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DIPTASIKHA DAS

Date of Birth : 5th October, 1987
Nationality : Indian
Marital Status : Married

EDUCATIONAL QUALIFICATION

Qualification	School / College	Board / University	Year of passing
PhD	Department of Physics	University of Calcutta	2019
M.Sc	Presidency college	University of Calcutta	2010
B.Sc	Scottish church college	University of Calcutta	2008
Higher secondary	Uttarpara Girls' high School	WBCHSE	2005
Madhymik	Uttarpara Girls' high School	WBBSE	2003

- **Sponsored Research Projects**

Name of the Project	Sponsoring organization	Period of Funding	Amount of Grant	Work Type
Half-Heusler And Heusler Nanocomposite: Impact on Mid-Temperature Thermoelectric Power Generation	UGC-DAE-CSR, Kalpakkam, India	1st April, 2023 to 31st March, 2026	Rs. 805560/-	Principal Investigator

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Functionality of Half-Metallicity in Half-Heusler Full-Heusler Composite: Impact on structural and Thermoelectric Power Generation.	UGC-DAE-CSR; Mumbai	30/03/2022 to 29/03/2025	Rs. 150000/-	Co-Principal Investigator
SnTe based Nano-Composite: Impact on structural, transport and Thermoelectric Power factor	UGC-DAE-CSR, Kalpakkam, India	1st April, 2023 to 31st March, 2026	Rs. 135000/-	Co-Principal Investigator

- **Research Guidance**

Name	Period	Topic of Research	Designation
Ms. Pallabi Sardar	Starting from September, 2022 to till date	Project fellow of Project entitled 'Half-Heusler And Heusler Nanocomposite: Impact on Mid-Temperature Thermoelectric Power Generation'	Project Fellow
Mr. Shirsendu Adhikary	Completed on 2020 (M.Sc Project) ADAMAS University	*Structural and Transport Properties of Mn doped Sb_2Te_3 Thermoelectric Material*	M.Sc Student
Mr. Dipsekhar Jana	Completed on 2021 (M.Sc Project) ADAMAS University	*Thermoelectric Properties of MNiSN(M=Ti,Zr,Hf) Half-Heusler Alloy.* (Literature data Analysis)	M.Sc Student
Ms. Joyshree Seal	Completed on 2023 (B.Sc Project) ADAMAS University	*Structural and Transport Properties of High In Doped SnTe, Sn1-xInxTe Alloy*	B.Sc Student
Ms. Rashmi Gupta	Completed on 2023 (B.Sc Project) ADAMAS University	*Structural and Transport Properties of Moderate In Doped SnTe, Sn1-xInxTe Alloy*	B.Sc Student
Mr. Bikramaditya Sarkar	Completed on 2023 (B.Sc Project) ADAMAS University	*Structural and Transport Properties of low In Doped SnTe, Sn1-xInxTe Alloy*	B.Sc Student
Mr. Swapnava Mukherjee	Completed on 2024 (M.Sc Project) ADAMAS University	*Structural characterization of Half Heusler alloy by rietveld refinement method using fullprof software*	M.Sc Student
Mr. Arnab Goswami	Completed on 2024 (B.Sc Project) ADAMAS University	*Analysis of structural data of temperature dependent synchrotron X-Ray diffraction data by employing Williamson Hall and Modified Williamson Hall method*	B.Sc Student
Mr. Mriganka Sekhar Biswas	Completed on 2024 (B.Sc Project) ADAMAS University	*Structural characterization of temperature dependent synchrotron X-Ray diffraction data by employing Williamson Hall and Modified*	B.Sc Student

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		Williamson Hall method	
Mr. Kaustav Chakraborty	Completed on 2024 (B.Sc Project) ADAMAS University	*Structural characterization of temperature dependent synchrotron X-Ray diffraction data by employing Williamson Hall and Raman Analysis*	B.Sc Student

AWARDS AND HONORS

- Declared as joint **CSIR-UGC NET** Qualified by Council for the Scientific and Industrial Research, Govt. of India on June, 2011, in Physical Sciences.
- Qualified **GRADUATE APTITUDE TEST IN ENGINEERING (GATE)** Examination in Physics, held on February 2011.
- Obtained **SANGEET VISHARAD** (^{4th} YEAR FINAL) Certificate From Pracheen Kala Kendra, Chandigrah On 3^{0TH} September 2004.

