

# SAHELI CHAKRABORTY

PhD student

Prof. S. Ramakrishnan's Lab

Inorganic and Physical Chemistry Department

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## RESEARCH EXPERIENCE

- Design and synthesis of amphiphilic brush polymers
- Folding of amphiphilic comb polymers
- Injectable hydrogels based on amphiphilic polymers
- Emulsion polymerization
- Two dimensional polymers

## ACADEMIC PROFILE

- 2011-2018** Graduate student, Indian Institute of Science
- **Research supervisor** – Prof. S. Ramakrishnan
  - **Thesis Title** – Exploring new designs of amphiphilic graft copolymers and 2D polymers
- 2009 –2011** M.S. (Chemistry), Indian Institute of Science  
[CGPA (Cumulative Grade Point Average) = 6.5/8.0]
- **Research supervisor** – Prof. S. Ramakrishnan
  - **Project Title** – Polymerizable assemblies
- 2006-2009** B.Sc. in Chemistry, Presidency College, Calcutta University  
Marks obtained – 81.5% (University rank – 2<sup>nd</sup>)

## SKILLS AND ABILITIES

### SYNTHESIS

- Experienced in organic synthesis
- Expertise in synthesis of amphiphilic small molecules and polymers
- Photo-polymerization technique

### CHARACTERIZATION

- Expertise in different microscopic techniques including AFM, POM, SEM, fluorescence microscope
- Experience in DSC, TGA, small angle and wide angle XRD, Variable temperature XRD
- Experienced in isothermal calorimetry
- Experience in routine characterizations of organic molecules by multinuclear NMR, IR, variable temperature IR, UV-vis spectroscopy, GPC
- Experience in characterization of polymeric assemblies by DLS, TEM, Contact angle measurement
- Expertise in polymer rheology

### TEACHING EXPERIENCE

- 2012 Teaching experience for the course of quantum chemistry for undergraduates in Indian Institute of science

During my graduate studies I have mentored several summer project students and Master students.

### LIST OF PUBLICATIONS

1. **Chakraborty, S.** Ramkumar, S. G.; Ramakrishnan, S. "Amphiphilic Double-Brush Polymers Based on Itaconate Diesters." *Macromolecules* **2017**, *50*, 5004
2. **Chakraborty, S.** Ramakrishnan, S. "Criss-cross amphiphilic polymers and analogous model systems" – *J. poly. Sci. A. Polym, chem.* **2018**, *56*, 1554
3. **Chakraborty, S.** Ramakrishnan, S. "Preparation of surface functionalized PS latexes using itaconate based surfmers" – *under revision.*

## AWARDS AND FELLOWSHIPS

- **Best poster** award in KAUST symposium series – 2017, KAUST, Saudi Arabia.
- **Best poster** award in Macro 2015 held in IACS, Kolkata, India
- Vasudevamurthy Soundarrajan prize for **best speaker** in first seminar for the academic year 2012-2013 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, 2011). **Rank- UGC 83 in all India**
- Selected for Integrated Ph. D Program in Chemistry, IISc (2009)
- Selected for M. Sc. Program in Chemistry, by JAM in IIT Bombay. **Rank- 31** in all India

## LIST OF PRESENTATIONS IN CONFERENCES

1. **Poster:** KAUST symposium series, 2017, KAUST
2. **Poster:** Macro 2015, IACS, Kolkata
3. **Poster:** Comflu 2016, IISER Pune, January 2016
4. **Poster:** Inorganic and Physical Chemistry Department In-house Symposium at IISc, Bangalore in September, 2016.
5. **Poster:** ACS-Chemical Sciences Division, IISc Mini Symposium at IISc, Bangalore in January, 2016.
6. **Workshop:** Non-linear optics.
7. **Workshop:** Atomic force microscopy.