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Assistant Professor
Electronics and Communication Engineering
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Personal Details:

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Research gate profile URL: <https://www.researchgate.net/profile/Himadri-Sekhar-Das>
Google scholar profile id:
https://scholar.google.com/citations?hl=en&user=FW2s6NUAAAAJ&view_op=list_works
ORCID ID: <https://orcid.org/0000-0002-3509-3388>.
VIDWAN ID: 368895
Scopus Id: 57195758275
Researcher Id: HTS-9843-2023

Education

- Post Doc
- Ph. D: (IEST-Shibpur, Howrah).
- M.Tech (ECE)
- M.Sc (Electronics)

Research Area:

- Doped ZnO based thin Film for different optoelectronics applications. Synthesis and characterization of organic-inorganic Perovskite material for Solar cell. ZnO based transparent conducting oxide thin film for mesoporous TiO₂ based dye sensitized solar cell. Solid state electrolyte based dye sensitized solar cell: stability and device performance. Solvo thermal synthesis of ZnO nanoparticle. DFT study of molecules and D- π -A for DSSC.

Research Experience

- Hands on experience on installation, operation and basic maintenance of high vacuum thin film coating unit (**RF-Magnetron Sputtering system**), **Spin Coating Unit**, and high-temperature atmospheric pressure Chemical vapor Deposition (APCVD) systems.
- Working experience on different analytical characterization units like van-der-Pauw techniques, Hall-effect, UV-VIS-Spectrophotometer.
- Experienced in data analysis studied by X-ray Diffraction (XRD), Scanning Electron Microscope (SEM), Transmission Electron Microscope (TEM), EDS and Atomic force microscopy (AFM).

Scholarships and Other Awards

- Best Paper award IEEE-IICCCS-2024
- Best Poster Award IISER-Kolkata.SICS-2023.
- Best Poster Award-IIT-ISM Dhanbad-RTCS-2022.

- Senior Research fellow-DST TCO Project Govt. of India-2015.
- Junior Research fellow-DST TCO Project Govt. of India-2013.
- Best Paper Award in RA2M-2017, Haldia Institute of Technology-Haldia.
- Advisor/Editorial Board member of-International Journal of Application or Innovation in Engineering & Management (IJAIEEM).
- I am the member of Runner's team in the Inter Department Cricket Tournament at Vidyasagar University on 2006-07.

Professional Activities

- Reviewed Paper of Thin Solid Film.
- One year Life membership from-Dalton Transactions Journal-The Royal Society Of Chemistry. July-2023 to July-2024.
- Life member of Indian Photobiology Society. April-2023.
- Fellow (FICS) & Life Member of "Indian Chemical Society of India".April-2020.
- Perform as an External examiner in "Contai Polytechnic College" Post-Darua,P.S.-Contai,Uttar Adaberya, West Bengal 721401 for three times.
- Member of the organizing committee of National seminar on advanced functional materials, and its social implications-NSAFMTSI-2015 held at HIT during 30-31st January-2015.
- Convener of Student Committee.-"National Seminar on Nano-science and Nanotechnology" (NSNN-2015) held at HIT during 9-10 Oct, 2015.
- Factory Visit: "Patina Plywood Ltd.", Kolkata, in 2014.

Publications: National/International Journals:

2025:

1. Sudipta Banerjee, Mukul K Das, Koushik Sarkar, **Himadri Sekhar Das**, Heranmoy Maity, Pradipta Maiti, S Prasanna Kumar, Design and Performance Analysis of n-PERC Solar Cell,2025, IEEE, International Conference on MNDCS-2025, 29-31 Jan 2025.
2. PV Based Smart Villages for Sustainable Living in Coastal Region of West Bengal, Authors-**Himadri Sekhar Das**, B. Bhattacharjee, S. Banerjee, H. Maity, D. Banerjee, S. Mukherjee, Publication date-2025/5/4,Conference IEEE,DevIc.
3. Systematic Review on Role of Machine Learning in development of Perovskite Solar Cell,Gourisankar Roymahapatra **Himadri Sekhar Das**, Arijit Kumar Barik, Juthika Maity, Sneha Maiti,Asim Kumar Jana, Sarad Jana,Publication date-2025/3/29,Conference,National Conference on Recent Trends in Science and Technology -Engineering & Applied Science.
4. S. Banerjee, **H. S. Das**, S., Das, M. K., Ahmed, T. et al. Design and Analysis of Passivated n-Si Solar Cell Employing SiC Window Layer. Silicon 17, 1079–1089 (2025). <https://doi.org/10.1007/s12633-025-03252-4>.
5. Abhishek Bag, Gobinda Chandra De, Shampa Bhattacharyya, Bikash Bepari, **Himadri Sekhar Das**, Sateesh Bandaru, Gourisankar Roymahapatra,Ag(I) decorated isomeric triazine complexes as efficient hydrogen storage materials - A theoretical investigation, Chemistry of Inorganic Materials,Volume 5,2025,100093,ISSN 2949-7469,<https://doi.org/10.1016/j.cinorg.2025.100093>.

