

53/2 Hazra Road
Kolkata 700019
INDIA
DOB February 9, 1956

Phone (91) (033) 2475-7742
Mobile: 9830496271;
9831622126 (WA)
E-mail: sreeparnab@hotmail.com

Sreeparna Banerjee Ph.D.

Education

Ph.D. in Physics (1986-87) University of Virginia USA.

Ph.D. Dissertation title "Analysis of High Energy Radiative Decays"

M.S. thesis title: "Orthogonal Wave functions in Nuclear Physics"

M.Sc. in Physics (1975-77) Calcutta University (First Class)

B.Sc. in Physics (1972-75) Presidency College (Calcutta University) (First Class)

Employment

- 2009-2018: Professor, Maulana Abul Kalam Azad University of Technology
- 2006-2009: Associate Professor, West Bengal University of Technology
- 2001-2006: Reader, Indian Institute of Information Technology-Calcutta

Past:

- ❖ Acting Director of Indian Institute of Information Technology, Calcutta (IIIT-C) from April 2009 to March 2018
- ❖ 2001-2003: Assistant Professor (AICTE norms) at Indian Institute of Information Technology, Calcutta
- ❖ 1992-2000: Indian Statistical Institute, Kolkata, Physics and Applied Mathematics Unit as Visiting Scientist and Project Linked Lecturer/CSIR Pool Officer
- ❖ 1987-1991: Post Doctoral Research Fellow at Engineering Physics, University of Virginia Community College, USA.

Teaching Experience

- ❖ Teaching Experience: 25 years

Languages

French, German, Spanish, Japanese

Publications:

List of publications available in Research Gate and Google Scholar

<https://www.researchgate.net/profile/Sreeparna-Banerjee-4>

<https://scholar.google.com/citations?user=TLasvTsAAAAJ&hl=en>

Books: Elements of Multimedia, CRC press 2019, by Sreeparna Banerjee

Professional memberships

American Physical Society- past member

○

Institute of Electrical and Electronic Engineers USA- past member

Awards received

- National Science Talent Search (NSTS) Award (1972-78) from NCERT (National Council of Educational Research and Training)
- Full Teaching Fellowship, University of Virginia, USA (1980-1983).
- Full Research Fellowship, University of Virginia, USA (1984-1986)
-)

References:

Available upon request

Research Interests:

- Molecular Dynamics simulations of nano-structures and ion-solid irradiation phenomena.
- Space and dusty plasmas and space charge phenomena.
- Pattern Recognition of remotely sensed images.
- Soft Computing, Machine Learning and Data Mining applications in Astrophysics, Meteorology and Space Science.

Sponsored Projects:

1. All India Council of Technical Education (AICTE) – RPS entitled “Osteoarthritis detection with Neural Networks”, Rs. 5.75 lakhs, (2010-2013)
2. University Grants Commission (UGC) Major - entitled “Shape Analysis of Remotely Sensed Objects”, Rs. 8.14 lakhs, (2010-2013)
3. Department of Biotechnology (DBT)- entitled “Case based Reasoning for the detection of abnormalities in Retina Images”

Professional Guidance:

2 Ph.D. s, 21 MTech and 80 BTech students

Administrative Responsibilities

- Vice Chairman Board of Studies, Maulana Abul Kalam University of Technology (MAKAUT) (2017- 2018)
- President JEMAT (Joint Entrance in Management Test) board at MAKAUT (2015-2018)
- Chairperson: Women's Grievance Cell MAKAUT (2017-2018)
- Nodal Officer: Faculty and Staff Development TEQIP (Technical Education Quality Improvement Program) (2012-2018)
- Head of Departments of Natural Science and Industrial Engineering and Management, MAKAUT, (2015-2018)
- Head of Teachers' Association, MAKAUT, 2017-2018

Conferences/Workshops attended include but not limited to:

Gordon Research Conference, New Hampshire, USA; (1990). (Presented paper on Molecular Dynamics simulation)

US-CERN Particle Accelerator Workshop, South Carolina, USA; (1990)

Pittsburgh Supercomputing Workshop Carnegie Mellon University USA; (1990)

CIMPA-CIMI Virtual Reality School, Nice, France (1995)

Second International Workshop on Parallel Processing and Supercomputing Applications in Science and Engineering (ICTP), Trieste, Italy. (1996).

Second Antonio Borsellino College on Neurophysics at ICTP, Trieste, Italy (1998).

School of Neural Information Processing, ICTP, Trieste, Italy (1999).

Visits:

University of Bologna Department of Mathematics 2016

University of Helsinki Accelerator Laboratory 2012

Talks:

Inter University Accelerator Centre: Molecular Dynamics 2013

University of Bologna: Size Function Applications in Cyclone and Galaxy pattern analysis

Computer Skills

- Programming:

Fortran 77 (Wrote several codes as described above), C/C++ (wrote code on conversion of raw image file into TIFF generation), Shell script (conducted lab

projects in UG Unix lab). MATLAB, Familiar with Java, Python, Adobe Photoshop/GIMP,

- Software: *Image Processing*: ImageJ, Open CV, ImageMagick,
Machine Learning: WEKA
Molecular Dynamics (MD): LAMPP, PARCAS
Experience with Parallel Processing, Supercomputing (at IUAC)

Research Experience

- Nuclear and Particle Physics
- Theoretical analysis of Radiative Tau and Quarkonium Decays (Ph.D. and Post Doc)
- Computational Analysis of Dirac wave functions in Nuclear Physics (wrote F77 code)
- Molecular Dynamics
- Simulations of Ion Solid interaction (Post Doc)
- Dusty Plasmas
- Solitons and double layers in dusty plasmas (wrote F77 code)
- Charge transfer cross sections in planetary atmospheres (wrote code)
 - Image Processing
 - Medical Image Processing
 - Analysis of CT, MRI and X-ray images of brain and osteoarthritis X-ray images using Cellular Neural Networks
 - Machine Learning techniques to analyse Diabetic Retinopathy (DR) and Age-Related Macular Degeneration

Remotely sensed Images

- Cyclone cloud intensity pattern classification of VIS and InfraRed (VIS and IR) using Machine Learning
- Galaxy classification using Machine learning

Journal Reviewer:

- Advances in Space Research,
- International Journal of Remote Sensing,
- Computer Methods and Programs in Biomedicine
- Computers in Medicine and Biology
- Machine Vision and Applications

<https://scholar.google.com/citations?user=TLasvTsAAAAJ&hl=en>

Invited to Review:

Discover Artificial Intelligence, Scientific Reports, Discover Computing (Springer Nature),

Frontiers in Earth Science, Journal of Earth Science Research, Frontiers in Big Data, Earth Science Informa

International Journal of Medical Informatics.