

Deepika Das

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EDUCATION

- 2012 – May 2018 Texas A&M University, College Station, TX
Ph.D. in Chemistry, GPA 3.2
Dissertation title “Mechanistic Study of Cluster Transfer to Various targets in ISC Assembly Pathway”
(Defense: 13th Dec 2017)
Advisor: Dr. David P. Barondeau
Areas of interest: Bioinorganic chemistry, Inorganic chemistry and Biochemistry
- 2011 Indian Institute of Technology (IIT) Madras, Chennai, India
M.Sc. in Chemistry, GPA 3.12
Thesis title ‘Synthesis and Characterization of Pd Based Urea Ligand’
Areas of Interest: Supramolecular chemistry, Organic chemistry
- 2009 Calcutta University, Kolkata, India
B.Sc. in Chemistry, GPA 2.80
Subjects: Organic, Inorganic, Physical and Analytical Chemistry

TEACHING EXPERIENCE

Department of Chemistry, Texas A&M University

Teaching Assistant (Fall 2012- Spring 2016)

Courses: General Chemistry and Organic Chemistry Laboratory courses (CHEM 111, CHEM 112, CHEM 242, CHEM 237 and CHEM 238)

- Regularly held short discussion sessions before the experiments to facilitate understanding
- Comfortable in modulating teaching suited to different complexity levels
- Organized multiple problem solving and review sessions
- Designed supplementary material for students to aid their understanding
- Graded all assignments and papers for the course

Teaching Assistant (Fall 2016)

Course: Advanced Inorganic Chemistry (CHEM 433)

- Assisted in syllabus design and modification
- Helped with in-class student evaluation during discussion sessions
- Assisted in syllabus design and modification
- Delivered lecture titled “Evan’s Method and Magnetism” familiarizing students with techniques used

- Participated in design of an open-ended project for the students

Guest Lecturer (Spring 2016)

Prepared and delivered a set of lectures as a part of Advanced Inorganic chemistry laboratory session to acquaint students with different techniques:

- EPR Spectroscopy
- Evan's Method
- X-Ray Powder Diffraction
- Mössbauer Spectroscopy

PROFESSIONAL EXPERIENCE

MENTORING

Introduction to Undergraduate Chemistry Research

Introducing students to different experimental techniques used in chemistry and biochemistry labs and training them to run experiments.

Students: Jordan Baumgartner (Spring-Fall 2014), Wenting Mo (Fall 2016)

Undergraduate Research

Mentoring comprised of acquainting the student with experimental techniques, guiding the student with experimental design and data analysis to facilitate their eventual development towards independent research over the semester.

Students: Laura Bily (TURC, Summer 2016), Natalia Miller (Fall 2018-Spring 2018)

Advising on experimental design and data interpretation to junior graduate students

Student: Hyeran Choi (MS, 2013-2016)

Graduate Visitation Week at Texas A&M University

Mentoring involved showing the prospective graduate students around the department and helping them with queries about the graduate program at Texas A&M University

TEACHING PROFICIENCY AND PROFESSIONAL DEVELOPMENT

TAR (Teaching as Research) Fellow (2017-2018)

Developing project 'Blogging and Modified Energy Shift Lecture (Learn, Reflect, Apply) to enhance student involvement during and after class hours' and apply on Advanced Inorganic Chemistry Laboratory Course (CHEM 433) at Texas A&M University in fall 2017.

Associate Fellow of CIRTL (Center for Integration of Research, Teaching and Learning) and **AFF** (Academy for Future Faculty) (2016)

- Seminars on Teaching practices and strategy
- Presentation of 5 min lecture on “Harnessing the equilibrium: Le-Chatelier’s principle” and evaluated by CTE (Centre of Teaching excellence) professionals

CIRTL Practitioner of College Classroom Teaching: Integration of Research, Teaching, and Learning Course (2017)

Attended One-Credit Course Science, Technology, Engineering and Mathematics (STEM) Teaching Professional Development course (SCEN 677). It involved:

