cell (FQAC), Faculty of Science- (01-09-2019 - 28-02-2021)
- Postdoctoral Researcher, Dept. of Chemistry and Earth Sciences, College of Arts and Sciences, Qatar University, Doha, Qatar.- (April 2013 – May 2016)
- Chairperson, Board of Study in Physics, Postgraduate Institute of Science, Peradeniya,- (January 2010 – February 2013)
- Graduate Coordinator, M. Sc. in Medical Physics, Postgraduate Institute of Science, (PGIS)- (October 2005 – February 2013)
- Member of the Board of Management of the Postgraduate Institute of Science, Peradeniya- (January 2010 – February 2013)
- Visiting Scientist, National Institute of Fundamental Studies, Kandy, Sri Lanka- (October 2004 – December 2008)

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My Teachings

- PHY1103: General Physics I
- PHY2822: Medical Physics
- PHY3822: Biophysics
- PHY3832: Health Physics

Research Interests (Research Fields/ Projects)

- Dosimetry in medical diagnostic and theraputic procedures: Establishment of Diagnostic Refernce Levels (DRLS)
- Synthesis of lead-free radiation shielding materials
- Computational studies on molecular vibrations using *Gaussian.*
- Solar energy conversion in plants and bacteria (Photosystem I).
- Laser flash photolysis.
- Ultrafast chemical reactions detected spectrochemically by pump-probe techniques: Time-resolved UV-Vis and Step-scan FTIR.

Ongoing Research and Projects

Dosimetry in diagnostic and theraputic medical imaging procedures: Establishment of Diagnostic Reference Levels (DRLs)

Radiation Protection: Synthesis of lead free materials to be used in medical procedures

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Key Publications

Journal of Radiological Protection - (2024)

Towards the establishment of national diagnostic reference levels for abdomen, KUB, and lumbar spine x-ray exam Lanka: a multi-centric study

Radiation and Environmental Biophysics - (2024)

Patient dose and associated exposure parameters in pelvic x-ray examinations: dependence on radiographic syster

Peer Reviewed, Full Paper 11th Young Scientists Forum (YSF) Symposium – 2023 - (2023)

Variations in patient doses from lumbar spine x-ray examinations in two public hospitals in Sri Lanka

Journal of Radiological Protection - (2023)

“Towards the establishment of national diagnostic reference levels for chest X-ray examinations in Sri Lanka: A multi-centric study”

Journal of Applied Clinical Medical Physics - (2022)

Evaluation of patient doses for routine digital radiography procedures toward establishing an institutional diagnostic reference levels: A case study in Sri Lanka

Journal Article in the Journal of the National Science Foundation of Sri Lanka - (2021)

Low dose radioiodine therapy: A review of dosimetry and evaluation of potential shielding materials for neck collars

Conferences

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International Conference on Applied and Pure Sciences (ICAPS 2025), University of Kelaniya, Sri Lanka.

HELD AT : University of Kelaniya, Sri Lanka. - (October 10th 2025)
TOPIC : *Development of composite from Calamus rotang (Cane) fibre and glass fibre for enhanced mechanical and thermal properties*

International Conference on Radiation Protection in Medicine: X-Ray Vision (RADPROM 2025) Organized by the International Atomic Energy Agency (IAEA)

HELD AT : IAEA, Vienna International Centre, Austria - (December 08 - 12, 2025)
TOPIC : *Machine Learning-Based Prediction of Breast Dose Quantities in Digital Mammography for ALARA Implementation*

28th Annual Technological Advances in Science, Medicine, and Engineering (TASME-2024) conference,

HELD AT : University of Toronto, Ontario, Canada. - (July 6th & 7th 2024.)
TOPIC : *The Impact of Body Mass Index on Patient Dose Indicators and Exposure Parameters in Projection Radiography Examinations in Sri Lanka*

Middle East Federation of Organization of Medical Physics (MEFOMP 2025)

HELD AT : Kuwait Cancer Control Center, Ministry of Health, - (February 8–10, 2025)
TOPIC : *Investigation of Dose Variation in Adult Non-Contrast Head CT For Radiation Therapy Planning: A Case Study from Sri Lanka*

Middle East Federation of Organization of Medical Physics (MEFOMP 2025)

HELD AT : Kuwait Cancer Control Center, Ministry of Health, - (February 8–10, 2025.)
TOPIC : *Regression-based machine learning for dose prediction and optimization in chest x-ray examinations*

My Publications

Please goto the website.

https://sci.pdn.ac.lk/physics/staff/Velautham-Sivakumar

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