2024:

6. S. Banerjee, K. Sarkar, **H. S. Das**, H. Maity and R. V. Bidwe, "A Brief Review of TOPCon Solar Cell and its Future Perspectives," 2024 IEEE International Conference on Communication, Computing and Signal Processing (IICCCS), ASANSOL, India, 2024, pp. 1-4, doi: 10.1109/IICCCS61609.2024.10763724. **IEEE Xplore**: 29 November 2024.
7. Study of Gallium-Doped Zinc Oxide Thin Films Processed by RF Magnetron Sputtering for Transparent Antenna Applications, **Himadri Sekhar Das**, Abhilasha Kumari, Anindita Das, Sneha Maiti, Surajit Mukherjee .International Conference on Natural Sciences and Engineering NSESD-2024.
8. Anindita Chatterjee, G. Kiran Kumar,Gourisankar Roymahapatra, **Himadri Sekhar Das**, G. Jaishree,T. Siva Rao,Zinc chalcogenide nanostructures: synthesis methodologies and applications—a review, *Frontiers in Nanotechnology*,16,Sec. Nanomaterials, Vol.6, 2024,https://doi.org/10.3389/fnano.2024.1433591,August 2024,Scopus.IF.4.1.
9. **Himadri Sekhar Das**, Sneha Maiti, Shampa Bhattacharyya, Abhishek Bag, Gourisankar Roymahapatra, Sudipta Banerjee, Heranmoy Maity, Aricson Pereira, and Bikash Bepari, Effect of Absorber Layer Thickness on the Performance of the Perovskite Solar Cell in Solar Cell Capacitance Simulator-1D (SCAPS-1D), *ES General*, 2024, 6, 1292, DOI:10.30919/esg1292. Oct 2024, Scopus.
10. Arya Maity, Subir Kumar Maity and **Himadri Sekhar Das**, A data-driven compact drain current model for InGaAs FinFET using TCAD assisted machine learning approach, *Engineering Research Express – IOPscience*, 6 045353, DOI 10.1088/2631-8695/ad980c. December 2024,Scopus. IF. 1.5.
11. Ramzi Jalgham, Sihem Ouchenane, Omar Dagdag, Houria Ghodbane, **Himadri Sekhar Das**, Anjana Ghosh, Gourisankar Roymahapatra and Muneer Ba-Abbad, Precise Prediction on the Corrosion Prevention Ability of 1,2,4- Triazole Derivatives: An Artificial Neural Network Approach, *ES Energy & Environment*, DOI:10.30919/esee1344. Dec 2024, Scopus. IF. 2.945.
12. Milan Hait, Priyanka Gupta, Gaurav Tamrakar, Supriya Biswas, Rakesh Singh Dhundhe, Vipin Kumar Soni, Himadri Sekhar Das, Pradeep Sahu, Amit Kumar Chaturvedi, Nand Kumar Kashyap, Takashiro Akitsu, Quantum Dots as a Fluorescent Sensor for Detecting Heavy Metal Ions in Aqueous Environment: An Overview, *ES Chemistry and Sustainability, Engineered Science*. DOI: 10.30919/escs1359, Dec 2024.
13. B. Bepari, B. Bairagi, Himadri Sekhar Das and Gourisankar Roymahapatra, De-novo Approach in Rank Agglomeration in Multi Criteria Decision Making for Materials Selection, *ESGeneral*,DOI:10.30919/esg1353. Dec 2024, Scopus.
14. Himadri Sekhar Das, Nabanita Aich, Juthika Maity, Poulami Bera, Takashiro Akitsu, Shampa Bhattacharyya, Subrata Mondal, Gourisankar Roymahapatra, and Bikash Bepari, Quindecennial Retrospection on the Trends and Advances in Perovskite Solar Cells, *ES General*,2024, 6,1242,DOI:10.30919/esg1242. Oct 2024,Scopus.

