

Dr Tamal Sarkar,

Scientific Research Officer-II, HECRRC, NBU

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Qualification: M.Sc. (Physics), M. Phil (Physics), Ph.D. (Physics with Course work)

Achievement and awards: CSIR-JRF- NET FELLOWSHIP, JEST, GATE

Area of specialization: Electronics (P.G.), Computational Physics (M.Phil) and Astrophysics (Ph. D)

Area of Research Interest: Astrophysics, and Computational Physics Additional

Qualification: M.Sc. (Computer Science), MLISc

Number of Ph.D. students a) Supervised : Nil b) Ongoing : Nil

Number of MPhil./MSc students a) Supervised : 01 (2022-23) b) Ongoing : Nil

Publications (Journal &Book Chapter) and citation:

- (1) [Click Here \(irins.org\)](#)- Project included
- (2) [Click Here \(researchgate.net\)](#) – (all the book Chapters added)
- (3) [Click Here \(Google Scholar\)](#) - Citation

Professional Experiences

- Operating Assistant (2001-2002): West Bengal Power Development Cooperation Limited
- JRF at IITG-2002
- Assistant Teacher Physics in Govt. Aided School (PG Scale) (2002-2007)
- Technical Officer -I, USIC, NBU (February 15, 2007 to December, 23, 2018)
- Scientific Research Officer Gr-II, HECRRC, NBU (Since December, 24, 2018 to present)

Administrative Experience

- Technical Officer -I, USIC, NBU (February 15, 2007 to December, 23, 2018)
- Development Officer, NBU, 20-05-2019 to 16-03-2022
- Director, HECRRC, NBU, January, 2020 to 31.12.2021

Members of Professional Bodies

- FOSET (Life member, LM2011-2069-SLG),
- The Indian Science Congress Association, L43686
- IUCAA Associate: Selected for Associateship Program of IUCAA, Pune (August 1, 2019 to July, 2022) and (August 1, 2022 to July, 2025)
- Life member, Senior Member, IIP (InSc202113C81)- [Click here](#), Acted as editor for book series under IIP Volume 3 , 2023
- Member of Reviewer Panel, id=357138 , IJSR, [Click here](#)

Other Information:

- Acted as Faculty for Basic Physics Course offered by NBU to MSc Biotechnology PG student
- Acted as Faculty for BSc General Physics Course offered by NBU to Geology (Hons) UG student
- Visiting faculty for Orientation Programme as well as Short Term Programme offered by HRDC, NBU time to time
- Acted as Judge in various Scientific invent and given invited talks in SIT, Siliguri
- Participated as well as Presented papers in various Conferences

Others:

WhatsApp group “NBU Astrophysics group” maintained by Dr Tamal Sarkar: To join this group, please contact, me

Link to webpage developed by Dr Tamal Sarkar in which he shares useful information related to his activities : [Tamal Sarkar site](#)

Paper presentation in Seminar/Conferences:

