Curriculum Vitae

Dr. Jhasaketan Nayak
Associate Professor
Department of Physics
Indian Institute of Technology (Indian School of Mines)
Dhanbad-826004, Jharkhand, India
Email: nayakj@iitism.ac.in

Professional experience

1. April 2022 – Till date, Associate Professor, Department of Physics, IIT (ISM) Dhanbad, India

2. August 2013 – April 2022, Assistant Professor, Dept. of Physics, IIT (ISM) Dhanbad, India

3. September 2012 – August 2013, Research Manager, R&D Unit, DR AXION Co. Ltd, Busan, South Korea

4. September 2010 – August 2012, Senior Postdoctoral Researcher Dept. of Electrical Engineering, Pusan National University, South Korea

5. March 2009 – August 2010, Assistant Professor, Dept. of Physics and Meteorology, Indian Institute of Technology, Kharagpur, India

6. February 2008 – February 2009, Postdoctoral Research Associate, Dept. of Chemical Engineering, Pohang University of Science and Technology, South Korea

7. November 2004 – February 2008, postdoctoral researcher, Dept. of Electrical Engineering, University of Electro-Communications, Tokyo, Japan

Recent foreign visits

1. From 28th May to 6th June 2023, Academic Visitor, Prof. Sang Sub Kim's Laboratory, Department of Materials Science and Engineering, Inha University, Incheon, South Korea.

2. From 20th December 2014 to 10th January 2015, Academic Visitor, Prof. Woochul Kim's laboratory, Dept. of Mechanical Engineering, Yonsei University, Seoul, Korea.

Education

1. Ph.D. in Physics, 2005, Institute of Physics, Bhubaneswar, Utkal University, India. Thesis title: *"Properties of Nanostructured GaAs and Cluster generated Sb_2O_3 Thin Films".*

2. Master of Science, Physics, 1997, Ravenshaw University, Cuttack, India

3. Bachelor of Science, Physics Honors, 1995, Bhadrak College Bhadrak, Utkal University, Odisha, India

Academic achievements

1. Qualified National Eligibility Test (NET), 1997 conducted by Council of Scientific and Industrial Research (CSIR), India.

2. Qualified Graduate Aptitude Test in Engineering (GATE), 1998, percentile = 82

Research & Teaching in IIT (ISM)

R&D project			
Title	**Source**	**Value (INR)**	**Status**
Synthesis of metal oxide semiconductor hybrid nanostructures for application in photocatalysis and quantum dot sensitized solar cells	Faculty Research Scheme, IIT (ISM) Dhanbad (2015-2018)	9,60,000	Completed and report submitted

PhD degree(s) awarded			
Sl. No.	**Thesis title**	**Name and admission number of the research scholar(s)**	**Month and year of the award of the degree**
1	Synthesis of Oxide based high-k electro-ceramic nanoparticles for application in sensors	Anamitra Chattopadhyay 17DR000455	May 2023
2	Synthesis of Zinc Oxide-Cellulose Nanocomposite for Application as Ultraviolet Light Sensor	Karunakar Sahoo 2014DR0268	September 2021
3	Synthesis of Metal Oxide Semiconductor Nanocomposites for Photovoltaic Applications	Biswajyoti Mohanty 2015 DR 0211	June 2021
4	Synthesis of Nanostructured Metal Oxide Semiconductors and their Applications in UV-Vis Photocatalysis	Asish Kumar Mohapatra, 2014 DR0059	Dec. 2018
B. Tech. /M. Tech./M. Sc. theses supervised			

Sl. No.	Thesis title	Name and admission number of the student(s).	Month and year of the award of the degree
1	Hole transport layer in Organic Solar Cells	Bikash Kumar Roy 19 MS 0025	May 2021
2	Perovskite Solar Cells	Ashsok Pradhan 19 MS 0017	May 2021
3	Absorber Layers in Thin Film Solar Cells	Kushal Samanta 19 MS 0054	May 2021
4	Chemical Bath Deposited CdS Thin Films for Solar Cell Applications	Stuti Bharti 18MS0084	May 2020
5	Sol-gel derived CeO_2 thin film for photo-electrochemical solar cell	Akash Biswas 18 MS 0004	May 2020
6	WO_3-TiO_2 composite thin films deposited by spin coating technique	Manish Joshi 17MS0456	May 2019
7	Synthesis and Characterization of optical properties of WO_3 powder	Subitan Laskar 17 MS 0497	May 2019
8	Nitrogen doped TiO_2 nanoparticles for application in dye-sensitized solar cells	Karan Pal 14 JE 0779	May 2018
9	Synthesis and characterization of non-metal doped metal oxide semiconductor nanostructures	Sukhbir Jaglan 16 MS 0388	May 2018
10	Properties of nitrogen doped cerium oxide nanopowder	Raj Kumar Pandit 15 MS 0239	May 2018
11	Synthesis and characterization of anatase TiO_2 nanopowder	Lalit Kumar Sahoo 15 MS 0160	May 2017
12	Hydrothermal synthesis of WO_3 nanopowder for ultraviolet sensing applications	Sanat Kumar Majhi 15 MS 0149	May 2017
13	Metal oxide based transparent conducting oxide thin films	Subha Samanta 14 MS 0075	May 2016
14	ZnO/ CdS nanorod quantum dot solar cells	Anupam Maity 14 MS 0049	May 2016
15	Study of properties of Indium Tin Oxide Thin Films	Trupti Ranjan Das 2013 MS 0013	May 2015

