

## Curriculum Vitae

### **Dr. Khemnath Patir**

Assistant Professor in Chemistry

Department of Applied Science and Humanities

Assam University-A Central University, Silchar-788011, Assam, India.

E-mail: Patirkhemnath@gmail.com.

Contact No: +91-9954895650.



### Academic Qualifications:

- M. Sc (Chemistry), Gauhati University, Guwahati, Assam, India.
- Ph.D. (Luminescent Spectroscopy), Gauhati University, Guwahati, Assam, India.

Research Interest: Luminescent materials, Nanomaterials, Metal Organic Frameworks, Clay and Double Layer Hydroxides, Sensors, Adsorption, Catalysis and Environmental Remediation.

### Awards/ Achievements:

- Anundoram Boroah Award from Government of Assam-2006.
- SLET-North East Region-2014.
- CSIR-NET (LS)-2015, CSIR-NET(JRF)-2016.
- GATE-2015.

### Teaching Experience:

- Assistant Professor (Contractual) in the Department of Chemistry, Darrang College, Tezpur, Assam, India (03-08-2013 to 02-12-2013).
- Assistant Professor (Contractual) in the Department of Chemistry, Bodoland University, Kokrajhar, Assam, India (22/10/2019 to 17/11/2020).
- Assistant Professor (Permanent) in the Department of Chemistry, Behali Degree College, Biswanath, Assam, India (21/12/2020 to 4/8/2021).
- Assistant Professor-Chemistry (Permanent) in the Department of Applied Science and Humanities, Assam University, Silchar, Assam, India (Since 5/8/2021).

## Publications

1. **K. Patir** and S. K. Gogoi, Facile synthesis of photoluminescence graphitic carbon nitride quantum dots for Hg<sup>2+</sup> detection and room temperature phosphorescence, *ACS sustainable chem. Eng.* **2018**, **6**, 1732-1743 (Impact Factor = **8.198**).
2. **K. Patir** and S. K. Gogoi, Nitrogen doped carbon dots as fluorescence ON-OFF-ON sensor for parallel detection of copper (II) and mercury (II) ions in solutions as well as filter paper based microfluidic device, *Nanoscale Adv.*, **2019**, **1**, 592-601 (Impact Factor = **4.553**).
3. **K. Patir** and S. K. Gogoi, Long after glow room temperature phosphorescence from urea pyrolysis nanostructures product, *Chem. Asian J*, **2019**, **14**, 2573-2578 (Impact Factor = **4.568**).
4. P. Sarma, **K. Patir**, K. K. Sarmah, S. K. Gogoi, R. Thakuria and P. J. Das, Stimuli-responsive aggregation-induced fluorescence in a series of biphenyl-based knoevenagel products: effects of substituent active methylene groups on  $\pi$ - $\pi$  interactions, *Act Cryst. B.*, **2019**, **B75**, 775-783 (Impact Factor = **2.266**).
5. **K. Patir**, Bikram Barman and Sanjay Basumatary, One pot synthesis of multicolor emissive nitrogen doped carbon dots and its application as acetone and picric acid sensor, *Iran J Sci Technol Trans Sci.*, **2021**, **45**, 1301-1310 (Impact Factor = **1.194**).

## Book Chapter

**K. Patir**, Luminescent Metal-Organic Frameworks-Based sensors for Environmentally Toxic Analytes, Emerging Applications and Implementations of Metal-Organic Frameworks, **13-25**, **2021**, [igi-global.com](http://igi-global.com), DOI:10.4018/978-1-7998-4760-1.ch002.