2023

15. Transparent conducting gallium-doped zinc oxide thin films on glass substrate for optoelectronic device applications, Himadri Sekhar Das, Mishra, Santanu; Dash, Mrinal Kanti; Kumar, Prasanta; Maity, Subir Kumar; Khatua, Debnarayan; Chatterjee, Anindita; Guo, Zhanhu; Xu, Ben Bin; Roymahapatra, Gourisankar, *ES Materials & Manufacturing*-22,841,2023, Engineered Science Publisher.

16. Hydrogen Storage Efficiency of the Ag (I)/Au (I) Decorated Five-Member Aromatic Heterocyclic (AH) Compounds: A Theoretical Investigation, A Bag, S Sinha, **H S Das**, S Giri, G Ch, S Maity, B B Xu, Z Guo, J Ganguly, Engineered Science.
17. A Tutorial Mini-review on Crown Ethers Towards Rhodium Separation: Application of Crown Ether Studies, Takashiro Akitsu, Gourisankar Roymahapatra, Swapan Sinha, Himadri Sekhar Das, Subhadeep Midya, ES general, DOI: 10.30919/esg949, 2023.

2022:

18. H₂ storage capacity of Li-doped five member aromatic heterocyclic superalkali complexes; an in silico study, Mrinal Kanti Dash, Swapan Sinha, **Himadri Sekhar Das**, Gobinda Chandra Deb, , Gourisankar Roymahapatra, *Sustainable Energy Technologies and Assessments*, **Elsevier**, Volume 52, Part C, August 2022, 102235.
19. 2,2'-Bipyridyl Chelated Ru(II)-Annulated NHC Complex of 1-Methyl-2-Pyridin-2-Yl-2H-Imidazo[1,5-a]Pyridin-4-Ylidene: Synthesis, Structure, Optical Properties, and DFT Interpretation, Bidyut Kumar Rana, Joydev Dinda, Pradip Kumar Mahapatra, Deepak Chopra, Valerio Bertolasi, Keshab M. Bairagi, Susanta K. Nayak, **Himadri Sekhar Das**, Santanab Giri and Gourisankar Roymahapatra. *Eng. Sci.*, **2022**, 17, 204–215.

2021:

20. Electronic second hyperpolarizability of alkaline earth metal chains end capped with –NH₂ and –CN, Kaushik Hatua, **Himadri Sekhar Das**, Avijit Mondal, Prasanta K. Nandi, *Journal of the Indian Chemical Society*, **Elsevier**, Volume 98, Issue 12, December **2021**, 100234
21. Organic Light Emitting Diode (OLED) Technology and its Applications: Literature Review-**Himadri Sekhar Das*** and Prasanta Kumar Nandi Department of Chemistry, IEST, Shibpur, India- Biodiversity Online Journal, BOJ.000527. 2(1).**2021**. ISSN: 2637-7802.
22. Study the Effect of ZnO/Cu/ZnO Multilayer Structure by RF Magnetron Sputtering For Flexible Display Applications-**Himadri Sekhar Das**, Gourisankar Roymahapatra, Prasanta Kumar Nandi and Rajesh Das. *ES Energy and Environment*. Accepted. (**2021**) March 18. Doi:10.30919/ese8c441.
23. Influence of Ga Doped Transparent Conducting ZnO Thin Film for Efficiency Enhancement in Organic Light-Emitting Diode Applications. **Himadri Sekhar Das**, Sajal Biring, Prasanta Kumar Nandi and Rajesh Das-*Applied Physics A*, 127,225 (**2021**).

2020:

24. Effect of Substrate and Substrate Temperature on Microstructure of Magnetron Sputtering Doped-ZnO Thin Films, **Himadri Sekhar Das**, Rajesh Das, Gourisankar Roymahapatra and Prasanta Kumar Nandi *J. Indian Chem. Soc.*, Vol.96,11a, Nov 2020, pp.1-8.
25. Influence of Hydrogen on RF Magnetron Sputtering ITO Films and Post Hydrogen Plasma Treatment. **Himadri Sekhar Das**, Rajesh Das, Gourisankar Roymahapatra and Prasanta Kumar Nandi *J. Indian Chem. Soc.*, Vol.96, November 2020, pp.320-326.

