

# RESUME

Dr. Rounak Jana, M.Sc., Ph.D.

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Prof. Nitash P. Balsara's lab

Department of biomolecular and chemical engineering

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## Research Experience

- Synthesis of cationically and anionically charged membrane
- Design and synthesis of the thermally labile polymerizable orogen
- Controlling porosity and pore dimension in the nanodomain
- Synthesis and characterization of a counter ion-based polymerizable porogens
- Design and synthesis of cross-linkable polymerizable porogens.

## Research & Education

POSTDOCTORAL RESEARCH

FEBRUARY 2023 - PRESENT

UNIVERSITY OF CALIFORNIA, BERKELEY

- Research supervisor: **Prof. Nitash P. Balsara**

GRADUATION

JULY 2015-DECEMBER 2022

INDIAN INSTITUTE OF SCIENCE, BANGALORE

- Research supervisor: **Prof. S. Ramakrishnan**
- Thesis title: *Polymerizable Porogens: Direct generation of internally functionalized porous polymers.*

M.SC. (CHEMISTRY)

JULY 2013-JUNE 2015

INDIAN INSTITUTE OF TECHNOLOGY, MADRAS

- CGPA (Cumulative Grade Point Average): **8.99/10**
- Research supervisor: **Prof. Ashok Mishra**
- Thesis title: *Photophysics of substituted Diphenylbutadiynes in aqueous, mixed-aqueous and organized media*

- Marks obtained: **76%**

## **Skills & Abilities**

### **SYNTHESIS**

- Experienced in multistep organic synthesis
- Have expertise in condensation polymerization, free radical polymerization, controlled radical polymerization, and ring-opening polymerization.
- Experienced in polymerization techniques in an inert atmosphere

### **CHARACTERIZATION TECHNIQUES**

- Experienced in routine characterizations of organic molecules by multinuclear NMR, IR, variable temperature IR, UV-vis spectroscopy, GPC, LC-MS, fluorescence, TCSPC
- Experienced in material characterization techniques, such as DSC, TGA-MS
- Expertise in using conductometric titrations to estimate functional group concentration in porous solids
- Expert in gas adsorption measurements, such as N<sub>2</sub> adsorption, CO<sub>2</sub> adsorption
- Experienced in different microscopic techniques, SEM, TEM, POM

## **Teaching Experience**

- Teaching assistant in an undergraduate lab course in Organic Chemistry at the Indian Institute of Science (2017)
- Mentored several summer project students, Master, and BS-MS students during graduate studies

## **List of publications**

- **Jana, R.;** Ramakrishnan, S. Direct Generation of Internally Functionalized Nanoporous Polymers: Design of Polymerizable Porogens. *Macromolecules* **2021**, *54*, 9692-9702.
- **Jana, R.;** Ramakrishnan, S. Counterion-based polymerizable porogen-Direct preparation of nanoporous polymer matrices with control over pore size and carboxylic acid content. *Macromolecules* **2023**, *56* (1), 349–360.

- **Jana, R.;** Malla, K., S., Ramakrishnan, S. Pore Size Tuning and Multifunctional Porous Polymer Matrices Using Mixtures of Polymerizable Porogens. *ACS Appl. Polym. Mater.* 2023, XXXX, XXX, XXX-XXX
- Pati, A. K.; **Jana, R.;** Gharpure, S. J.; Mishra, A. K. Photophysics of Diphenylbutadiynes in Water, Acetonitrile–Water, and Acetonitrile Solvent Systems: Application to Single Component White Light Emission. *J. Phys. Chem. A* **2016**, *120*, 5826–5837.

## Awards and fellowship

- Vasudevamurthy Sundarrajan prize for **best course work** in Ph.D. in the academic year 2015-2016 from Inorganic and Physical Chemistry department, IISc, India
- Vasudevamurthy Sundarrajan prize for **Best Speaker** in the first seminar for the academic year 2016-2017 from Inorganic and Physical chemistry department, IISc, India
- Council of Scientific Industrial Research (CSIR)-University Grant Commission (UGC) National Eligibility Test (NET) for Junior Research Fellowship (JRF) and eligibility for lectureship (December 2013). **Rank- CSIR 68 in all India**
- Graduate Aptitude Test in Engineering (GATE) in Chemical Sciences (2015). **Rank- 52 in all India**
- Joint admission test for Masters (JAM) Rank- **98 in all India**, on this basis selected in IIT Madras for MSc
- Selected for **INSPIRE fellowship**

## List of presentations at conferences

- **Poster:** In-house symposium, IPC department, IISc, 2019
- **Poster:** SPSI-MACRO 2018, IISER Pune
- **Poster:** In-house symposium, IPC Department, IISc, 2017