Name of the Event	Duration and place	Title of the presentation/ Acted as
Special Lecture for Faculty Members , North Bengal Saint Xavier's College	30-07-2024, North Bengal Saint Xavier's College	Hands-on: create Engaging Education Content with Chrome and AI
TLASH-2024, GD Goenka University Guru gram (India) in Association with AIU	May 30-31, 2024, online	Design and Development of an affordable optical system for testing shields and filters (Selected as Best paper)
Techno vision 2K24, Siliguri Institute of Technology	April 08-09, 2024	Acted as Judge for Robotics Competition and hardware based Project Competition
All India People's Technology Congress under Environment Sub-Congress	June 25-26, 2023	Development of Low Cost Optical System for Testing High Intensity Optical Filters and Welding Shield
International Conference on Frontiers in Pure and Applied Physics (ICFPAP-2024)	29-02-2024 to 2-03-2024	Probing Cold Dark matter in the Galactic Halo through Gravitational Time Delay
Invited Lecture	27.02.2024, A.P.C Government College	Introduction to Stellarium and Virtual Observatory
Workshop "Indoor and Outdoor of Sky Watching"	10-02-2024	Acted as Resource person
International Conference on Computational Technologies and Electronics (ICCTE-2023)	November 23-25, 2023	Acted as Reviewer for conference proceeding publication
A Workshop on telescope	March 03, 2023	Acted as Resource Person
Exploring the Cosmos 2023: A national Seminar on Relativistic Universe, HECRRC, NBU	February 15, 2023	Acted as Convener
10 th Online Faculty Induction Programme (FIP-10)	Online mode, HRDC, NBU on 02-09-2022	Use of Assemble Desktop and Open Source Software in Indian HEIs: An Alternative approach
11 th Online Faculty Induction Programme (FIP-11)	HRDC, NBU on 28-11-2022	Creation of sharable Digital Content
RC-Recent Advancement of Material Science & technology	HRDC, NBU on 11-11-2022	Physics Principle and Application
108 th Indian Science Congress, Organized by The Indian Science Congress Association	Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur, January 3-7, 2023	1) Probing Cold Dark matter through Gravitational Time Delay by Gravitational Field of Galactic Halo 2) Development of Low cost UV & high-intensity optical filters through parametric studies with products available in the market
15 th Radio astronomy Winter School 2022	IUCAA, Pune, December 13-23, 2022	Acted as mentor for a student group

Exploring the Cosmos 22: An International Conference on Relativistic Universe, HECRRC, NBU	March 15-16, 2022	Acted as Convener
65 th DAE-BRNS Symposium on Nuclear Physics, 2021	Online, Organized by BARC at DAE Convention Centre, Mumbai, 02-dec-2021 to 16-dec-2021	Variation of efficiency of accretion with spin around rotating black hole
Online line Talk: Seminar Lecture	Signature of Synchrotron radiation from High Energy Astrophysical Sources	July, 19, 2020 (online)
8-Day Hands-on-Activity Based International Virtual workshop on "Art of Writing Research Articles: Tools & Techniques"	Online, 17 th -24 th March, 2021, Organized jointly by IISRR, Kolkata & Maulana Azad National Urdu University, Hyderabad	E-Waste threat and solution to the impending e-waste threat in India
CRAGA Online Colloquium Series, organized by High Energy & Cosmic Ray Research Centre (HECRRC), NBU	July 19, 2020, Google meet	Signature of Synchrotron radiation from High Energy Astrophysical sources
107 th Indian Science congress	January 3-7, 2020	Design of Different latches and flip-Flops sing QCA Investigation of the nature of X- ray Source 1E 161348-5055.1 using Spectral and Timing Analysis
India International science festival 2019	November 5-8, 2019, Biswa Bangla Convention centre, kolkata	Is 1E 161348-5055.1 a young low mass Binary or isolated magnetar?
UGC sponsored Orientation Programme (OP-NBU-41)	10.01.2020, HRDC, NBU	Online and Transnational education: A brief introduction
UGC sponsored Orientation Programme (OP-NBU-40)	08.11.2019, HRDC, NBU	Earth's Gravity and its Effect
106 th Indian Science congress	January 3-7, 2019, Lovely Professional University, Phagwara, Jalandhar	Study of radiation...using XMM Newton data
International Seminar on Correlative advancement on Analytical and Applied physics	October 21-22, 2019, Saint Joseph's College, Darjeeling	Importance of synchrotron radiation in X-ray Astronomy
UGC sponsored Orientation Programme (OP-NBU-39)	15.09.2019, HRDC, NBU	A brief introduction regarding development of online education and transnational education
UGC sponsored Orientation Programme (OP-NBU-38)	17.07.2019, HRDC, NBU	Understanding gravity with examples

