

# Dr. Monami Das Modak

## Assistant Professor



Education Qualifications: M.Sc., Ph.D.  
Specialization: Material Sciences - Condensed Matter Physics

### ADDRESS:

- A – Block , Room No -002

### JNTUH ID:

7141-230329-125937

### EMAIL:

monamidas\_phy@mgit.ac.in

### DATE OF JOINING:

06-05-2024

### EXPERIENCE - 8 Years

- Teaching - 1
- Research -7

### SUMMARY:

- Publications - 7
- Conferences - 7
- Patents (published) – 3
- Books – 1
- Honors/Awards - 6

### EVENTS:

- Attended - 4

### LET'S MEET ON SOCIAL:

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- <https://twitter.com/MGITHyderabad>
- <https://in.linkedin.com/in/dr-monami-das-modak-b17459ab>
- <https://scholar.google.com/citations?user=cWmHbooAA>

### Honors/Awards Received:

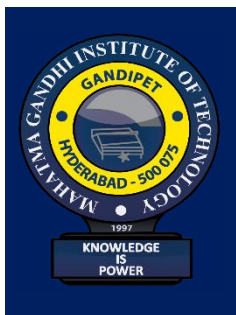
1. Received the **Institute Gold Medal** for securing the first position in M.Sc. Physics in 2013 from NIT-Durgapur.
2. Received Prof. **M.S. Sinha Memorial Gold Medal** for securing the highest CGPA in M.Sc. Physics in 2013 from NIT-Durgapur.
3. Awarded Inspire Fellowship -2015 for pursuing doctoral studies.
4. Received **Best research paper award** (In Best Women Scientist category award) in an international conference on “Nanoscience for better living (NBL-2019)” held at IIT Kanpur.
5. Received **Best invited lecture award** (SIL - category) in the international conference on “Advanced materials (ICAM-2019)” held at MGIT-Kottayam, Kerala.
6. **Best paper presentation award** in the international conference on “Water energy and environmental sustainability (WEES-2020)” held at NIT-Durgapur.

### Courses Handled at Under Graduate /Post Graduate Level:

UG: Engineering Physics

### Publications:

1. Facile cost-effective green synthesis of carbon dots: selective detection of biologically relevant metal ions and synergetic efficiency for treatment of Cancer; Somedutta Maity, **Monami Das Modak**, Munendra Singh Tomar, Kirti Wasnik, Prem Shankar Gupta, Sukanya Patra, Divya Pareek, Monika Singh, and Pradip Paik; Biomedical Materials, 2014, 19,025043. DOI: <https://doi.org/10.1088/1748-605X/ad2a3c>.
2. Azadirachta indica Seed Derived Carbon Nanocapsules: Cell Imaging, Depolarization of Mitochondrial Membrane Potential, and Dose-Dependent Control Death of Breast Cancer; Somedutta Maity, Munendra Singh Tomar, Kirti Wasnik, Sukanya Patra, **Monami Das Modak**, Prem Shankar Gupta, Divya Pareek, Monika Singh, and Pradip Paik; ACS Biomater. Sci. Eng. 2022, 8, 8, 3608–3622. DOI: <https://doi.org/10.1021/acsbiomaterials.2c00463>.
3. Self assembly of upconversion nanoparticles and its luminescence; **Monami Das Modak**, Anil K Chaudhary, Pradip Paik; 2022, arXiv:2206.01267. DOI : <https://doi.org/10.48550/arXiv.2206.01267>.
4. Upconverting Nanodots of NaYF<sub>4</sub>:Yb<sup>3+</sup>Er<sup>3+</sup>; Synthesis, Characterization and UV- Visible Luminescence Study Through Ti: sapphire 140-fs Laser-Pulses; **Monami Das Modak**, Anil K Chaudhary, Ganesh Damarla, K. Santhosh Kumar, Somedutta Maity and Pradip Paik.; 2020, arXiv:2008.06783; DOI : <https://doi.org/10.48550/arXiv.2008.06783>.
5. Self-assembled pearl-necklace patterned upconverting nanocrystals with highly efficient blue and ultraviolet emission: femtosecond laser based upconversion properties; **Monami Das Modak**, Ganesh Damarla,



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- <https://in.linkedin.com/in/d-r-monami-das-modak-b17459ab>
- <https://scholar.google.com/citations?user=cWmHbooAA>

Somedutta Maity, Anil K Chaudhary and Pradip Paik; RSC Advances., 2019, 9, 38246-38256. DOI : <https://doi.org/10.1039/C9RA06389G>.

