CURRICULUM VITAE

Dr. Siddhartha Das

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Date of Birth: 04/02/1991
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Education

- **Ph. D. (Chemistry)** degree in 2022 from Vidyasagar University, Midnapore, West Bengal.
  Thesis Title: *Synthesis, Self-organization and Gelation Behaviour Studies of Some Selected Nitrogen Based Heterocyclic Amphiphiles.*
- **M.Sc. (Chemistry)** degree in 2016 from Vidyasagar University, Midnapore, West Bengal.
- **B.Sc. (Chemistry Hons)** degree in 2014 from Vidyasagar University, West Bengal.
- **Higher Secondary** in 2010 under W.B.C.H.S.E.
- **Secondary Education** in 2007 under W.B.B.S.E.

Award and Achievement

- Qualified **National Eligibility Test *(NET) December, 2015*** examination conducted by Joint **CSIR-UGC**, India.

Research Area

- C-C coupling
- Peptide coupling
- Alkylation
- Substitution
- Reduction

- Hydrogel
- Organogel
- Metallogel
- Gel-emulsion
- Phase selectivity
- Waste water treatment

- Pyridine based amphiphile
- Pyrimidine-based compound
- Boronic acid-based molecule
- Benzene sulphonamido based amphiphile
- Glucose based gelator
- Amino Acid Based Gel

- Surface chemistry
- Drug delivery & entrapment
- Sensing
- Nano particle formation
- Catalytical activity

Equipment Handled

- ✓ UV-Vis-NIR/UV-Vis Spectrophotometer
- ✓ FT-IR
- ✓ Atomic Absorption Spectrophotometer
- ✓ Fluorescence & Fluorescence life time
- ✓ NMR spectrophotometer
- ✓ Column chromatography

- ✓ Rheometer
- ✓ DLS-Zeta potential analyzer
- ✓ Lyophilizer
- ✓ Optical microscopy
- ✓ AFM
- ✓ Surface tension tensiometer
- ✓ pH meter and Conductometer
- ✓ Polarimeter

Skill

- Synthesis of organic compounds via C-C coupling, Peptide Coupling, alkylation, substitution and reduction.
- Skilled in isolation and purification of organic compounds by column chromatography and crystallisation.
- Involved in the development of supramolecular hydrogel, gel-emulsion and organogel as potential drugs carrier.
- Involved in the synthesis of supramolecular surfactants to form vesicle as a drug carrier and Nanoparticle formation.
- Involved in the development of absorbent hydrogels.
- Depth knowledge on characterizations of various supramolecular materials, which includes ^{1}H and ^{13}C-NMR signals, LC-MS, FT-IR, UV-VIS, Fluorescence, Atomic Absorption Spectroscopy, CD, XRD, Rheology, Surface Tension, pH and Conductivity measurement, Optical microscopy, SEM, TEM and AFM.
- Running Gaussian 09 program package for theoretical calculation.
- Experience in working with Basic Chemistry Software (Chem Office, Microcal Origin, ChemDraw Ultra 7.0 etc.) and Photographic software like Corel draw and Adobe Photoshop.

Project Mentor

- I assisted in the project work and dissertation completion of nine master degree students of Vidyasagar University, beside my Ph.D. research.

Project handled

Project title: "*Synthesis and self-organization studies of some selected benzenesulphonyl-carboxilic acid amphiphiles and their salts in water: self-assembly and gelation properties.*"
Funding agency: CSIR, Status: Completed.

List of Publications

- Roy A*, **Das S**, Khan M, and Roy S* (2022) Pyridine-Based Gemini and Heterogemini Amphiphiles: Synthesis, Organogel Formation, Bioinspired Catalysis, Hydroxyl Ion Sensing, ACS Sustainable Chemistry & Engineering, https://doi.org/10.1021/acssuschemeng.2c04640
- Guchhait S, Roy A, **Das S**, Khan M, Pradhan A, Choudhury SM, Roy S* (2021) Tripeptide Based Nontoxic Hydrogelators as Carrier of Vitamin B_{12} and Doxorubicin. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 126483
- **Das S**, Roy S* (2020) 6-acylamino nicotinic acid-based hydrogelators applicable in phase selective gelation, reproducible mat formation and toxic dye removal. Chemical Papers 74 (12), 4267-4282
- Roy S*, Kar B, **Das S**, Datta R (2020) Effect of hydrogen bonding and hydrophobicity on gel emulsions by benzenesulphonamide moiety-based amphiphiles: entrapment and release of vitamin B 12. Chemical Papers, 1-18
- Roy S*, Maiti M, **Das S**, Roy A (2020) Effect of hydrophobic moiety on the gelation behavior of pyridyl boronic acid-derived amphiphiles: application in entrapment and release of vitamin B_{12}. Chemical Papers 74 (1), 183-196

List of conference presentations

- **Siddhartha Das** and Sumita Roy, Science Beyond Boundary: Invention, Discovery, Innovation and Society, 2021, poster presentation.
- **Siddhartha Das** and Sumita Roy, Frontiers in Chemical sciences, National symposium 2019, poster presentation.
- Trends in Surface Science and Related Areas: September, 2019.
- International Conference on Emerging Materials (ICEM 2017).
- Science Academies' Three Days Lecture Workshop on Recent Advancements and Achievements in Chemical Sciences: February, 2016.

References

Dr. Sumita Roy (Ph. D. Supervisor)
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Declaration

I, hereby declare that the above-furnished particulars are true to the best of my knowledge and belief. If given a chance, I will prove my efficiency, my loyalty and willingness to work.

With Regards

Siddhartha Das
Vidyasagar University