- Design of sample syllabus
- Delivery of classroom lecture with a pre-designed lesson plan

An Introduction to Evidence-based Undergraduate STEM Teaching- MOOC (Mass Open Online Course) in Summer 2017:

- Talks from experts in STEM field of different aspects of teaching, assessment and evaluation
- Weekly on-site peer discussion facilitated by CIRTL

Advanced Level G.R.A.D Aggies Professional Development Certificate

- Workshops on development of communication skills and public speaking
- Seminars on use of technology in classroom teaching

AWARDS AND HONORS

- TAMU-CIRTL TAR (Teaching as Research) Fellowship 2017-18(\$750)
- Eastman Chemicals Upper Level Teaching Award (\$400) from Department of Chemistry, Texas A&M University (2016)
- Eastman Travel Award from Department of Chemistry, TAMU (2015)
- Rank in top 2% in NET and GATE amongst 5000 students (All-India Ph.D entrance examinations)

PUBLICATIONS

1. Vranish, J.; **Das, D.**; Barondeau, D. P. Real-time kinetic probes support monothiol glutaredoxins as intermediate carriers in Fe–S cluster biosynthetic pathways. *ACS Chem. Biol.* **2016**, *11*, 3114– 3121.
2. Fox, N. G.*; **Das, D.***; Chakrabarti, M.; Lindahl, P. A.; Barondeau, D. P. Frataxin accelerates [2Fe-2S] cluster formation on the human Fe–S assembly complex. *Biochemistry* **2015**, *54*, 3880– 3889 (*First authorship shared)
3. Naranthatta, M. C.; **Das, D.**; Tripathy, T.; Sahoo, H. S.; Ramkumar, V.; Chand, D. K. Consequence of presence and absence of π -clouds at strategic locations of designed binuclear Pd(II) complexes on packing: self-assembly of self-assembly by intermolecular

locking and packing. *Cryst. Growth Des.* **2012**, *12*, 6012–6022

4. **Das, D.**; Patra, S.; Barondeau, D. P. Mechanism of Frataxin activation and bypass by the Fe-S cluster assembly complex. (Manuscript in preparation)

POSTER/SEMINAR PRESENTATIONS AND WORKSHOPS

1. Poster at Gordon Research Conference “M106I: A potential Frataxin bypass mechanism in play” (2016)
2. Poster presentation at Scott Symposium, Texas A & M University titled “Glutaredoxin as an intermediate in chaperone assisted cluster transfer in ISC cluster biogenesis pathway” (2015)
Poster presentation at Cotton Symposium, Texas A & M University titled “Role of chaperones in cluster transfer to targets in ISC pathway” (2015)
3. Bio-organic and medicinal chemistry seminar: “Design and synthesis of a more potent, mutation resistant anti-influenza drug” (2011)
4. M.Sc. Thesis seminar “Synthesis and characterization of palladium complexes of pyridyl based urea ligand” (2011)
5. 10 days’ workshop at Penn State University “The 3rd Bioinorganic chemistry workshop” (2014)

SKILLS

TECHNICAL

Extensive experience in protein expression and purification in both aerobic and anaerobic condition

- Skilled at using glovebox and Schlenk Line
- Adept at cell biology techniques like Gene Cloning and Point Mutagenesis

SOFTWARE

MS Office, ChemDraw, Pymol, KaliedaGraph, Photoshop

INSTRUMENTAL

Rotavapor, NMR (400 MHz), UV-VIS Spectrophotometer, Cyclic Voltammeter, pH Meter, Potentiometer, Nephelometer, Muffle furnace, Flame photometer, Conductometer, Atomic absorption spectrometer Circular Dichroism spectrometer and FPLC (Fast Protein Liquid Chromatography)

POPULAR SCIENCE

- Served as judge in Chemistry for TJSJS 2017 (Texas Junior Science and Humanities Symposium) and SRW (Student Research Week) 2017 at Texas A&M University
- Participated in educational video-design for JoVE (on-line video based journal) in Summer 2017