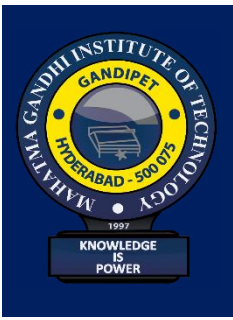
6. UCN-SiO<sub>2</sub>-GO: a core shell and conjugate system for controlling delivery of doxorubicin by 980nm NIR-pulse; Pradip Paik, K. Santhosh Kumar, **Monami Das Modak**, Koushi Kumar and Somedutta Maity; RSC Advances, 2018, 8, 37492–37502. DOI: <https://doi.org/10.1039/C8RA07030J>.
7. Graphene Oxide for Biomedical Applications; Santhosh Kumar K, **Monami Das Modak** and Pradip Paik; Mini review: Journal of Nanomedicine research, 2017, 5, 00136, DOI: <https://doi.org/10.15406/jnmr.2017.05.00136>.

#### Conference Presentations:

1. International Conference of Water energy and Environmental sustainability (WEES 2020); 2020; NIT-Durgapur; 13th to 15th Jan; NIR-UV /Visible Emissions from Newly Synthesized Upconversion Nanonecklaces: Irradiations with 140 fs Pulsed-Laser; **Monami Das Modak**, Anil K Chaudhary, Pradip Paik.
2. International Conference on Functional Materials (ICFM-2020); 2020; IIT Kharagpur; 6th to 8th Jan; Formations of highly fluorescent Upconverting nanoparticles (UCNPs); **Monami Das Modak** and Pradip Paik.
3. 3<sup>rd</sup> International Conference on Advanced Materials (ICAM 2019); 2019; MGIT-Kottayam; 9th to 11th August; Optical properties in upconverting nanoparticles; **Monami Das Modak** and Pradip Paik.
4. INSPIRE Fellowship review meeting; 2019; KL Deemed to be University, Vaddeswaram, Guntur, AP; 20th - 22nd June; Colloidal Upconverting Cubic/Hexagonal Phase NaYF<sub>4</sub>:Er<sup>3+</sup>/Yb<sup>3+</sup> nanocrystals with efficient Upconversion Fluorescence and study of their spectroscopic properties; **Monami Das Modak**.
5. 4<sup>th</sup> International Conference on Nanotechnology for Better Living, NBL 2019; IIT- Kanpur; 6th to 7th April; UCN-SiO<sub>2</sub>-GO conjugate system for controlling delivery of doxorubicin by 980 nm NIR pulse and intervention of cancer; Somedutta Maity, K Santhosh Kumar, **Monami Das Modak**, Koushi Kumar and Pradip Paik
6. 4<sup>th</sup> International Conference on Nanotechnology for Better Living, NBL 2019; IIT- Kanpur; 6th to 7th April; Structural and spectroscopic Properties of up converting nanoparticles: Thin-Film spectra under fs laser source; **Monami Das Modak**, Damarala Ganesh, Anil Kumar Chaudhary and Pradip Paik.
7. 2<sup>nd</sup> International conference on Nanoscience and Engineering applications; 2018; JNTU Hyderabad; 4th to 6th October; under TEQIP-III; Up-conversion-nanoparticles: Synthetic procedures and properties for biological applications; **Monami Das Modak** and Pradip Paik.

#### Events Attended:

1. Participated in International Symposium on 'Advances in Nanosensors and Nanomedicine'; 2021; Bennett University, Greater Noida, New Delhi; 22nd Dec; **Monami Das Modak**.
2. Attended International Conference on 'Frontiers in Nanoscience and Technology'; 2018; Centre for Technology, University of Hyderabad; 6th-



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- <https://in.linkedin.com/in/dr-monami-das-modak-b17459ab>
- <https://scholar.google.com/citations?user=cWmHbooAA>

7th April; Symposium on Frontiers in Nanoscience and Technology; **Monami Das Modak.**

3. Participated in 'International Conference on Ceramics, Glass, and Refractories-Emerging Innovations (CGREI-2016): One Day workshop on Advanced Ceramic Processing and Fabrication';2016; IICT Hyderabad; Telangana,12<sup>th</sup> December.
4. Participated in 'One day workshop on Advanced Engineering Materials: An industry perspective';2016; School of Engineering Sciences and Technology (SEST), University of Hyderabad, Telangana, 25th November.

**Patents Published:**

1. Published A patent on: Stable upconversion nanoparticle super- lattice (UCN-SL) & in-situ process for developing thereof; Ref. No./Application No.- 201841037607.
2. Pblished A patent on: Stable upconversion nanoparticle dendrimer (UCND) & method of making thereof; Ref. No./Application No.- 201841037609.
3. Published A patent on: Upconversion nanoparticle DOT (UCN – DOT) of size 3.5 nm & its preparation process thereof; Ref. No./Application No.- 201841037608.

**No. of Books/Chapter Published with details:**

1. A Wide Portray of Upconversion Nanoparticles: Surface Modification for Bioapplications; **Monami Das Modak**, Pradip Paik; Anuj Tripathi and Jose Savio Melo (eds) Immobilization Strategies. Gels Horizons: From Science to Smart Materials. Springer, Singapore. pp 335-369, DOI: [https://doi.org/10.1007/978-981-15-7998-1\\_9](https://doi.org/10.1007/978-981-15-7998-1_9)