

Faculty Profile

Personal Information

Name: **Dr. Sanghita Basak**

Date of Birth: 15/10/1992

Designation: Assistant Professor

Present Department: Department of Physics

Contact Email: phy.sanghita@gmail.com

Date of Joining: 01/07/2025



Academic Qualifications

Sl. No	Qualification	Institution	Year	Board/University
1.	Madhyamik	Brajendranagar girls School	2009	T.B.S.E
2.	H.S. (+2 stage)	Brajendranagar Boys H. S. School	2011	T.B.S.E
3.	B.Sc in Physics	Ramthakur College	2014	T.U.
4.	M.Sc in Physics	Tripura University	2016	T.U.
5.	B.Ed	IASE, Kunjaban	2019	T.U.
6.	Ph.D.	Tripura University	2025	T.U..

Areas of Specialization

Specialization In **Basic Electronics**

Subjects Taught

Subject Taught 1. Mathematical Physics

Subject Taught 2. Electronics

Subject Taught 3. Classical Mechanics

Subject Taught 4. Quantum Mechanics

Subject Taught 5. Electricity and Magnetism

Subject Taught 6. Solid state physics

Subject Taught 7. Thermodynamics

Experience

Sl.	Institution	Designation	From - To
1.	Techno India University	Visiting Lecturer	Sept, 2024 to June,2025

Publications

Journals:

[1] Debojyoti Nath, **Sanghita Basak**, Ratan Das, Controlled growth of single-crystal ZnS nanoparticles with preferential (111) orientation: Low dislocation density and its impact on luminescence properties, *Optical Materials*, 168 (2025) 117481-117486. **(IF- 4.2)**

[2] **Sanghita Basak**, Debojyoti Nath, Fouran Singh, Ratan Das, SHI irradiation-induced structural modification led to decrease in optical band gap of hexagonal CdTe nanocrystals: Photochromatic analysis hints for green LED application, **Solid State Communications**, 403 (2025) 116000. **(IF-2.1)**

[3] **SanghitaBasak**, Ratan Das, Confirmation of the presence of edge dislocations in the prepared FCC ZnTenanocrystals from the study of structural analysis through the MWH method with added Fourier analysis (W-A method) of diffraction peaks, **Materials Science in Semiconductor Processing**, 179 (2024) 108477-108489. **(IF-4.2)**

[4] **SanghitaBasak**, AveepsaSengupta, Snehasish Modak, Ashutosh Kumar, Debasish Maiti, Ratan Das, In vitro cytotoxic activity of chemically synthesized ZnTe nanoparticles against human lung cancer cell line L-132 with supported molecular docking study, **Materials Chemistry and Physics**, 326 (2024) 129774-129784. **(IF-4.3)**

[5] **SanghitaBasak**, DebojyotiNath, Ratan Das, Analysis of dominant and intense XRD peak of (111) plane of ZnSnanocrystals for microstructural study through single line Voigt method: Calculated low dislocation density value emphasizes larger stacking of (111) plane, **Journal of Molecular Structure**, 1293 (2023) 136273-136281. **(IF-4.0)**

[6] **SanghitaBasak**, Ratan Das, Optical Properties of Synthesized Hexagonal CdTe Nanoparticles Having Hexagonal Phase: Density Functional Theory-Supported Calculation of Bandgap and Density of States, **physica status solidi (b)**, 260 (2023) 2200157-2200157. **(IF-1.6)**

Conferences / Seminars / Workshops Attended

Sl.	Title of Event	Organizer/Institution	Date (From - To)	Role
1.	Fourth International Conference on Material science (ICMS-2024)	Department of Physics, Tripura University, India	31 st January - 2 nd February, 2024	Poster presenter
2.	Higher Education and Research: Towards A Transformative and Sustainable Society	Tripura University	10 th October - 12 th October, 2023.	Paper Presenter
3.	Advanced Materials & Characterizations - 2022 (NSAMC-2022)	Dept of physics, (Govt. Nagarjuna PG College of Science, Raipur; Govt. Pt. Shyamacharan Shukla College, Dharsiwa; Govt. Rajeev Lochan PG College, Rajim)	26 th August & 27 th August, 2022	Paper Presenter
4.	XII Biennial National Conference of Physics Academy of North East (PANE 2021)	Department of Physics, Tripura University	15 th December- 17 th December, 2021	Poster presenter
5.	Materials Sciences and Applied Physics (ICMSAP-2021)	Pachhunga University College, Mizoram University, Aizawl,	22 th November to 24 th November, 2021.	Participant
6.	International conference on Ion Beams in Materials Engineering and Characterization (IBMEC-2020)	IUAC, New Delhi.	December 08-11, 2020. Organized	Poster presenter
7.	International virtual school on Ion beams in Material Science” during organized by	IUAC, New Delhi.	1 st December - 5 th December 2020	Participant
8.	Third International Conference on Material science (ICMS-2020) held during . Organized by the .	Department of Physics, Tripura University.	March 04 - 06, 2020.	Poster presenter

9.	National Workshop on “ Machine Learning and Artificial Intelligence ”	Organized by Department of Information Technology, Tripura University	13 th January - 17 th January 2020	Participant
10.	National Workshop on “ Emerging tools and Technology in Research ”, , Organized by Suryamaninagar, Tripura.	Department of Information Technology, Tripura University,	5 th November - 9 th November 2019	Participant
11.	National Workshop on “ Recent trends in Quantum Computing ”	Department of Information Technology, Tripura University	23 rd September-27 th September 2019	Participant

Administrative / Academic Responsibilities

1. Head Dept. of Physics, Holy Cross College.
2. Member of NAAC criterion 7, Holy Cross College.

Other Information

1. Professional programs (Induction/Refreshers courses/trainings/FDP/NEP) attended.

[1] **One week Faculty development programme** on “ NEP 2020 Orientation & sensitization programme (online)”, September 01- September 11, 2025, Organized by **Malaviya Mission Teacher Training Programme, UGC-MMTTC, Assam University, Silhar.**

2. Weblinks:

ResearchGate: <https://www.researchgate.net/profile/Sanghita-Basak>

Google Scholar ID: <https://scholar.google.com/citations?hl=en&user=IR5aPPoAAAAJ>

Orchid, etc.: <https://orcid.org/0009-0005-7269-0105>