2019:

26. Synthesis and characterization of organic-inorganic Perovskite material for Solar cell application-**Himadri Sekhar Das**, Prasanta Kumar Nandi, Sajal Biring and Rajesh Das. *J. Indian Chem. Soc.*, 96, pp.343-348, **2019**.

27. Photophysical studies of the dye 1-Anilinonaphthalene-8-sulfonic acid in different solvents and its quantum chemical investigation- Timir Baran Sinha, Dipti Singha roy, **Himadri Sekhar Das**, Suvroma Gupta, Pijus Kanti Khatua. *Journal of Molecular Structure*, Volume 1179, pp.462-468, 2019.

2018:

28. Comparative Studies on the Properties of Magnetron Sputtered Transparent Conductive Oxide Thin Films for the Application in Solar Cell- **Himadri Sekhar Das**, *Sajal Biring*, Prasanta Kumar Nandi and Rajesh Das-*Applied Phys.A.124(9).2018*.
29. Effect of ZnO based transparent conducting oxide thin film for mesoporous TiO₂ based dye sensitized solar cell, **Himadri Sekhar Das** and Rajesh Das- International Journal of Research In Science & Engineering e-ISSN: 2394-8299 S CHEMCON Special Issue : March 2018 p-ISSN: 2394-8280.

2017:

30. Transparent Conducting Room Temperature Deposited InZnO:Ga thin films by Non-reactive RF-Magnetron Sputtering-**Himadri Sekhar Das**, Arka Dey, Partha Pratim Roy and Rajesh Das-*Materials today:Proceddings-Elsevier.-2017*.
31. Evaluation of Mechanical Properties of Plywood Treated with a new Wood Preservative (CEB) Chemical, Aparna Kalawate, Shadhu Charan Shahoo, Pijus Kanti Khatua & **Himadri Sekhar Das** , Journal of The Institution of Engineers (India): Series D volume 98, pages 37–41 (2017)

2016:

32. Effect of Hydrogen on RF-Magnetron Sputtered ZnO:Al Films properties and Current Status for Substitution of Commercially Available TCO films; R. Das and **H Sekhar Das** -Journal of The Institution of Engineers (India): Series D-2016.Online;01 september 2016.doi:10.1007/s40033-016-0123-y.
33. Merits and Demerits of Transparent Conducting Magnetron Sputtered ZnO:Al, ITO AND SnO₂:F Thin Films for Solar Cell Applications-Rajesh Das and **Himadri Sekhar Das**-Journal of The Institution of Engineers (India): Series D Metallurgical & Materials and Mining Engineering-ISSN 2250-2122 J. Inst. Eng. India Ser. D-DOI 10.1007/s40033-016-0112-1 -14 june-2016.
34. Solid state electrolyte based dye sensitized solar cell: stability and device performance. **Himadri Sekhar Das** and Rajesh das- international journal of hit transaction on eccn- issn- 0973-6875.2016.
35. Surface characterization of ZnO:Al transparent thin films , Himadri Sekhar Das, Sayani Bindai, Subir Maity, Rajesh Das, **International Journal of Engineering Research & Science**, Volume-2, Issue-3, March, 2016,Page No : 39-42.
36. Surface characterization of ZnO:Al transparent thin films **Himadri Sekhar Das**, Sayani Bindai, Subir Maity, Rajesh Das, International Journal of Engineering Research & Science (IJOER) ISSN: [2395-6992], Vol-2, Issue-3 March- 2016.

2015:

37. Basic Fundamentals of Different Solar Cells, Solar Energy Materials and Photovoltaic Performances **Himadri Sekhar Das**, Surya Kanta Bhowmik, and Rajesh Das; International Journal of Energetic Materials, 1(1) 1-9 (2015).
38. Controlled Texture of Magnetron Sputtered Transparent Conducting ZnO: Al Films for Solar Cell Applications -**Himadri Sekhar Das** and Rajesh Das IJNS (2015) 1-4. Journals Pub 2015.