Courses taught

Sl. No.	Name and code of the course with L T P	Semester & Discipline	Session
1	PHO 301 Low Temperature Physics & Superconductivity (3 0 0)	6th B. Tech. (Eng. Phys.)	Winter 2022-23
2	PHC504 Electronics (3 0 0) PHO300 Sensors &Transducers (3 0 0)	1st M. Sc. Phys. 5th B, Tech. (Eng. Phys.)	Monsoon 2022-23
3	APC 16104 (3 0 0)	6th B. Tech. (Eng. Phys.)	Winter 2020-21

	Low Temperature Physics & Superconductivity		
4	PHC504 (3 0 0) Electronics APC17102 (3 0 0) Physics of Nanomaterials	5th B. Tech. (Eng. Phys.) 1st M. Sc. Phys., Sem-VII, B. Tech. (Eng. Phys.)	Monsoon 2020-21
5	PHO 503 (3 0 0) Physics of Nanomaterials APC 16104 (3 0 0) Low Temperature Physics & Superconductivity	2nd M. Sc. Physics, 8th B. Tech. (Eng. Phys.)	Winter 2019-20
6	PHC 504 (3 0 0) Electronics	5th B. Tech. (Eng. Phys.) & 1st M.Sc. Physics	Monsoon 2019-20
7	APE 33101 (3 0 0) Physics of Nanomaterials	Sem-VII, B. Tech. (Eng. Phys.) Sem-III, M. Sc. Physics	Monsoon 2019-20
8	PHC504 (3 0 0) Electronics	Sem-I, M.Sc. Phys.	Monsoon 2019 - 20
9	APH 16101 Low Temperature Physics & Superconductivity (3 0 0)	Sem-VI B. Tech. (Eng. Phys.)	Winter 2018-19
10	APC 72102 Experimental Physics (3 0 0)	Sem-II PhD Course Work	Winter 2018-19
11	APD 12301 Energy Resources (1 0 0)	Sem-II B. Tech. (Common)	Winter 2018-19
12	APC 31104 Electronics (3 1 0)	Sem-I M. Sc. Appl. Phys.	Monsoon 2018-19
13	APC 15102 Analog & Digital Electronics (3 0 0)	Sem-V B. Tech. (Eng. Phys.)	Monsoon 2018-19
14	APD 12301 Energy Resources (1 0 0)	Sem-II B. Tech. (Common)	Monsoon 2018-19
15	APE 34105 Optoelectronic Materials & Devices (3 0 0)	Sem IV M. Sc. Appl. Phys.	Winter 2017-18
16	APC 14103 Applied Optics (shared) (1 0 0)	Sem IV B. Tech. (Eng. Phys.)	Winter 2017-18
17	APC 14013 Nuclear Science & Engineering (shared)	Sem VI B. Tech. (Eng. Phys.)	Winter 2017-18

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18	APC 33101/17101 Statistical Mechanics (3 0 0)	Sem III M. Sc. Appl. Phys. & Sem VII, B. Tech. Eng. Phys.	Monsoon 2017-18
19	APC 94102 Electricity & Magnetism (3 0 0)	Sem-IV Int. M.Sc. AGP	Winter 2016-17
20	APC 82101 Physics-II (shared) (3 1 0)	Sem-II Preparatory (OVL)	Winter 2016-17
21	APC 33101/17101 Statistical Mechanics 3 0 0	Sem-III M.Sc. Appl. Phys.	Monsoon 2016-17
22	APC 93101 Mechanics-I (3 0 0)	Sem-III Int. M. Tech. AGP	Monsoon 2016-17