

CURRICULUM VITAE

Nisha Rani Ray

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Summary:

I, Nisha Rani Ray have been working with pharmaceutical molecules (API) to make smart co-crystal and studying their stimuli-responsive properties which act as actuators. I have also carried out the synthesis of organic molecules and have successfully crystallized them for further investigations. I am looking for an opportunity that provides professional development, novel experiences and utilizes my scientific knowledge.

Skills & Expertise

Techniques: Synthesis of Organic Molecules, Crystallization and Co-crystallization of Pharmaceuticals compounds.

Instruments: Thermal Microscope, Differential Scanning Calorimeter, FT-IR, UV-visible and Fluorescence Spectrometer, NMR spectroscopy,.

Analyses: Pharmaceutical molecules (API), Stimuli-responsive of Crystals and Co-Crystals, Smart Crystals.

Education:

Master of Science in Chemistry with a score of 7.4/10 from National Institute of Technology Meghalaya, India.

2015-2017

Bachelor of Science in Chemistry with 70.25% from North-Eastern Hill University, India.

2012-2015

Research Experience:

- 1. Dr Naba Kamal Nath**, NIT Meghalaya, India- Smart biomimetic molecular crystal for energy conversion. The synthesis and characterization of the photo-switch molecules (hydrazones, azobenzene, and acylhydrazones), studied the stimuli-responsive properties (**one year worked as a Project Assistant**) **2018-2019**
- 2. Dr Gittish K. Dutta**, NIT Meghalaya, India-Modulating solid state luminescence of an anthracene based fluorophore by co-crystallization. Synthesis, purification and characterization of the fluorophore molecule, Co-crystallization by Liquid Assisted Grinding method. (**For six months**). **2016-2017**
- 3. Dr Naba Kamal Nath**, NIT Meghalaya, India- Plastically Bendable Crystals of Probenecid and its Cocrystal with 4,4'-Bipyridine (**For two months**). **2016-2017**
- 4. Dr Lingaiah Nagarapu**, CSIR-IICT, India- Medicinal Chemistry and Agrochemicals. The synthesis and characterization of the pharmaceuticals molecules (benzoxazine benzoxazolinone, derivatives) to study its biological activities. (**Worked as a Guest Researcher**). **2021-2022**
- 5. Working at NACL Industries Limited (Nagarjuna Agrichem Limited) R &D Division** **Present**
Organic Synthesis of molecules relate to Crop protection such as Azoxystrobin, Haloxyfop, Propicanazole, Propyzamide.

Presentations/Conferences:

Poster "**Bendable crystals of probenecid and its co-crystal with 4,4'- bipyridine**"- Organix International Conference, Tezpur University, Assam, India. **2018**

"Drug receptor interaction model"- NIT Meghalaya, India.

2017

“A co-crystal Strategy to tune the luminescent properties of stilbene type organic solid-state materials”- NIT Meghalaya India. **2017**

National workshop on maintenance of Opto Analytical Instruments St. Anthony’s College, Shillong, India.

2013

Workshop on Basic Sciences, programme of the Star College Scheme, St. Anthony’s College, Shillong, India

2012

Publications:

Plastically Bendable Crystals of Probenecid and its Cocrystal with 4,4’-Bipyridine N. K. Nath, M. Hazarika, P. Gupta, **Nisha R.Ray**, Amit K. Paul, E. Nauha J. Mol.Struc., 2018, 1160, 20-25.

<https://doi.org/10.1016/j.molstruc.2018.01.044>

Awards:

University 10th Rank Holder-Bachelor of Science in Chemistry.

Hobbies:

Painting, Trying out new recipes from across cultures and playing Table Tennis.

References:

Dr, Lingaiah Nagarapu, Senior Principal Scientist, Council of Scientific And Industrial Research–Indian Institute Of Chemical Technology (CSIR-IICT), India.

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Dr. Naba Kamal Nath, Assistant Professor, Department of chemistry, National Institute of Technology Meghalaya, India.

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Dr.Gittish k. Dutta, Assistant Professor, Department of chemistry, National Institute of Technology Meghalaya, India.

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