Kinsuk Giri

as on July 27, 2022

Current Position and Address
Assistant Professor, Dept. of CSE
National Institute of Technical Teachers' Training & Research (NITTTR), Kolkata
Block - FC, Sector - III, Salt Lake City,
Kolkata - 700106, India.

Parental Address
Mouni, Vill + PO + PS : Mohanpur
Dist: Paschim Medinipur
West Bengal, PIN - 721436, India.

PERSONAL DETAILS

- Date of Birth : **7th October, 1984**
- Father's Name : Kalipada Giri, Mother's Name : Swapna Giri
- Gender : Male, Nationality : Indian, Mother Tongue : Bengali
- Religion : Hindu, Place of Birth : Mohanpur, WB, India
- Telephone : +9133 66251994
- Primary Email : **kinsuk@nitttrkol.ac.in**
- Alternative Email : **kinsuk84@gmail.com**
- Homepage : http://www.nitttrkol.ac.in/kinsuk/home.html
- Google Scholar : http://scholar.google.co.in/citations?user=oWfT2skAAAAJ&hl=en
- Research Gate : https://www.researchgate.net/profile/Kinsuk-Giri
- Orcid : https://orcid.org/0000-0003-2671-3079
- Linkedin : https://www.linkedin.com/in/kinsukgiri/

EDUCATIONAL QUALIFICATIONS

- **Doctor of Philosophy (Ph.D (Science))**, *Year of Passing :* **2013**
  Institution: *S. N. Bose National Centre for Basic Science, Kolkata, India*
  University : *Jadavpur University, Kolkata, India*
  Thesis Title : Numerical Simulation of Viscous Accretion Flow Around Black Holes Which Include Shocks
  Name of Thesis Supervisor : *Prof. Sandip K. Chakrabarti*
- **Master of Science (M.Sc.)**, *Year of Passing :* **2007**, Subject: **Mathematics**
  Institution/University : *Dept. of Mathematics, Visva-Bharati Central University, Santiniketan*
  Marks Obtained : **978**, Maximum Marks : **1200**, Percentage : **81.50%**, Division/Class : **1st**

- **Bachelor of Science (B.Sc.)**, *Year of Passing :* **2005**
  Subjects: **Mathematics** (Major), *Physics & Chemistry* (Minors)
  Institution/University : *Dept. of Mathematics, Visva-Bharati Central University, Santiniketan*
  Marks Obtained : **781**, Maximum Marks : **1000**, Percentage : **78.10%**, Division/Class : **1st**
- **Higher Secondary Degree (HS)**, *Year of Passing :* **2002**
  School/Council : *Vidyasagar Vidyapith, Midnapore, WBCHSE*
  Marks Obtained : **800**, Maximum Marks : **1000**, Percentage : **80.00%**, Division/Class : **1st**
- **Secondary Degree (Madhyamik)**, *Year of Passing :* **2000**
  School/Board : *Baita M.N. High School, Baita, WBBSE*
  Marks Obtained : **646**, Maximum Marks : **800**, Percentage : **80.75%**, Division/Class : **1st**

RESEARCH INTERESTS

- Computational Astrophysics and Cosmology
- Computational Geometry
- Unsupervised Learning
- Parallel Computing

COMPUTATIONAL SKILLS

Operating System

- Linux
- Windows

Programming Languages

- PYTHON
- FORTRAN
- C
- BASIC
- Visual Basic
- Pascal

Software Packages

- SCILAB & MATLAB
- Anaconda & Eclipse
- Shell Script & Gnuplot
- Latex & Mathematica
- Ftools & Heasoft
- Super Mongo & Golden Surfer
- MS Excel & MS Access
- HTML & PHP

WORK EXPERIENCES

PhD Research Experiences (5.8 Years)

Organisation / Institute	Designation	DoJ	DoL	Duration (Years)
S. N. Bose National Centre for Basic Science	JRF	08/01/2008	07/01/2010	2
S. N. Bose National Centre for Basic Science	SRF	08/01/2010	31/12/2012	3.0
S. N. Bose National Centre for Basic Science	E-SRF	01/01/2013	08/11/2013	0.8

Post Doctoral Research Experiences (1.5 Years)

Organisation / Institute	Designation	DoJ	DoL	Duration (Years)
National Hsing Hua University	Post Doc	04/03/2014	31/08/2015	1.5

Teaching, Training and Research Experiences (6.2 Years)

Organisation / Institute	Designation	DoJ	DoL	Duration (Years)
CIPET Ahmedabad	Lecturer	11/11/2013	31/01/2014	0.2
NITTTR Kolkata	Asst. Professor	11/09/2015	Now	6.0

ACADEMIC FELLOWSHIPS, AWARDS, GRANTS

1. *Certificate of Graditude from VOKAL for Contributing India's Vernacular Knowledge Base on VOKAL* **Nov, 2019**
2. *GSIR Young Scientist Award (Male) (Below 40 years) from IARE-2019, GSIR, India,* **May, 2019**
3. *DST-SERB International Conference Support Award to attend 41st COSPAR Scientific Assembly held at Istanbul, Turkey,* **August, 2016**
4. *Springer Outstanding Ph.D Thesis Award from Springer International Publication House,* **Sept, 2014**
5. *Post Doctoral Research Fellowship from National Science Council (NSC) of Taiwan, Taiwan,* **Dec, 2013**
6. *National Eligibility Test for Junior Research Fellowship (NET JRF) from CSIR-UGC, India,* **May, 2008**
7. *National Eligibility Test for Lectureship (NET LS) from CSIR-UGC, India,* **May, 2007 & Oct, 2007**
8. *JAM, 2005 Conducted by IITs, India,* **May, 2005**
9. *SNBNCBS JRF & SRF from S. N. Bose National Centre for Basic Science, Kolkata,* **Jan, 2008 & Jan, 2010**
10. *SNBNCBS ESRF from S. N. Bose National Centre for Basic Science, Kolkata,* **Jan, 2013**

11. *HONOURABLE MENTION POSTER AWARD from International Centre for Theoretical Physics (ICTP), Italy,* **Nov, 2011**
12. *BEST POSTER AWARD (3 times) from S. N. Bose National Centre for Basic Science, Kolkata,* **2009, 2011 & 2013**
13. *Full Travel and Accomodation Grant from International Centre for Theoretical Physics (ICTP), Italy,* **Oct, 2011**
14. *Travel and Accommodation Gtrant from South Asian Physics Foundation (SAPF), Asia,* **Oct, 2010**
15. *Partial Travel and Accommodation Support from International Union of Pure and Applied Physics (IUPAP), Sweden,* **June, 2012**
16. *Full Financial Grant from COSPAR, Europe,* **July, 2012**
17. *Partial Financial Grant from Kyoto University, Kyoto, Japan,* **Oct, 2012**