2012:

39. FPGA Based Hardware Efficient Digital Decimation Filter for Σ - Δ ADC- Subir Kr. Maity, **Himadri Sekhar Das**- International Journal of Soft Computing and Engineering (IJSCE) ISSN: 2231-2307, 1 (6), (2012).

Publications: Conference/Seminar-National/International:

1. Role of Morphology , Particle Size, and Crystal Structure of TiO₂ Nanoparticles on Electron Injection and Transport in Dye Sensitized Solar Cell- Himadri Sekhar Das and Rajesh Das Proceedings of MESCoS-2015-abstract id: MH15R-HSD-RD-060 (2015).
2. Impact of Gate Underlap on Analog and RF Performance of Ultra-Thin Body Silicon on Insulator MOS Transistor-Bhabani Sankar Choudhury, Subir Kr. Maity, Himadri Sekhar Das; NSAFMTSI, HIT,HALDIA (2015).
3. Basic Fundamentals of Different Solar Cells, Solar Energy Materials and Photovoltaic Performances: Current Status-Surya Kanta Bhowmik, Himadri Sekhar Das, and Rajesh Das, NSAFMTSI, HIT (2015).
4. Size dependent optical properties of Magnetron sputtered ZnO thin films-Rajesh Das &Himadri Sekhar Das-IIEST-PV-Shibpur-2015.
5. Study of Surface Texture of Magnetron Sputtered Transparent Conducting ZnO:Al films for Solar Cell Applications-Himadri Sekhar Das and Rajesh Das-NSAFMTSI, HIT, Haldia (2015).
6. An overview on Organic Solar cell Fundamentals: Materials, Fabrication Techniques and Photovoltaic Performances-Himadri Sekhar Das, Pijus Kanti Khatua, and Rajesh Das, NSAFMTSI-HIT, Haldia (2015).
7. Transparent Conducting Oxide Thin Films for Solar Cell Applications” Rajesh Das, Himadri Sekhar Das, National Conference Low and High Temperature Applications of Solar Energy, NIT KURUKSHETRA, (2013).
8. FPGA Based Hardware Efficient Digital Decimation Filter for Σ - Δ ADC- Subir Kr. Maity, Himadri Sekhar Das- International Journal of Soft Computing and Engineering (IJSCE) ISSN: 2231-2307, 1 (6), (2012).
9. FPGA Based Hardware Efficient Digital Decimated Filter For Sigma Delta Modulator- Himadri Sekhar Das & Subir Maity, NCACD in HALDIA(HIT), (2011).
10. Microcontroller Based 16 bit Sigma Delta A/D Converter- Himadri Sekhar Das & Subir Maity; NCIE on 17th Feb (2011).

Seminar/Workshop/Conference attended/Presenting /webinar (Oral):

1. FDP-AICTE- UHV-II.2023
2. FDP-AICTE- UHV-I.2023.
3. SICS- National conference IISER Kolkata-2023.13-15 July-2023.
4. Five Day **International** Conference On Current Trends in Chemical Sciences and their Industrial Applications (CTCSIA-2021)- organized by- Jointly Organized By Haldia Institute of Technology (HIT), Haldia, West Bengal, India, In Collaboration With Indian Chemical Society (ICS), Kolkata, India.
5. Five day *International online Faculty Development Programs* on Emerging Trends in Nano Technology , (ETNT-2021,9-13th Nov), Organized by Vishnu Institute of Technology, Bhimavaram, Andhra Pradesh, India.
6. One week *Faculty Development Programs* on Conduction of Laboratory classes for Electronics and communication engineering during Pandemic,25-29th Oct,2021 organized by MCKV Institute of Engineering, India.
7. Recent success and challenges in Nanoscience and Nanotechnology (Experiment and Theory)-RSCNN-2020,25-27th organized by Haldia Institute of Technology, Haldia, India.
8. Two days international webinar on transformative role of language and literature issues, trends & challenges, 15-16th Sep, 2020, Organized by Haldia Institute of Technology, Haldia, India.
9. First International Webinar Conference On "Uncertainty Theory and Decision Making" (28th -30th, November 2020).
10. International Webinar on "Recent Success and Challenges in Nanoscience and Nanotechnology (Experiment and Theory) (RSCNN 2020)" from 25-27 September 2020.
11. Two-Day International Webinar on Transformative Role of Languages & Literature: Issues, Trends & Challenges. HIT-Haldia-Department of applied Science-2020.