PERMANENT POSITIONS HELD

- ***Assistant Professor [From 5th July, 2017 to till date]***

  Department of Physics, SOBAS, Adamas University

  Kolkata-700 126, INDIA.

  - **Teaching Interest** [Undergraduate Level]**:**

U.G./P.G.	Year (s)	Subjects taught	Department
Under-Graduate	7	1. Quantum Mechanics 2. Solid State Physics 3. Optics 4. Mathematical Physics 5. Electronics 6. EM Theory	Physics
Post-Graduate	7	1. Material Science 2. Dielectric, Optical and Transport properties of Solids 3. Statistical Mechanics	Physics

PROFESSIONAL EXPERIENCES

- Working as Assistant Professor at ADAMAS University, Kolkata; From 2017 to till date
- Session chair in International conference on Advanced Physics: **IEMPHYS-21, organized by IEM, Kolkata.**
- Session chair in International conference on Advanced Physics:

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IEMPHYS-22, organized by IEM, Kolkata.

- **Teaching Interest** [Undergraduate Level]**:**
  - **Quantum Mechanics**
  - **Solid State Physics**
  - **Optics**
  - **Mathematical Physics**
  - **Electronics**
  - **EM Theory**
  - **Material Science**
  - **Dielectric, Optical and Transport properties of Solids**

List of Publication

1. "Transport phenomena of TiCoSb: Defects induced modification in structure and density of states", S. Mahakal, Diptasikha Das, Pintu Singha, Aritra Banerjee, S. C. Das, Santanu K. Maiti, S. Assa Aravindh and K. Malik, **Materials Advances, 4**, 4168-4179, 2023.
2. "Effects of partial substitution of Co by Ni on structural and transport properties of TiCoSb-based half-Heusler compound", S Mahakal, Diptasikha Das, P Singha, N Rana, S Mukherjee, Aritra Banerjee and K Malik, Journal of Physics: Conf Series 2349, 012022, 2022.
3. "A simple Thermopower measurement model and related uncertainties", A Jana, S Mahakal, S Sau, Diptasikha Das and K Malik, Journal of Physics: Conf series., 2349, 012002, 2022.
4. *"Simple, Efficient and Economically Viable Techniques for temperature dependant Thermopower data acquisition of Thermoelectric materials"* S Mahakal, Diptasikha Das, A Jana, A. Banerjee and **K Malik; Journal of Physics: Conference Series 1579, 012020 (2020).**
5. *"Modulation of thermal conductivity and thermoelectric figure of merit by anharmonic lattice vibration in Sb2Te3 thermoelectrics"* **D. Das**, K. Malik, S. Das, P. Singha, A. K. Deb, V. A. Kulbachinskii, R. Basu, S. Dhara, A Dasgupta, S. Bandyopadhyay, and A. Banerjee. AIP Advances **8**, 125119 (2018).
6. *"Evolution of phonon anharmonicity in Se-doped Sb_2Te_3 thermoelectrics"*, **D. Das**, S. Das, P. Singha, K. Malik, A. K. Deb, A. Bhattacharya, V. A. Kulbachinskii, R. Basu, S. Dhara, S. Bandyopadhyay, and A. Banerjee, *Phys. Rev. B: **96**, 064116 (2017).*
7. "Evidence of iso-structural phase transition in rhombohedral Bi-Sb alloy", K. Malik, **D. Das**, A. K. Deb, V. A. Kulbachinskii, V. Srihari, S. Bandyopadhyay and A. Banerjee, *EPL. **115,** 58001(2016)*
8. "The effect of quenching from different temperatures on Bi0.88Sb0.12 alloy.", K. Malik, **D. Das**, S. K. Neogi, A. K. Deb, A. Dasgupta, S. Bandyopadhyay, A. Banerjee, *J. Phys. Chem. Solids* **91**, 7 (2016).
9. "Tuning of thermoelectric properties with changing Se content in Sb_2Te_3", **D. Das**, K. Malik, A. K. Deb, V. A. Kulbachinskii, V. G. Kytin, S. Chatterjee, D. Das, S. Dhara,