## Oral presentations

1. Presented an oral entitled "Synthesis of blue fluorescence carbon nanoparticles for detection of mercury (II) and copper (II) ions" at UGC SPONSORED NATIONAL SEMINAR ON RECENT TRENDS IN CHEMISTRY TOWARDS UTILIZATION OF NATURAL RESOURCES AND CONSTRAINTS WITH SPECIAL REFERENCE TO NORTH- EAST INDIA, 2017 organized by Department of Chemistry, Jagiroad college, Jagiroad, Morigaon, Pin-782410, Assam, India.
2. Presented an oral entitled "Luminescence graphitic carbon nitride (g-C<sub>3</sub>N<sub>4</sub>) for detection of Copper ions" at UGC Sponsored NATIONAL SEMINAR On HARMONY WITH NATURE IN THE CONTEXT OF CHEMISTRY, ENVIRONMENTAL ISSUES AND CHALLENGES, 2017

organized by Department of Chemistry, Pub Kamrup College, Baihata Chariali-781381, Assam, India.

3. Presented an oral entitled “Fluorescence sulphur doped g-C<sub>3</sub>N<sub>4</sub> for Mercury (II) ions detection” at UGC SPONSORED NATIONAL CONFERENCE ON NANOMATERIALS AND ITS APPLICATIONS (NCNA17), 2017 organized by Department of Physics, Debraj Roy College, Golaghat-785621, Assam, India.

4. Presented an oral entitled “Carbon nitride dots for selective detection of mercury (II) ions” at UGC–SAP National Seminar on EMERGING TRENDS IN CHEMICAL SCIECNES, 2018 organized by Department of Chemistry, Gauhati University, Guwahati-781014, Assam, India.

### Poster presentations

1. Presented a poster entitled “One Step Microwave Synthesis of Carbon dots from polyethylene Glycol and Starch and their comparative Study of their photoluminescent properties” at New Advances and Horizons in Nano science and Nanotechnology (NanoSci-2014) organized by IASST and IIT Indore, Guwahati, Assam, India.

2. Presented a poster entitled “Room Temperature Synthesis of Carbon Dots from Sucrose and Study of its Optical properties” at NATIONAL SEMINAR ON EMERGING TRENDS IN CHEMICAL SCIECNES 2016 (ETICS-2016) organized by Department of chemistry, Gauhati University, Guwahati-781014, Assam, India.

3. Presented a poster entitled “Synthesis and Characterization of Graphitic Carbon Nitride and Study of its Luminescence Properties” at 20<sup>TH</sup> CRSI NATIONAL SYMPOSIUM IN CHEMISTRY, 2017 organized by Department of Chemistry, Gauhati University, Guwahati, India.

4. Presented a poster entitled “ Synthesis of luminescence carbon nitride (g-C<sub>3</sub>N<sub>4</sub>) and application for selective detection of copper ions in aqueous medium” at National Seminar on CHEMISTRY IN INTERDISCIPLINARY RESEARCH (NSCIR-2017) organized by Department of chemistry, Nagaland University, Nagaland, India (**Best Poster awarded**).

5. Presented a poster entitled “Excitation Independent Photoluminescence carbon dots from Sucrose for sensing of metal ions” at UGC-SAP(DRSIII) SPONSORED NATIONAL SEMINAR ON ADVANCES IN MATERIALS SCIENCE, 2017 organized by Department of Physics, Gauhati University, Guwahati-781014, Assam, India.

6. Presented a poster entitled “Selective detection of Iron (III) with Fluorescent Carbon Nanoparticles” at NATIONAL CONFERENCE ON APPLIED SCIENCES, SUSTAINABLE AND EVOLVING TECHNOLOGIES (ASSET-2018), organized by CIT-Kokrajhar and Bodoland University, Kokrajhar, Assam, India.

### Workshops

1. Three day (30-11-2018 to 01-12-2018) workshop by Indian Nanoelectronics User’s Programme (INUP) Familiarization-IIT-Bombay on Nanofabrication Technologies
2. Attended One day National workshop on Crystallography Education held on 8/11/2014 in Gauhati University.

### Faculty development programme attended

Completed 4 week faculty induction/orientation programme from Teaching Learning Centre, Ramanujan College, University of Delhi under the aegis of Ministry of Education, Government of India, PMMMNTT Scheme (19 June-18 July, 2021).