PUBLICATIONS AND PREPRINTS

Papers Published/Accepted in SCI Journals

1. *"Computational Modelling of Surface Modified Carbon Nanotube for Low Temperature Fuel Cell"* by Susmita Singh, **Kinsuk Giri**, Adrita Chaudhury and Somerup Ponda, Journal of Nano- Electron. Phys., Vol. 14, No 3, 03014, DOI: 10.21272/jnep.14(3).03014, 2022.
2. *"Constraints on cubic and f (P) gravity from the cosmic chronometers, BAO & CMB datasets: Use of machine learning algorithms"* by **Kinsuk Giri** and Prabir Rudra, Nuclear Physics B, Elsevier, Volume 978, No 115746, 2022, **Impact Factor : 2.8**
3. *"ECR-DBSCAN: An Improved DBSCAN Based on Computational Geometry"* by **Kinsuk Giri**, Tuhin K. Biswas and Pritisha Sarkar, Machine Learning with Applications, Elsevier, Volume 6,No 100148, 2021, **Companion Journal of ESWA of Impact Factor : 8.3**
4. *"Observational Constraint in $f(R,T)$ gravity from the cosmic chronometers and some standard distance measurement parameters"* by Prabir Rudra and **Kinsuk Giri**, Nuclear Physics B, Elsevier, Volume 967, No 115428, June, 2021, **Impact Factor : 2.8**
5. *"Simulation of Diurnal Variation of Sub-Ionospheric VLF Transmitter Signals Using Machine Learning Approach"* by **Kinsuk Giri**, Sujay Pal, Tuhin K.Biswas and S.K. Midya in Romanian Journal of Physics, Volume 66, pp - 807, 2021, **Impact Factor : 1.4**
6. *"Dynamics of Magnetic Flux Tubes in an Advective Flow around a Black Hole"*, by Arnab Deb, **Kinsuk Giri** & Sandip K. Chakrabarti, in Monthly Notices of the Royal Astronomical Society, Oxford University Press,Volume 472, Issue 2, p.1259-1271, 2017, **Impact factor : 5.226**
7. *"Numerical Simulation of Vertical Oscillations in an Axisymmetric Thick Accretion Flow around a Black Hole "*, by Arnab Deb, **Kinsuk Giri** and Sandip K. Chakrabarti in Monthly Notices of the Royal Astronomical Society, Oxford University Press, Volume 462, Issue 4, Page 3502-3510 , 2016, **Impact factor : 5.226**
8. *"Effects of Turbulent Viscosity on A Rotating Gas Ring Around A Black Hole: The Density Profile and Timescales in Numerical Simulation"* by **Kinsuk Giri** and H. K Chang in Astronomische Nachrichten, Wiley, Volume 336, Issue 10, pp - 1005-1012, 2015, **Impact Factor : 1.2**
9. *"Segregation of a Keplerian disk and sub-Keplerian halo from a Transonic flow around a Black Hole by Viscosity and Cooling processes"*, by **Kinsuk Giri**, Sudip K. Garain and Sandip K. Chakrabarti in Monthly Notices of the Royal Astronomical Society (MNRAS), Oxford University Press, Volume 448, Issue 4, pp 3221-3228, 2015, **Impact Factor : 5.226**

10. *"Hydrodynamic Simulation of Two Component Advective Flows around Black Holes"*, by **Kinsuk Giri** and Sandip K. Chakrabarti in Monthly Notices of the Royal Astronomical Society (MNRAS), Oxford University Press & Wiley-Blackwell, Volume 430, Issue 4, pp 2836-2843, 2013, **Impact Factor : 5.226**
11. *"Hydrodyinamic Simulations of Viscous Accretion Flows Around Black Hole"*, by **Kinsuk Giri** and Sandip K. Chakrabarti. Accepted in Monthly Notices of the Royal Astronomical Society (MNRAS), Oxford University Press & Wiley-Blackwell, Volume 421, Issue 1, pp 666-678, 2012, **Impact Factor : 5.226**
12. *"Effect of Compton Cooling on the Hydrodynamic and the Spectral Properties of a Two Component Accretion Flow around a Black Hole"*, by Himadri Ghosh, Sudip Garain, **Kinsuk Giri** and Sandip K. Chakrabarti. Published in Monthly Notices of the Royal Astronomical Society (MNRAS), Oxford University Press & Wiley-Blackwell, Volume - 416, Issue - 2, pp 959-971, 2011, **Impact Factor : 5.226**
13. *"Hydrodynamic simulations of oscillating shock waves in a sub-Keplerian accretion flow around black holes"*, by **Kinsuk Giri**, Sandip K.Chakrabarti, M.M. Samanta and D. Ryu. Published in Monthly Notices of the Royal Astronomical Society (MNRAS), Oxford University Press & Wiley-Blackwell, Volume-403, Issue 1, Pages 516-524, 2010, **Impact Factor : 5.226**
14. *"VLF signals in summer and winter in the Indian sub-continent using multi-station campaigns"*, by S. K. Chakrabarti et al., Indian Journal of Phys. (IJP), Springer, Volume 86, Issue 5, pp 323-334, 2012, **Impact Factor : 1.7**