S. Bandyopadhyay and A. Banerjee, *EPL*, **113**, 47004 (2016).

10. "Defect induced structural and thermoelectric properties of Sb_2Te_3 alloy", **D. Das**, K. Malik, A. K. Deb, S. Dhara, S. Bandyopadhyay, A. Banerjee *J. Appl. Phys.* **118**, 045102 (2015).
11. "Magneto-resistive property study of direct and indirect band gap thermoelectric Bi-Sb Alloys.", **D. Das**, K. Malik, S. Bandyopadhyay, D. Das, S. Chatterjee, and A. Banerjee. *Appl.Phys. Lett.* **105**, 082105 (2014).
12. "Temperature dependent structural property and power factor of n type thermoelectric $Bi_{0.90}Sb_{0.10}$ and $Bi_{0.86}Sb_{0.14}$ alloy.", K. Malik, **D. Das**, S. Bandyopadhyay, P. Mandal, A. K. Deb and A. Banerjee, *Appl.Phys. Lett.* **103**, 242108 (2013).
13. "Sb concentration dependent structural and resistive properties of polycrystalline Bi-Sb alloys.", K. Malik, **D. Das**, D. Mondal, D. Chattopadhyay, A. K. Deb, S.Bandyopadhyay, and A. Banerjee. *J. App. Phys.*, **112**, 083706 (2012).

Conference Proceedings

1. "Sb concentration dependent power factor of n-type thermoelectric material $Bi_{1-x}Sb_x$ alloy."

K. Malik, Diptasikha Das, A. K. Deb, S. Bandyopadhyay and Aritra Banerjee. *AIP Conf. Proc.* ***1512****, 980 (2013).*

2. "Effect of Antimony Concentration on Structural and Transport Properties of $(Bi_{1-x}Sb_x)_2Te_3$ Mixed Crystal."

K. Malik, D. Das, S. Bandyopadhyay, S. Banerjee and A. Banerjee, *AIP Conf. Proc.* **1665**, 110040 (2015).

3. "Structural and Transport Properties of Metallic and Semiconducting Sb_2Te_3 Alloy."

D. Das, **K. Malik**, S. Dhara, S. Bandyopadhyay, S. Banerjee and A. Banerjee. *AIP Conf. Proc.* **1665**, 110039 (2015).

4. "Structural and thermoelectric property study of Se doped Sb2Te3 alloy."

D. Das, **K. Malik**, A. K. Deb, A. Dasgupta, S. Bandyopadhyay, V. A. Kulbashinskii, and A. Banerjee. *AIP Conf. Proc.* **1731**, 110031 (2016).

5. "Thermoelectric property study of Bi_2Te_3-Sb_2Te_3 mixed crystals."

K. Malik, D. Das, A. Dasgupta, S. Bandyopadhay, and A. Banerjee, *AIP Conf. Proc.* **1731**, 110032 (2016).

Conference Attended [Recent]

1. Presented an Oral presentation on the Topic entitled " Structural and Transport Properties of Mn Doped Sb_2Te_3 Thermoelectric Material" at the National Conference CMDAYS-22, NIT Nagaland, India.

2. Presented a Poster presentation on the Topic entitled "Effect of Embedded Phases on Room Temperature Structural and Thermoelectric Properties of In Doped SnTe" at the National Conference DAESSPS-23, GITAM, Visakhapatnam, India.