12. UGC-Sponsored National Seminar on Recent Development in Bio -Active Molecules (RDBAM-2016)4th-5thAugust, 2016
13. National Seminar on Nano-science and Nanotechnology (NSNN-2015) 9-10 Oct, 2015.
14. “National Seminar on Advanced Functional Materials, Technology & its Social Implications”-NSAFMTSI-2015.
15. UGC Sponsored “National Seminar on recent development in Green Chemistry” Gushkara Mahavidyalaya-RDGC-2015, Burdwan.2015.
16. Workshop and Symposium on Modeling, Experimentation and Simulation on Complex Systems (MESCoS 2015).
17. Presented the Paper-“Replacement of liquid Electrolyte by Solid State electrolyte for Enhancing the efficiency & Stability- Himadri Sekhar Das& Rajesh Das; National Seminar on Nano-science and Nano technology held in HIT, Haldia at 9-10 Oct 2015.
18. Study of Surface Texture of Magnetron Sputtered Transparent Conducting ZnO:Al films for Solar Cell Applications-Himadri Sekhar Das and Rajesh Das; National Seminar on Advanced Functional Materials Technology & its Social Implication, HIT, Haldia(2015).
19. Attended a One day seminar “Electronics for the 21st Century” at Vidyasagar University, West Medinipur on 27th march (2009).
20. Presented the paper- FPGA Based Hardware Efficient Digital Decimated Filter For Sigma Delta Modulator- Himadri Sekhar Das & Subir Maity; NCACD in HIT, Haldia,(2011).
21. Attending the “National Conference Low and High Temperature Applications of Solar Energy”, NIT KURUKSHETRA, 25/05/2013.

Subject Taught in B.Tech/M.Tech level (Graduation/Post Graduate)

- Basic Electronics, Analog electronics, Digital Electronics, Microelectronics and Opto Electronics, Electronics Device, Embedded System.

Computer proficiency

- P-Spice, Tanner Spice and smart Spice for Circuit simulation and Xilinx for digital logic design, Matlab, SCAPS-1D, DFT.

Book Chapter:

1. Education in Chemical Science and Technology, Vol.07, Dec-2020, Published by *Indian Chemical Society*, APC Road, Kolkata-700009.
2. Reviews on electromagnetic Interference/Compatibilities, Himadri Sekhar das, Santanu Mishra, Gourisankar RoyMahapatra, Takashiro Akitsu – *Advances in Microwave Engineering: From Novel Materials to Novel Microwave Applications*, chapter: 9,2023 , CRC Press, Taylor & Francis Group, LLC.
3. Himadri Sekhar Das, Arindam Basak, Subir Maity, *Materials Science and Technology*, Title: Innovations in Energy Efficient Construction Through Sustainable Materials, IGI Global Scientific Publisher, 2025, Pages: 32, DOI: 10.4018/979-8-3693-3398-3.ch008.2025, **Web of Science. IF. 0.424.**
4. Himadri Sekhar Das, Gourisankar Roymahapatra, Santanu Mishra, *Micro/Nano Plastic Pollution Represents a Significant and Growing Threat to Human Populations Worldwide*, Title: Global Impacts of Micro and Nano-Plastic Pollution, IGI Global Scientific Publisher, Pages: 24,DOI: 10.4018/979-8-3693-3447-8.ch002. 2025,**Web of Science. IF. 0.424.**
5. Himadri Sekhar Das, Santanu Mishra, Gourisankar Roymahapatra, *Advanced Nano-Structured Materials for Energy Storage Devices*, Title: Design, Fabrication, and Significance of Advanced Nanostructured Materials, IGI Global Scientific Publisher, Pages: 34, DOI: 10.4018/979-8-3693-5320-2.ch001. 2025, **Web of Science. IF. 0.424.**
6. Himadri Sekhar Das, Subir Maity, *Integrating Internet of Things (IoT) With Edible Electronics*, Title: Edible Electronics for Smart Technology Solutions, IGI Global Scientific Publisher, Pages: 28,DOI: 10.4018/979-8-3693-5573-2.ch010. 2025, **Web of Science. IF. 0.424.**