Papers Published/Accepted in Conferences

1. *"Determining Optimal Epsilon (eps) for DBSCAN using Empty Circles"* by **Kinsuk Giri** & Tuhin K. Biswas,ICRTAC-AIT-2020, Lecture Notes in Electrical Engineering, AISE, vol 836, Page 265-75, Springer, Singapore, 2022
2. *"Computational Modelling of Surface Modified Carbon Nanotube for Polymer Electrolyte Membrane Fuel Cell (PEMFC)"* by Susmita Singh, **Kinsuk Giri**, Adrita Chaudhury & Somerup Ponda, ICTFC-2022, Sakarya University of Applied Sciences, Sakarya, Turkey, Jan 6-8, 2022
3. *"A Computational Study on the Modelling of Surface Modified Carbon Nanotube for Low Temperature Fuel Cell"* by Adrita Chaudhury, Somerup Ponda, **Kinsuk Giri** and Susmita Singh. International Conference on Nanomaterials: Recent Developements and New Directions, Cape Comorin Conference, October, 2021
4. *"Determining Optimal Epsilon (eps) on DBSCAN using Empty Circles"*, by **Kinsuk Giri** & Tuhin K. Biswas, AISE 2020, NIT Goa, India, Springer, Jan 2021
5. *"A Novel Approach for Initializing Centroid at K-Means Clustering in Paradigm of Computational Geometry"*, by Tuhin K. Biswas and **Kinsuk Giri**, ICRTAC – AIT 2020, VIT Chennai, India, Springer, 2021
6. *"Remarkable Contributions by Jain Mathematicians in Ancient India"* by **Kinsuk Giri** & Debi Prasad Mishra, AISTEM 2021, NITTTR Kolkata
7. *"An Intelligent Technique to Find Bi-cliques and its Application to Optimum Matching Problem"*, by Pritisha Sarkar & **Kinsuk Giri**, ic-ETITE, IEEE, 2019, DOI : 10.1109/ic-ETITE47903.2020.61
8. *"Higher Order Stability Analysis for Astrophysical Accretion Processes"*, by **Kinsuk Giri** & Sayan Kundu, Proceedings in Mathematics & Statistics, Springer, 342, 73-79, March, 2021
9. *"Possible Images of Sgr A* in Two Component Advective Flow Paradigm"*, by **Kinsuk Giri**, Sandip K. Chakrabarti & Arka Chatterjee, 42nd COSPAR Scientific Assembly, 14-22 July, Pasadena, California, 2018

10. *"Segregation of Disc, Halo and Outflow from a Transonic Flow around a Black hole"*, by **Kinsuk Giri** & Sandip K. Chakrabarti, 42nd COSPAR Scientific Assembly, 14-22 July, Pasadena, California, 2018
11. *"Higher Order Stability Analysis for Astrophysical Accretion Processes"*, by **Kinsuk Giri** & Sayan Kundu, 42nd COSPAR Scientific Assembly, 14-22 July, Pasadena, California, 2018
12. *"Time dependant spectral properties of Two Component Advective Flow"*, by Arnab Deb, Sandip K. Chakrabarti & **Kinsuk Giri**, 42nd COSPAR Scientific Assembly, 14-22 July, Pasadena, California, 2018
13. *"Vertical Oscillation in thick accretion flow and its effect on outflows"*, by Arnab Deb, Sandip K. Chakrabarti & **Kinsuk Giri**, 42nd COSPAR Scientific Assembly, 14-22 July, Pasadena, California, 2018
14. *"Time dependant spectral properties of Two Component Advective Flow"*, by Arnab Deb, Sandip K. Chakrabarti & **Kinsuk Giri**, 42nd COSPAR Scientific Assembly, 14-22 July, Pasadena, California, 2018
15. *"How outflows are collimated and accelerated? - role of toroidal magnetic flux tubes"*, by Arnab Deb, Sandip K. Chakrabarti & **Kinsuk Giri**, 42nd COSPAR Scientific Assembly, 14-22 July, Pasadena, California, 2018
16. *"Magnetic flux tubes as collimators and accelerator of outflow"* by Arnab Deb, by **Kinsuk Giri** and Sandip K. Chakrabarti,Conference on Recent Trends in the study of Compact Objects - Theory and Observation (RETCO - III), 5-7th June, 2017 IIST, India, 2017
17. *"Effects of Vertical Oscillations on Outflows in a Thick Accretion Flow around a Black hole"* by **Kinsuk Giri**, Arnab Deb and Sandip K. Chakrabarti, International Conference on Wide Band Spectral and Timing Studies of Cosmic X-ray Sources, TIFR-Mumbai, India, 2017
18. *"Effects of Magnetic Flux Tubes on the Origin, Acceleration and Collimation of Outflows from an Advective Flow"* by Arnab Deb, **Kinsuk Giri** and Sandip K. Chakrabarti, International Conference on Wide Band Spectral and Timing Studies of Cosmic X-ray Sources, TIFR-Mumbai, India, 2017
19. *Time Evolution of a Rotating Gas Ring Around a Black Hole in Presence of Viscosity and Cooling"* by **Kinsuk Giri**, 41th COSPAR Scientific Assembly, Istanbul, Turkey, 2016
20. *"Dynamics of magnetic flux tubes in an advective flow around black a hole"* by Arnab Deb, **Kinsuk Giri** & Sandip K. Chakrabarti, 41st COSPAR Scientific Assembly, Istanbul, Turkey, 2016
21. *"Numerical simulations of a Two Component Advective Flow for the study of the spectral and timing properties of black holes"*, by **Kinsuk Giri** and Sandip K. Chakrabarti, Proceedings of the Thirteenth Marcel Grossmann Meeting, World Scientific Publishing Co. Pte. Ltd., 2015. ISBN - 9789814623995, pp. 2401-2403, 2015
22. *"Formation of Two Component Advective Flow by Numerical Simulations and Monte-Carlo simulations of their spectral properties"*, by S. K. Chakrabarti, S. Garain, **Kinsuk Giri**, H. Ghosh, 40th COSAPAR Scientific Assembly, Moscow, Russia, Abstract E1.5-5-14, 2014
23. *"Effects of Turbulent Viscosity on A Rotating Gas Ring Around A Black Hole: Results of Numerical Simulation"* in **Conference in Accretion and Outflows throughout the Scales**, *Oct 1-3, 2014, Centre Blaise Pascal, ENS Lyon, France*
24. *"Two Component Advective Flows Around Black Holes: Theory, simulations and observational verifications"*, by S. K. Chakrabarti et al., 40th COSAPAR Scientific Assembly, Moscow, Russia, Abstract E1.13-12-14, 2014
25. *"Role of Viscosity and Cooling in Hydrodynamic Simulation of. Two Component Accretion Flow (TCAF) around Black Holes"*, by **Kinsuk Giri** and Sandip K. Chakrabarti, Astronomical Society of India Conference Series (BASI), Vol. 8, pp 15-18, 2013