Recent trend in Indian Higher Education Administration and Finance, organized by WBUOA	12 January, 2019 , Digha	Download of e-Resources under e-Shodhsindhu Consortium: A case study of North Bengal University
TECHNOVISION 2K19, organized by SIT, Siliguri	February 19, 2019, Siliguri Institute of Technology, Siliguri	Judge for the HARDWARE BASED Competition
TECHNOVISION 2K19, organized by SIT, Siliguri	February 20 , 2019, Siliguri Institute of Technology, Siliguri	Judge for the ROBOTICS Competition
Recent Advances in engineering Sciences, organized by SIT, Siliguri	September, 28-29, 2018 , SIT, Siliguri	An overview of Synchrotron Radiation from relativistic electrons and its application in X-Ray Astronomy
Training programme on webpage designing	April 9-13, 2018, USIC, NBU	Acted as Course Coordinator
25 th West Bengal State Science and technology Congress, GOWB	March 4-5 , 2018, Science city Kolkata	The Effect of spin on the Radiative Flux in kerr-Space Time
Workshop on Research Methodology, organized by North Bengal Saint Xavier's College	March 27, 2018, North Bengal Saint Xavier's College, Rajgunj	Acted as resource person
Workshop on Application and Usage of Scanning Electron Microscope (SEM)	January 11-12, 2018, USIC, NBU	Acted as Convener
2 nd Regional Science & technology congress, 2017	December 7-8, 2017, Siliguri College, Siliguri	The Effect of spin on the Radiative Flux in KJerr-Space Time and Outstanding paper Award
National workshop on recent Advances in Astrophysics & Cosmology, Organized by IUCAA resource Centre (IRC), Department of Physics	March 17-18, 2017, Department of Physics, NBU	Acted as Resource Person
Exploring the Cosmos: 2016- 17, UGC Sponsored National Conference, organized by HECRRC, NBU	January 16-17, 2017, HECRRC, NBU	Particle trajectories in static Back Hole Spacetimes
National seminar entitled Higher Education: Inclusive and Qualitative Growth vis a vis officers, Organized by North Bengal University Officers' Association (NBUOA)	September 10, 2016, Conference hall, NBU	Impact of Cost-recovery Measures on Quality of Higher Education

National conference on current issues in Cosmology, Astrophysics and High Energy Physics (CICAHEP)	November, 2-5, 2015, department of Physics, Dibrugarh University, Assam	Generalized Pseudo-Newtonian potential for Kerr Black Holes
National Seminar entitled Digital India: Higher	August 22-23, 2015, Udayshankar Hall,	Need of virtual classroom to enhance the quality of open
Education Scenario: Issues, Challenges & Prospects	Jorasanko campus, Rabindra Bharati University, Kolkata	mode of learning: An emerging form, of education
22 nd West Bengal State Scienced & technology Congress-2015	February 28 and March 1, 2015, University of north Bengal	Digital circuit Designing using iVerlog Process of Triple formation and its Evolution
Physics and Applied Mathematics Researchers' Meet-2015	March 18-20 , 2015, Indian Statistical Institute, Kolkata	Influence of Cosmological constant on Gravitational Time Delay of Massive particles
Exploring the Cosmos, UGC Sponsored Conference	January 22, 2015, HECRRC, NBU	Dependence of gravitational transit on Cosmological constant for massive particle

Professional / Faculty Development Programme Completed:

Professional Body / Agency	Name of the FDP/Course	Duration
Department of Bioinformatics , NBU in collaboration with Institution's Innovation Council of NBU and IP Bricklayer, Gujrat	Training Program (Online) on Intellectual Property Rights	February 5-16, 2024 (online)
ICARD, Gauhati University in collaboration with Teaching Learning Centre (TLC) of the Astronomy Centre for Educators (ACE), IUCAA, Pune	Padagogic Workshop of Astronomy, Astrophysics and Cosmology (A Faculty Enrichment Program)	January 4-10, 2024 (Physical Mode)
Astronomy Centre for Educators (ACE). IUCAA	NEP 2020 Orientation & Sensitization Programme	November 1-14, 2023 (Online)
Astronomy Centre for Educators (ACE). IUCAA	Astronomy Themed Workshop-2023	August 8-12, 2023
Astronomy Centre for Educators (ACE). IUCAA	Horn Antenna Workshop 2023	April 3-6, 2023
AICTE Training and Learning (ATAL) Academy, Department of Physics, the University of Burdwan	FDP on to Application of GNSS/NavIC in cost-efficient solution development	09-01-2023 to 14-01-2023 (online) and 16-01-2023 to 20-01-2023 (Physical Mode)
NPTEL- AICTE	FDP on Applied Optics	Jul-Oct 2022 (12 Week Courses)
NPTEL- AICTE	FDP on Electronic Waste Management- Issues and Challenges	24-Jan-2022 to 18-Feb-2022
NPTEL- AICTE	Physics of Renewable Energy Systems	26-Jul-2021 to 15-oct-2021
TLC of IUCAA under the PMMMNMTT scheme, DOE, Government of India	Astronomical data analysis using Python	08-Nov-2021 to 12-Dec-2021
Positron Foundation CITTIC, Cochin University of Science and Technology, Cochil	DATA DRIVEN ASTRONOMY	10 Sep-2021 to 13 Oct- 2021
Clarivate	Web of Science Certification Program	01-Jan-2022 to 28-02-2022(Three sessions)
Department of Physics, Bodoland university	Short Term Online Course on Computational Physics	May, 12-18, 2020
IQAC & Department of Chemistry, Basanti Devi College	E-Short Term Course, Earth: Our Home	June, 5-11, 2020
John Hopkins University under	COVID-19 Contact tracing	June 2020

COURSERA		
Teaching Learning Centre of IUCAA under PMMMNMTT of MHRD	Refresher Course on Astronomy and Astrophysics 2020 (Via online)	11-May to 12 th June, 2020
NPTEL-AICTE, IITM	Patent law for engineers	Jan-Apr 2018
NPTEL-AICTE, IITM	Effective Engineering Teaching in Practice	Feb-march 2018
NPTEL-AICTE, IITR	Biomedical nanotechnology	Aug-sep 2018
NPTEL-AICTE, IITM	Biology for Engineers and other Non Biologists	Aug-sep 2018
NPTEL-AICTE, IITM	Matlab Programming for Numerical Computation	Jan-Mar 2019
NPTEL-AICTE, IITR	Introduction to remote sensing	Jan-Feb 2019
NPTEL-AICTE, IITM	Teaching and learning in Engineering	Feb-March 2019
NPTEL-AICTE, IITM	Descriptive Statistics with R software	Feb-Apr 2019
NPTEL-AICTE, IITM	Data Science for Engineers	Jul-sep 2019
NPTEL-AICTE, IITM	Physics of materials	Jul-Oct 2019
UGC and IGNOU	Web content Management	July-October, 2019
UGC and H.N.B Garhwal University	Academic Writing	July-October, 2019
ARPIT, MHRD	Refresher Course on teacher and teaching in Higher Education	Feb, 2020
CREATES, IISER Bhopal, under PMMMNMTT scheme of MHRD, GOI	Online Workshop on Evidence Based Teaching and learning Strategies in Higher education	Aug 20 - 22, 2020
TLC, IUCAA, under PMMMNMTT scheme of MHRD, GOI	Refresher Course on Astronomy and Astrophysics	11 th May-12 th June, 2020

Department of Physics, Bodoland University	Short Tern online Course on Computational Physics	12 to 18may 2020
Johns Hopkins University under COURSERA project	COVID-19 Contact Tracing, online non- credit course	May, 2020
NPTEL-AICTE, IITR	Introduction to Atomspheric and Space sciences	Jan-Apr 2020