7. Himadri Sekhar Das, Hiranmoy Maity, Sudipta Banerjee, Banibrata Bag, Fundamentals of AI Quantum Computing, and Semiconductor Technology, Title: Integration of AI, Quantum Computing, and Semiconductor Technology, IGI Global Scientific Publisher, Pages: 28, DOI: 10.4018/979-8-3693-7076-6.ch001. 2025, **Web of Science. IF. 0.424.**
8. Himadri Sekhar Das, Renewable Energy Integration and Energy Efficiency, Source, Title: Sustainable Smart Cities and the Future of Urban Development, IGI Global Scientific Publisher, Pages: 30, DOI: 10.4018/979-8-3693-6740-7.ch014. 2025, **Web of Science. IF. 0.424.**
9. Himadri Sekhar Das, Advanced Technology for Water Treatment and Purifications, Title: Emerging Trends and Technologies in Water Management and Conservation, IGI Global Scientific Publisher, Pages: 34, DOI: 10.4018/979-8-3693-6920-3.ch001. 2025, **Web of Science. IF. 0.424.**
10. Himadri Sekhar Das, Sandipan Samanta, Rajrupa Metia, Debasish Samanta, Banibrata Bag, Cyber Security Techniques for 5G Networks, Title: Advanced Cyber Security Techniques for Data, Blockchain, IoT, and Network Protection, IGI Global Scientific Publisher, Pages: 24, DOI: 10.4018/979-8-3693-9225-6.ch005. 2025, **Web of Science. IF. 0.424.**
11. Himadri Sekhar Das, Life Cycle Assessment of Emerging Battery Technologies for Electric Vehicles, Title: Optimized Energy Management Strategies for Electric Vehicles, IGI Global Scientific Publisher, Pages: 32, DOI: 10.4018/979-8-3693-6844-2.ch004. 2025, **Web of Science. IF. 0.424.**
12. Himadri Sekhar Das, Santanu Mishra, Gourisankar Roymahapatra, Graphene Oxide in Water Treatment From Adsorption to Photocatalysis, Title: Carbon-Based Materials and Environmental Remediation: Graphene Biochar and More, IGI Global Scientific Publisher, Pages: 32, DOI: 10.4018/979-8-3693-8257-8.ch005. 2024, **Web of Science. IF. 0.424.**

Book:

1. **Himadri Sekhar Das**, Sudipta Banerjee, Heranmoy Maity, Optical Computing and its Applications, LAP Lambert Academic Publishing, ISBN-10: 6207647807. May 2024.
2. An Introduction to Optoelectronics, Sudipta Banerjee, **Himadri Sekhar Das**, Heranmoy Maity, LAP Lambert Academic Publishing (August 26, 2024), ISBN-10 : 620765191X, ISBN-10 : 620765191X, 2024.

Patent Published: 05

Student paper:

1. **Himadri Sekhar Das**, Abhilasha Kumari, Anindita Das, Sneha Maiti, Surajit Mukherjee, Santanu Mishra, Gourisankar Roy Mahapatra, Prasanta Kumar Nandi, Study of Gallium-Doped Zinc Oxide Thin Films Processed by RF Magnetron Sputtering for Transparent Antenna Applications, 2024, International Conference on Natural Sciences and Engineering for Sustainable Development (NSESD2024), ISBN: 978-81-971087-6-1.
2. **Himadri Sekhar Das**, Nabanita Aich, Juthika Maity, Poulami Bera, Takashiro Akitsu, Shampa Bhattacharyya, Subrata Mondal, Gourisankar Roymahapatra, and Bikash Bepari, Quindecennial Retrospection on the Trends and Advances in Perovskite Solar Cells, ES General, 2024, 6, 1242, DOI: 10.30919/esg1242. Oct 2024, UGC care.
3. Effect of Absorber Layer Thickness on the Performance of the Perovskite Solar Cell in Solar Cell Capacitance Simulator-1D (SCAPS-1D), **Himadri Sekhar Das**, Sneha Maiti, Shampa Bhattacharyya, Abhishek Bag, Gourisankar Roymahapatra, Sudipta Banerjee, Heranmoy Maity, Aricson Pereira and Bikash Bepari.

Invited Talk:

1. KIIT-Odisha-Dec-2023.
2. R C University-Jharkhand-May-2024.

Research Scholar:

1. Arijit Kumar Barik
2. Sarad Jana

Dr. Himadri Sekhar Das