26. *"Monte-Carlo Simulations of Comptonization Process in a Two Component Accretion Flow around a Black Hole in Presence of an Outflow"*, byHimadri Ghosh, Sudip Garain, **Kinsuk Giri** and Sandip K. Chakrabarti, Proceedings of the Twelfth Marcel Grossmann Meeting on General Relativity, World Scientific Publication, Singapore, ISBN - 9789814374514, pp 985, 2012
27. *"Numerical simulations of a Two Component Advective flow for the study of the spectral and timing properties of BHs and NSs"* by **Kinsuk Giri** and Sandip K. Chakrabarti, 39th COSPAR Scientific Assembly, Mysore, India. Abstract PEX.1-7-12, p.622, 2012
28. *"Numerical simulations of a Two Component Advective Flow (TCAF) : Is The Flow Stable ?"* in **East Asia Numerical Astrophysics Meeting (EANAM5)**, *Oct 28 - Nov 2, 2012, YITP, Kyoto University, Kyoto, Japan*
29. *"How does a Two Component Advective Flow Form ?"* in **International Conference on Astrophysics & Cosmology**, *March 19-21, 2012, Tribhuvan University, Kathmandu, Nepal*
30. *"Numerical Simulation of Standard Keplerian Disc around a Black Hole"*, **ASROC Annual Meeting**, *23-25 May, 2014, NTU Experimental Forest, Nantou, Taiwan*
31. *"Time Dependent Accretion on to Stellar Compact Objects"* in in **Bose Fest 2009** (organized by SNBNCBS) at *2nd April, 2009, EZCC, Kolkata*
32. *"Time Dependent Accretion on to White Dwarfs"* **Symposium on Developments in Space Research in the Last 25 Years**, *16th November, 2008, Indian Centre for Space Physics, Kolkata, India*

Book, Book Chapters & Articles

1. *"Determining Optimal Epsilon (eps) for DBSCAN using Empty Circles"* by **Kinsuk Giri** & Tuhin K. Biswas,ICRTAC-AIT-2020, Lecture Notes in Electrical Engineering, AISE, vol 836, Page 265-75, Springer, Singapore, 2022
2. *"A Novel Approach for Initializing Centroid at K-Means Clustering in Paradigm of Computational Geometry"* by Tuhin K. Biswas and **Kinsuk Giri**, Artificial Intelligence and Technologies. Lecture Notes in Electrical Engineering, vol 806. Springer, Singapore, page 445-452, 2021
3. *"Applications of Computational Geometry in Clustering: A Review"*, by Tuhin Kumar Biswas and **Kinsuk Giri**, In Press, Advances in Modern and Applied Sciences,SciEP, USA, 2022
4. *"A Novel Approach for Initializing Centroid at K-Means Clustering in Paradigm of Computational Geometry"* by Tuhin K. Biswas and **Kinsuk Giri**, Springer, Singapore, *Print ISBN 978-981-16-6447-2*, Vol 8, Page: 445-452, 2021
5. *"Numerical Simulation of Viscous Shocked Accretion Flows Around Black Holes"* by **Kinsuk Giri**, Springer-Verlag, Berlin, 2014 *ISBN: 978-3319095400 (Online), 978-3319095394 (print), DOI : 10.1007/978-3-319-09540-0*
6. *"The Story of the First Picture of a Black Hole"*, by **Kinsuk Giri**, NITTTR Kolkata Newsletter, Vol 13, No 2, September, 2021
7. *"Formation of Two Component Flows by Numerical Simulations Around Black Holes"* by **Kinsuk Giri**, Astrophysics and Space Science Proceedings, Volume 53. ISBN 978-3-319-94606-1. Springer International Publishing AG, P-131, Springer Nature, 2018
8. *"Time Dependent Accretion on to Stellar Compact Objects"*, by **Kinsuk Giri** under the supervision of Prof. Sandip K. Chakrabarti, during Ph.D course work of 2nd semester in S.N. Bose National Centre for Basic Sciences, Kolkata, 2008.
9. *"Infall time-scales of sub-Keplerian accretion flow around black holes: Hydrodynamic simulation"*, by **Kinsuk Giri** under the supervision of Prof. Sandip K. Chakrabarti, during Ph.D course work in S.N. Bose National Centre for Basic Sciences, Kolkata, 2009.

10. *"Numerical Simulations of Standing and Oscillating Shocks around black holes"* by **Kinsuk Giri**, A review article which is submitted to Jadavpur University in the purpose of Ph.D course work, October, 2010.

MOOC (Via SWAYAM) COURSES DEVELOPED

1. **"Academic and Research Report Writing"**, *Start Date: 07/01/2019, End Date: 01/03/2019, No. of Enrolled Participants : 4468*, Details : https://swayam.gov.in/courses/4635-academic-and-research-report-writing
2. **"Problem Based Learning"**, *Start Date: 07/01/2019, End Date: 01/03/2019, No. of Enrolled Participants : 4093*, Details : https://swayam.gov.in/courses/5107-problem-based-learning
3. **"Academic and Research Report Writing"**, *Start Date: 27/01/2020, End Date: 30/03/2020, No. of Enrolled Participants : 6282*, Details : https://onlinecourses.swayam2.ac.in/ntr20_ed09/preview
4. **"Problem Based Learning"**, *Start Date: 24/02/2020, End Date: 17/04/2020, No. of Enrolled Participants : 855*, Details : https://https://onlinecourses.swayam2.ac.in/ntr20_ed12/preview
5. **"Academic and Research Report Writing"**, *Start Date: 20/07/2020 End Date: 12/10/2020, No. of Enrolled Participants : 8346*, Details :https://onlinecourses.swayam2.ac.in/ntr20_ed30/preview
6. **"Academic and Research Report Writing"**, *Start Date: 31/01/2021 End Date: 12/04/2021, No. of Enrolled Participants : 8146*, Details :onlinecourses.swayam2.ac.in/ntr21_ed23/preview
7. **"Problem Based Learning"**, *Start Date: 31/01/2021 End Date: 12/04/2021, No. of Enrolled Participants : 432*, Details : https://onlinecourses.swayam2.ac.in/ntr21_ed22/preview

