

## Dr. Utsa Das

Assistant Professor

M.Sc. (Electronic Science), Ph.D. (Electronic Science)

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### ❖ Overview:

Dr. Utsa Das obtained his M.Sc. & Ph.D. degree in Electronic Science from University of Calcutta in the year 2012 and 2019, respectively. He qualified C.B.S.E. UGC-NET for Assistant Professor in Electronic Science in the year 2016. He has a profound Academic experience, since 3<sup>rd</sup> February, 2014. He accomplished various administrative as well as academic responsibilities during this tenure. His research interest primarily focuses on investigation of the properties of semiconductor materials for optoelectronic applications. His intensive research led to Eight publications in reputed peer reviewed SCI journals. He fetched Young Scientist Award in Physics by International Academy of Physical Sciences (IAPS), India in 2020. He has been recognised as a potential reviewer by reputed SCI journals, like, Institute of Physics (IOP) and Elsevier. He is associated as Joint Ph.D. Supervisor at Electronics & Communication Engineering Department at Techno India University, West Bengal. He is currently appointed as Assistant Professor of Electronics Department at Triveni Devi Bhalotia College, Raniganj after getting selected and recommended by W.B.C.S.C. (West Bengal College Service Commission) since 8<sup>th</sup> November, 2023. He is also appointed as the Co-ordinator of the Electronics Department of Triveni Devi Bhalotia College, Raniganj since that very day.

### ❖ Date of appointment to the present job:

8<sup>th</sup> November, 2023

### ❖ Other Academic/ Administrative post:

Coordinator of Electronics Department, with effective from 8<sup>th</sup> November, 2023.

### ❖ Academic Background:

- Passed I.C.S.E. and I.S.C.E. in the year 2005 and 2007, respectively.
- Graduated with Electronics (Hons.) from Acharya Prafulla Chandra College, New Barrackpur with First class marks in the year 2010.
- Completed M.Sc. in Electronic Science from University of Calcutta with First class marks in the year 2012.

➤ Awarded Ph.D. in Electronic Science, from University of Calcutta in 2019.

❖ **Information about Ph.D.:**

➤ **Date of Award:** 16.08.2019

➤ **Ph.D. Topic:** Investigation of the properties of Group III-V Bismide Nitrides.

❖ **Professional Qualifications:**

➤ Qualified C.B.S.E. UGC-NET for Assistant Professor in Electronic Science on 11<sup>th</sup> April, 2016.

➤ Higher Education Teaching Certificate conducted by Harvard's Derek BOK Center for Teaching and Learning in association with HarvardX from October to December, 2022.

➤ Mentoring & Coaching Skills conducted by UMMEEED at The Bhawanipur Education Society College for duration of 6 months.

➤ Remote Sensing & GIS Technology and Applications for University Teachers and Government officials conducted by Indian Institute of Remote Sensing (IIRS), ISRO Dehradun during 13.06.2020 to 1.07.2020.

➤ One-week Industrial Training on MS .NET 2.0. from WEBEL-HCL PVT. LTD.

➤ One month course in Hardware and Networking from MSME tools room, Kolkata.

❖ **Publications:**

**List of Journal Publications:**

➤ Supantha Mandal, **Utsa Das**, Dipali Nayak, Sayantan Bakshi, Buddhadev Pradhan, Investigation of electronic and optical properties of Study of the impact due to spin-orbit coupling effect on the optical properties of  $Pb_xSn_{1-x}O_2$  for optoelectronic applications: A TB-mBJ DFT Approach, (2022), Computational Condensed Matter 31, e00691. (DOI: 10.1016/j.cocom.2022.e00691). ISSN: 2352-2143.

➤ **Utsa Das**, Study of the impact due to spin-orbit coupling effect on the optical properties of  $InP_{1-x}Sb_x$  alloys in mid-infrared applications: A DFT Approach, (2020), Computational Condensed Matter 25, e00499. (DOI: 10.1016/j.cocom.2020.e00499). ISSN: 2352-2143.

➤ **Utsa Das**, Investigation of the structural and electronic properties of  $InP_{1-x}Sb_x$  alloy for mid-infrared optoelectronic applications: A TB-mBJ DFT study, (2020), Computational Condensed Matter 23, e00470. (DOI: 10.1016/j.cocom.2020.e00470). ISSN: 2352-2143.

- **Utsa Das**, R. Thangavel, S. Dhar, First principles study of the structural, electronic and optical properties of epitaxial  $\text{GaSb}_{1-x-y}\text{N}_y\text{Bi}_x$ , lattice matched to GaSb, (2018), Material Research Express 5, 115901. (DOI: 10.1088/2053-1591/aadb1). ISSN: 2053-1591.
- **Utsa Das**, S. Dhar, A first principles study of high Bi content in GaSbBi supercell structures for optoelectronic applications, (2018), Optik 172, 383-388. (DOI: 10.1016/j.ijleo.2018.07.047). ISSN: 0030-4026.
- **Utsa Das**, Partha P. Pal,  $\text{ZnO}_{1-x}\text{Te}_x$  and  $\text{ZnO}_{1-x}\text{S}_x$  Semiconductor alloys as Competent Materials for Opto-electronic and Solar cell Applications: A Comparative Analysis, (2017), Journal of Semiconductors 38, 8. DOI: 10.1088/1674-4926/38/8/082001. ISSN: 2058-6140.
- **Utsa Das**, S. Dhar, The influence of N and Bi on the band gap and sub-band interactions in a proposed material  $\text{GaSb}_{1-x-y}\text{N}_y\text{Bi}_x/\text{GaSb}$ : A Theoretical Approach, (2017), Journal of Material Science 52, 5611- 5616. (DOI: 10.1007/s10853-017-0795-1). ISSN: 1573-4803.
- D.P. Samajdar, **Utsa Das**, A.S. Sharma, Subhasis Das, S. Dhar, Influence of Bi and N related impurity states on the band structure and band offsets of GaSbBiN alloy, (2016), Current Applied Physics 16, 1687-1694. (DOI: 10.1016/j.cap.2016.10.010). ISSN: 1567-1739.

#### **List of Conference Publication:**

- **Utsa Das**, Investigation of transport properties of  $\text{InP}_{1-x}\text{Sb}_x$  alloys: A first principle approach, (2021), Journal of International Academy of Physical Sciences 25 (1), 373-385. ISSN: 0974-9373.

#### **❖ Books & Chapters:**

Investigating Properties of GaSbNBi for optoelectronic Applications: An approach employing semi-empirical model and Density Functional Theory (DFT) by Dr. Utsa Das, LAP LAMBERT Academic Publishing, 2023. ISBN: 978-620-6-15995-7.

#### **❖ Seminars, Conferences, Webinars & Workshop Attended:**

- Seminars/ Conferences/ Workshop: 16
- Webinars: 05

#### **❖ Life Membership:**

Not Applicable

### ❖ Awards/ Academic Achievements:

**Young Scientist Award in Physics** in 26<sup>th</sup> International Conference of International Academy of Physical Sciences (CONIAPS XXVI) on Advances in Applied Physics & Earth Sciences organized by Department of Physics, School of Basic Sciences, Manipal University during 18<sup>th</sup> to 20<sup>th</sup> December, 2020.

### ❖ Professional Courses:

- Orientation Programme/FDP/FIP: 02
- Refresher Course: Not Applicable
- Short term course:03

### ❖ Others/ Miscellaneous:

- Seminar/ Webinar/ Workshop Co-ordinated: 07
- Associated as Joint Ph.D. Supervisor in the Electronics & Communication Engineering Department, Techno India University, West Bengal since 24<sup>th</sup> August, 2021.