INVITED LECTURES DELIVERED

1. *"ICT Tools in Teaching - Learning"*, **Special FDP Program**, *July 15, 2022, Durgapur Institute of Advanced Technology and Management, Durgapur, India*
2. *"Data Science with PYTHON"*, **One Day Worskshop**, *May 7, 2022, Omdayal Group of Institutions, Howrah, India*
3. *"Fundamentals of Data Science"*, **5-Day International Workshop on Data Science its Applications**, *April, 28, 2022, Adamas University, Kolkata, India "Research Methodologies and Methods"*, **Training Program for Newly Recruited IES**, *March 15, 2022, CSTARI, Kolkata, India*
4. *"Career Counselling"*, **One Day College Level Webinar**, *January 5, 2022, Bajkul Milani Mahavidyalaya, Kismat Bajkul, West Bengal, India*
5. *"Optimization for Machine Learning"*, **AICTE ATAL FDP on Machine Learning with R**, *October 29, 2021, AICTE-ATAL, NITTTR Kolkata, India*
6. *"Open Source Academic Software and Their Uses"*, **STTP on Mathematical Software**, *September 17, 2021, Swami Keshvanand Institute of Technology, Management Gramothan, Jaipur, India*
7. *"Need of Optimization for Engineers"*, **Special Webinar**, *June 19, 2021, Shree Ramkrishna Institute of Science and Technology (SRIST), Kolkata, India*
8. *"Tools and Techniques Used for Thesis Writing"*, **Five Day's Workshop on Academic and Research Writing**, *March 25, 2021, ATME College of Engineering, Mysuru, Karnataka, India*
9. *"Uses of Open Source Academic Software"*, **Albertian Knowledge Summit (AKS 2021)**,*March 21, 2021, St. Alberts College, Kochi, Kerala, India*
10. *"Online Teaching-Learning and Assessment during COVID-19Pandemic: Strength, Weakness, Opportunity and Challenges to the Institution and System"*, **One-Day State Level Webinar**, *February 26, 2021, Bajkul Milani Mahavidyalaya, Kismat Bajkul, West Bengal, India*

11. *"Understanding The Concepts of UG Level Mathematics through Graphical Demonstration using SCILAB"*, **One-Day E-workshop**, *January 30, 2021, Krishna Chandra College, Birbhum, West Bengal, India*
12. *"Uses of Open Source Software in Scientific Computing"*,**Special Webinar Series"**, *October 10, 2020,B. P. Mandal College of Engineering, Madhepura , Bihar, India*
13. *"Unsupervised Learning with PYTHON Hands-on"*, **AICTE-ATAL FDP on Application of Artificial Intelligence and Machine Learning in Engineering Problems"**, *September 15, 2020, NERIST, Nirjuli, India*
14. *"Supervised Learning with PYTHON Hands-on"*, **AICTE-ATAL FDP on Application of Artificial Intelligence and Machine Learning in Engineering Problems**, *September 14, 2020, NERIST, Nirjuli, India*
15. *"Graphical Demonstration as Teaching Aid in Connection with Graduate Level Mathematics"*, **A Special Webinar offered from Dept. of Mathematics**,*August 8, 2020, Asutosh College, Kolkata, India*
16. *"Ancient Indian Mathematics"*, **9th National Seminar (web) on Ancient Indian Science and Technology"**, *July 13, 2020, NITTTR Kolkata & SPIU Uttar Pradesh, India*
17. *"Advantages of Problem Based Learning (PBL)"*, **Special Lecture at Dept. of Mathematics**,*June 28, 2020, Adamas University, Kolkata, India*
18. *"Problem Based Learning"*, **Special Lecture on Science Day**, *February 28, 2020, Vivekananda College Thakurpukur, Kolkata, India*
19. *" Accretion Processes around a Black hole"*, **Special Lecture Series of Adamas University, Kolkata**, *September 18, 2019, Adamas University, Kolkata, India*
20. *"Advantages and Limitations of High Performance Computing (HPC)"*, **TEQIP-III Worskshop on Mathematical Modeeling and Scienetific Computing**,*August, 26, 2019, National Institute of Technology (NIT), Manipur, Imphal, India*
21. *"SCILAB and It's Applications in Astrophysics and Mathematics"*, **TEQIP-III Worskshop on Computational and Analytical Methods in Physics and Mathematics**, *February 19, 2019, National Institute of Technology (NIT), Manipur, Imphal, India*
22. *"How Does an Accretion Flow Form around a Black Hole ?"*, **TEQIP-III Sponsored Worskshop on Computational and Analytical Methods in Physics and Mathematics**, *February 20, 2019, National Institute of Technology (NIT), Manipur, Imphal, India*
23. *"Introduction to Scientific Computing with Open Source Software"*, **TEQIP-III Sponsored FDP on Opensource Software for Statistical and Mathematical Analysis"**, *February 9, 2019, Jorhat Institute of Science and Technology (JIST), Jorhat, Assam, India*
24. *"Functions, Programming Environment and Visualizations in SCILAB"*, **TEQIP-III Sponsored FDP on Opensource Software for Statistical and Mathematical Analysis"**, *February 10, 2019, Jorhat Institute of Science and Technology (JIST), Jorhat, Assam, India*
25. *"Introduction to SCILAB"*, **Open Source Software in Academia and Research (OSSAR, 2018)**, *August 7, 2018, National Institute of Technology (NIT), Durgapur, West Bengal, India*
26. *"How Does Matter Behave Around a Black Hole ?"*, **National Workshop Sponsored by SERB, DST, Govt. of India**, *1st August, 2017, Dept. of Mathematics, University of Burdwan, Burdwan, West Bengal, India*
27. *"Relations Vs Functions "*, **Ten Day Workshop (FDP)**, *23rd May, 2017, KV-1, Saltlake, Kolkata, India*
28. *"Introduction to Scilab"*, **One Day Workshop (FDP)**, *3rd December, 2016, Technoindia Univeristy, Kolkata, India*
29. *"Method of Proofs and Recurance Relations "*, **TEQIP-II Sponsored Faculty Development Program**, *28th October, 2016, Tripura Institute of Technology (TIT), Agartala, India*

30. *"Counting Techniques and Combinatorics "*, **TEQIP-II Sponsored Faculty Development Program**, *27th October, 2016, Tripura Institute of Technology (TIT), Agartala, India*
31. *"Introduction to Discrete Mathematics"*, **TEQIP-II Sponsored Faculty Development Program**, *26th October, 2016, Tripura Institute of Technology (TIT), Agartala, India*
32. *"Time Evolution of Rotating Gas Ring Around a Black Hole in Presence of Viscosity and Cooling"*, **UGC Funded National Level Conference**, *7th September, 2016, Krishnagar Women's College, West Bengal,India*
33. *"How does a Two Component Advective Flow Form ?"* in **ASIAA Colloquium**, *29th July, 2015, Academia Sinica, Taipei, Taiwan*
34. *"Numerical Simulation of Viscous Shocked Accretion Flows Around Black Holes"* in **IOA Colloqium**, *10th March, 2014, National Tsing Hua University, Hsinchu, Taiwan*

LIST OF STTPS/WORKSHOPS/SEMINARS/CONFERENCES ORGANIZED

1. *Coordinated ICT STTP* **Digital Tools for Faculty and Staff**, July 11-15, 2022, NITTTR Kolkata, India item *Acted as Resource Person at STTP* **Induction Training**, June 20 - July 1, 2022, NITTTR Kolkata, India item *Acted as Resource Person at ICT STTP* **Advanced Pedagogy**, June 13 - 24, 2022, NITTTR Kolkata, India
2. *Coordinated STTP* **Academic Research Writing and LaTeX**, June 13-24, 2022, NITTTR Kolkata, India
3. *Coordinated ICT STTP* **Digital Pedagogy and Tools for Teaching and Learning**, May 23-27, 2022, NITTTR Kolkata, India
4. *Acted as Resource Person at ICT STTP* **HRD through Training and Development**, March 21-25, 2022, NITTTR Kolkata, India
5. *Coordinated ICT STTP* **HPC and Cloud Computing**, March 14-18, 2022, NITTTR Kolkata, India
6. *Coordinated ICT STTP* **Machine Learning with PYTHON**, February 21 - 25, 2022, NITTTR Kolkata, India
7. *Acted as Resource Person at ICT STTP* **Artificial Intelligence**, February 14 - 18, 2022, NITTTR Kolkata, India
8. *Coordinated ICT STTP* **Introduction to PYTHON Programming**, February 7 - 11, 2022, NITTTR Kolkata, India
9. *Coordinated ICT STTP* **Mathematical Foundation of Computer Science**, January 10 - 21, 2022, NITTTR Kolkata, India
10. *Acted as Resource Person at ICT STTP* **Online Pedagogy**, January 3 - 7, 2022, NITTTR Kolkata, India
11. *Acted as Resource Person at ICT STTP* **Data Structures & Algorithms**, Dec 27-31, 2021, NITTTR Kolkata, India
12. *Acted as Resource Person at Special ICT STTP* **Research Methodology**, Dec 21-31, 2021, NITTTR Kolkata, India
13. *Coordinated ICT STTP* **Word Processing with LaTeX**, December 13-17, 2021, NITTTR Kolkata, India
14. *Acted as Resource Person at ICT STTP* **Managerial Skills for Technical Teacher**, Dec 6-10, 2021, NITTTR Kolkata, India
15. *Acted as Resource Person at ICT STTP* **IICT Tools for Teaching and Learning**, Dec 6-10, 2021, NITTTR Kolkata, India

16. *Acted as Resource Person at ICT STTP* **Induction Training**, Nov 29 - Dec 2, 2021, NITTTR Kolkata, India
17. *Coordinated ICT STTP* **Discrete Mathematics**, November 15-19, 2021, NITTTR Kolkata, India
18. *Acted as Resource Person at ICT STTP* **Soft Computing**, October, 2021, NITTTR Kolkata, India
19. *Coordinated ICT STTP* **Problem Solving with SCILAB**, October 4-8, 2021, NITTTR Kolkata, India
20. *Coordinated ICT STTP* **Hybrid Pedagogy**, September 27 - October 1, 2021, NITTTR Kolkata, India
21. *Acted as Resource Person at ICT STTP* **Induction Training**, August-Sept, 2021, NITTTR Kolkata, India
22. *Coordinated ICT STTP* **Problem Solving with PYTHON**, August 09 - 13, 2021, NITTTR Kolkata, India
23. *Acted as Resource Person at ICT STTP* **Managerial Skills for Technical Teachers**, July 19 - 23, 2021, NITTTR Kolkata, India
24. *Coordinated ICT STTP* **Problem Based Learning**, July 12 - 16, 2021, NITTTR Kolkata, India
25. *Acted as Resource Person at ICT STTP* **Online Pedagogy**, June 28 - July, 2, 2021, NITTTR Kolkata, India
26. *Coordinated ICT STTP* **Numerical and Statistical Methods with SCILAB**, June 21 - 25, 2021, NITTTR Kolkata, India
27. *Coordinated Special Webinar* **Yoga Therapy and Post COVID Management**, June 19, 2021, NITTTR Kolkata, India
28. *Acted as Resource Person at ICT STTP* **Fuzzy and Rough Set Theory**, June 14 - 18, 2021, NITTTR Kolkata, India
29. *Acted as Resource Person at ICT STTP* **ICT Tools for Teaching and Learning 1**, May 24 - 28, 2021, NITTTR, Kolkata, India
30. *Coordinated ICT STTP* **Machine Learning with PYTHON** , May 17 - 21, 2021, NITTTR, Kolkata, India
31. *Acted as Resource Person at ICT STTP* **Induction Training**, May 3 - 8, 2021, NITTTR, Kolkata, India
32. *Acted as Resource Person at* **5th AICTE–NITTT Mentor Orientation Training Programme - 5**, April 19 - 23, 2021, NITTTR Kolkata, India
33. *Acted as Resource Person at* **4th AICTE-NITTT Mentor Orientation Training Programme**, April 5 - 9, 2021, NITTTR Kolkata, India
34. *Coordinated Conference* **National Conference (Virtual) on Ancient Indian Science, Technology, Engineering and Mathematics (AISTEM-2021)**, March 19-20, 2021, NITTTR, Kolkata, India
35. *Acted as Resource Person at* **3rd AICTE–NITTT Mentor Orientation Training Programme**, March 15-19, 2021, NITTTR Kolkata, India
36. *Coordinated ICT STTP* **Mathematical Foundation of Computer Science**, Feb 22 - March 5, 2021, NITTTR, Kolkata, India
37. *Acted as Resource Person at ICT STTP* **Teaching Methodologies**, February 8 - 12, 2021, NITTTR, Kolkata, India
38. *Acted as Resource Person at* **2nd AICTE–NITTT Mentor Orientation Training Programme**, Feb 5-9, 2021, NITTTR Kolkata, India
39. *Coordinated MOTP Prg* **Orientation Training Programme [OTP] for Mentors of Higher Educational Institutions [HEIs]**, Jan 27 - Feb 4, 2021, NITTTR Kolkata, India

40. *Coordinated ICT STTP* **Discrete Mathematics**, January 11 - 15, 2021, NITTTR, Kolkata, India
41. *Acted as Resource Person at ICT STTP* **Outcome Based Education in the context of Online Teaching**, Dec, 2020, MIT AoE, Pune, India
42. *Coordinated ICT STTP* **Problem Based Learning**, December 7 - 11, 2020, NITTTR, Kolkata, India
43. *Acted as Resource Person at* **1st AICTE–NITTT Mentor Orientation Training Programme**, Nov 30 - Dec 4, 2020, NITTTR Kolkata, India
44. Organized (as a member) Seminar **Two Day National Seminar on Ancient Indian Education System,**, November 11 - 12, 2020, NITTTR Kolkata & SPIU Uttar Pradesh, India
45. *Coordinated ICT STTP* **Introduction to PYTHON Programming**, November 16 - 20, 2020, NITTTR, Kolkata, India
46. *Coordinated ICT STTP* **Hybrid Pedagogy**, November 1 - 5, 2020, NITTTR, Kolkata, India
47. *Acted as Resource Person at ICT STTP* **Induction Training**, October 12 - 16, 2020, NITTTR, Kolkata, India
48. *Acted as Resource Person at ICT STTP* **Induction to ICT Tools for Teaching and Learning**, October 5 - 16, 2020, NITTTR, Kolkata, India
49. *Coordinated ICT STTP* **Numerical and Statistical Methods with SCILAB**, Sept 28 - Oct 2, 2020, NITTTR, Kolkata, India
50. Organized (as a member) Seminar **Entrepreneurship Development for North Eastern States**, September 19, 2020, NITTR Kolkata, India
51. *Coordinated ICT STTP* **Engineering Optimization**, Aug 31 - Sept 4, 2020, NITTTR, Kolkata, India
52. Organized (as a member) Seminar **10th National Seminar(web) on Atmanirbhar Bharat: Atmanirbhar Bharat: Environmental Sustainability**, August 16, 2020, NITTTR Kolkata & SPIU Uttar Pradesh, India
53. *Acted as Resource Person at ICT STTP* **Induction Training Phase II**, Aug 3 - 7, 2020, NITTTR, Kolkata, India
54. *Coordinated ICT STTP* **Problem Solving with SCILAB**, July 27 - 31, 2020, NITTTR, Kolkata, India
55. *Coordinated ICT STTP* **Big Data Analytics**, July 6 - 10, 2020, NITTTR, Kolkata, India
56. *Coordinated ICT STTP* **Introduction to PYTHON Programming**, June 22 - 26, 2020, NITTTR, Kolkata, India
57. *Coordinated ICT STTP* **Problem Based Learning**, May 25 -29, 2020, NITTTR, Kolkata, India
58. *Coordinated ICT STTP* **Numerical and Statistical Methods with PYTHON (Phase - II)**, May 4 -8, 2020, NITTTR, Kolkata, India
59. *Coordinated ICT STTP* **Numerical and Statistical Methods with PYTHON (Phase - I)**, April 27 - May 1, 2020, NITTTR, Kolkata, India
60. *Acted as Resource Person at Vocational STTP* **Business Economics**, Feb 24 - 28, 2020, NITTTR Kolkata, India
61. *Coordinated STTP* **Discrete Mathematics and It's Applications**, 13-17, January, 2020, NITTTR, Kolkata, India
62. *Coordinated STTP* **Mathematical Foundation of Computer Science**, Dec 23, 2020 - Jan 3,2021, NITTTR, Kolkata, India
63. *Coordinated STTP* **Research Methodology in Engineering and Technical Writing using LaTeX**, 09-20, December, 2019, NITTTR, Kolkata, India

64. *Coordinated* **Computer Application and Networking**, Dec 09-13, 2019, NITTTR, Kolkata, India
65. *Coordinated STTP* **Problem Based Learning**, Dec 02-06, 2019, NITTTR ICT, Kolkata, India
66. *Coordinated STTP* **Computer Application and Networking**, Nov 25-29, 2019, NITTTR, Kolkata, India
67. *Coordinated STTP* **Introduction to PYTHON Programming**, 18-22, November, 2019, NITTTR, Kolkata, India
68. *Coordinated STTP* **Computer Application and Networking**, Nov 11-15, 2019, NITTTR, Kolkata, India
69. *Coordinated STTP* **Numerical Methods : Theories and Applications**, 04-08, November, 2019, NITTTR Kolkata Bhubaneswar Extn., India
70. *Acted as Resource Person at STTP* **Topics in Data Structures and Algorithms**, October 14 - 25, 2019, NITTTR Kolkata, India
71. *Coordinated STTP* **Computer Application and Networking**, Sept. 09-14, 2019, NITTTR, Kolkata, India
72. *Coordinated STTP* **Recent Trends in Optimization: Theory and Applications**, 02-06, September, 2019, NITTTR, Kolkata, India
73. *Coordinated Workshop* **Two Days Discussions on The Draft of National Education Policy 2019 STTP**, July-23-24, 2019, NITTTR, Kolkata, India
74. *Acted as Resource Person at STTP* **Basics of Computer, IT and ITes**, July 15 - 26, 2019, NITTTR Kolkata, India
75. *Coordinated STTP* **Problem Solving with SCILAB**, June 24- July 5, 2019, NITTTR, Kolkata, India
76. *Coordinated STTP* **Office Automation and Management**, June 17-21, 2019, NITTTR, Kolkata, India
77. *Coordinated STTP* **Problem Based Learning**, May 20-31, 2019, NITTTR ICT, Kolkata, India
78. *Coordinated STTP* **Numerical Methods : Theories and Applications**, April 29 - May 3, 2019, NITTTR, Kolkata, India
79. *Event Coordinator of* **National Innovation Talent Contest for Polytechnic (NITCP-II)**, 23-24 February, 2019, NITTTR, Kolkata
80. *Coordinated STTP* **Discrete Mathematics**, 11-15 February, 2019, NITTTR, Kolkata, India
81. *Coordinated STTP* **Introduction to LaTeX**, 25-30 October, 2018, Dibrugarh University, Dibrugarh, Assam, India
82. *Coordinated STTP* **Mathematics & Computation**, 31 Dec- 11, Jan, 2019, NITTTR, Kolkata, India
83. *Coordinated STTP* **Problem Solving with SCILAB**, 01-12 October, 2018, NITTTR, Kolkata, India
84. *Coordinated STTP* **Office Management Tools**, 13-17 August, 2018, Govt. Polytechnic, Ranchi, Jharkhand, India
85. *Coordinated STTP* **Problem Based Learning**, 04-15 June, 2018, NITTTR, Kolkata, India
86. *Coordinated STTP* **Topics in Discrete Mathematics**, 27-31 August, 2018, NITTTR,Bhubaneswar, India
87. *Coordinated STTP* **Research Methodology in Engg. and Technical Writing using LaTeX**, 18-30 Dec, 2017, NITTTR, Kolkata, India
88. *Co-Coordinated* **Regional Workshop on Quality and Sustainable TVET and International Seminar on Skills in TVET for Sustainability**, 24-28 October, 2017, NITTTR, Kolkata

89. *Coordinated STTP* **Numerical and Statistical Methods for Technical Teachers with SCILAB** , 11-15 Sept., 2017, NITTTR, Kolkata, India
90. *Coordinated STTP* **Exposure on SCILAB**, 19-30 June, 2017, NITTTR, Kolkata, India
91. *Coordinated STTP* **Discrete Mathematics and It's Applications**, 16-20 January, 2017, NITTTR, Kolkata, India
92. *Co-Coordinated* **National Innovation Talent Contest for Polytechnic (NITCP - I)**, 21-22 February, 2017, NITTTR, Kolkata
93. *Coordinated STTP* **SCILAB and Gnuplot for Engineers and Researchers**, 12-16 December, 2016, NITTTR, Kolkata, India
94. *Coordinated STTP* **Mathematical and Technical Writting in Latex**, 26-30 December, 2017, NITTTR, Kolkata, India
95. *Co-Coordinated Conference* **1st Regional Science & Technology Congress, Presidency Division**, 13-14 November, 2016, NITTTR, Kolkata
96. *Coordinated STTP* **Recent Advances in Optimization: Theory and Applications**, 27 June-1 July, 2016, NITTTR, Kolkata, India
97. *Coordinated STTP* **Numerical and Computational Techniquesfor Engineers and Researcher**, 13-17 June, 2017, NITTTR, Kolkata, India

LIST OF WORKSHOPS/CONFERENCES/SEMINARS PARTICIPATED/ATTENDED

1. Participated **10th National Seminar on Ancient Indian Science and Technology**, August 21, 2021, NITTTR Kolkata, India
2. Participated **7th Regional Workshop on Technical Education for N.E. States**, August 16, 2021, NITTTR Kolkata, India
3. Participated **National Workshop (web) on Prospective of Entrepreneurship for North Eastern States**, June 19, 2021, NITTTR Kolkata, India
4. Participated **Online Regional Program on Developing Context Based Vocational Pedagogy**, April 26 - 30, 2021, CPSC, Manila, Philippines
5. Participated **International Conference on Artificial Intelligence and Sustainable Engineering (AISE 2020)**, January 18 - 20, 2021, NIT Goa, India
6. Participated **International Conference (web) on Recent Trend in Advanced Computing (ICRTAC AIT 2020)**, December 17 - 18, 2020, VIT Chennai, India
7. **National Seminar(web) on Advances in Machining**, September, 2020, NITTTR Kolkata, India
8. *Participated* **Capacity Building Programme Capacity Building Programme Creative Problem Solving, Innovation and Meaningful R & D** 10 – 14 August, 2020 Organized by NITTTR, Chandigarh, India
9. *Participated* **3rd National Seminar(web) on Ancient Indian Science and Technology**, July 13, 2020, NITTTR Kolkata & SPIU Uttar Pradesh, India
10. *Participated* Inter Capacity Building Training Programme - Module 5: Technology Enabled Learning and Lifelong Self-Learning, June 8 -12, 2020, by NITTTR Chennai, India
11. *Participated* **Capacity Building Training: Instructional Planning and Delivery**, Feb 17-21, 2020, Conducted by NITTTR Bhopal, India
12. *Participated* **IWAML-2019**, 04-08 February, 2019, NITTTR, Kolkata, India
13. *Participated* **RETCO-III**, 05-07 June, 2017, IIST, Thiruvananthapuram, India
14. *Participated* **TIARA Summer School on Numerical Astrophysics**, 13-17 July, 2015, TIARA, Academia Sinica, Taiwan

15. *Participated* **ASROC Annual Meeting**, 22-24 May, 2015, Yilan University, Taiwan
16. *Participated* **5th Fermi Asian Network (FAN) Workshop**, July 28 - Aug 1, 2014, NCTA, Yilan, Taiwan
17. *Participated* **ASROC Annual Meeting**, 23-25 May, 2014, NTU Experimental Forest, Nantou, Taiwan
18. *Participated* **Accretion Onto Black Holes : A topical Conference**, 5-7 Sept., 2013, International Centre Goa, Dona Paula, Goa, India
19. *Participated* **National Conference on Recent Trends in the Study of Compact Objects: Theory and Observation**, 11 – 13 March 2013, IITG, Guwahati, India
20. *Participated* **East Asia Numerical Astrophysics Meeting (EANAM5)**, Oct 28- Nov 2, 2012, YITP, Kyoto University, Kyoto, Japan
21. *Participated* **39th COSPAR Scientific Assembly**, 14-22 July, 2012, Infosys Campus, Mysore, India
22. *Participated* **The Thirteenth Marcel Grossmann Meeting - MG13**, 1-8 July, 2012, Stockholm University, Stockholm, Sweden
23. *Participated* **International Conference on Astrophysics & Cosmology**, March 1921, 2012, Tribhuvan University, Kathmandu, Nepal
24. *Participated* **International School and Conference on Analytical and Computational Astrophysics**, Nov 14-25, 2011, ICTP, Trieste, Italy.
25. *Attended* **First Kolkata Workshop on Role of Small Telescopes in Modern Astronomy Research**, 7th-8th November, 2011, Kolkata, India
26. *Participated* **International Conference on Wideband X-ray Astronomy: Frontiers in Timing and Spectroscopy**, January 13-16, 2011, IUCAA, Pune, India.
27. *Participated* **International Conference on Accretion and Outflow in Black Hole Systems**, October 10-15, 2010, Kathmandu, Nepal
28. *Attended* **Symposium on Developments in Space Research in the Last 25 Years**,16th November, 2008, Indian Centre for Space Physics, Kolkata, India
29. *Participated* **First International Conference on Science with Very Low Frequency Radio Waves**, March 13-18, 2010, Kolkata, India
30. *Participated* **International Conference on Observational Evidence for Black Hole in the Universe**, February 10-15, 2008, Kolkata, India
31. *Attended* **National Conference on Uncertainty:A Mathematical Approach**, An UGC Sponsored National Conference, September 7-8, 2006, Burdwan, West Bengal, India
32. *Participated* **Bose Fest, 2008, 2009, 2010, 2011, 2012 & 2013** at S. N. Bose National Centre for Basic Sciences, Kolkata, India

REFERENCES

1 · **Prof. Phalguni Gupta**
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