

CURRICULUM VITAE
OF
DR. DEBARATI MITRA

1 Personal:

Present Position : **Assistant Professor**
Department of Chemistry,
Royal Group of Institutions
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Date of Birth : June 17, 1982

Sex : Female

Marital Status : Married

Nationality : Indian

2 Academic Qualifications:

- **Ph.D. (January, 2011)** in the field of Synthetic and Bio-organic Chemistry at the **Department of Chemistry, Indian Institute of Technology, Kharagpur, India.**
Thesis : SYNTHESIS AND REACTIVITY OF AZOBENZENE, AMINO ACID AND PROPARGYL SULFONE HYBRIDS AND ASYMMETRIC CYCLOPROPANATION
Supervisors : Prof. Amit Basak (Principal Supervisor), Dept. of Chemistry, IIT Kgp.
: Prof. Amit K. Das (Co-supervisor), Dept. of Biotechnology, IIT Kgp.
- **Master of Science (2004) in Chemistry**, University of Calcutta, Kolkata, India.
Specialization: Organic Chemistry
Result : First Class (Marks 66.0%)

- **Bachelor of Science (2002) in Chemistry with Honours**, Bethune College, University of Calcutta, India.
Result : First Class (Marks 67.13%)
- **Higher Secondary (10+2) (1999) in Science** from West Bengal Board of Higher Secondary Education, West Bengal, India.
Result : First Division (Marks 77.70%)
- **Madhyamik (10th-Standard) (1997)** from West Bengal Board of Secondary Education, West Bengal, India.
Result : First Division (Marks 84.25%)

3 List of Publications:

Papers Published in International Journal:

1. Synthesis and reactivity of azobenzene-based bispropargylsulfones: Interesting comparison between cyclic and acyclic systems, **Mitra, D.**; Kar, M.; Pal, R.; Basak, A., *Bioorg. Med. Chem. Lett.*, 17 (16), **2007**, 4514-4517.
2. Design, synthesis and DNA-cleaving efficiency of photo switchable dimeric azobenzene-based C₂-symmetric enediynes, Basak, A.; **Mitra, D.**; Kar, M.; Biradha, K., *Chem Commun.* **2008**, 3067.
3. Asymmetric cyclopropanation using amino acid as chiral auxiliary, **Mitra, D.**; Sengupta, A.; Basak, A.; Biradha, K., *Tetrahedron Asymm.* **2008**, (19), 2678.
4. C₂-symmetric Azobenzene-Amino acid Conjugates and Their Inhibition of SKI-1, Basak, A.; **Mitra, D.**; Das, A. K.; Mohottalage, D.; Basak, A., *Bioorg. Med. Chem. Lett.*, 20 (13), **2010**, 3977-3981.
5. Design, synthesis and reactivity of C₂-symmetric azobenzene-based amino acid-bis(propargyl sulfones), **Mitra, D.**; Banerjee, D. R.; Das, A. K.; Basak, A., *Bioorg. Med. Chem. Lett.*, 20 (22), **2010**, 6831-6835.

4 Academic Awards/ Scholarships/ Fellowships:

- Awarded Senior Research Fellowship by CSIR, Govt. of India, in July 2007.
- Awarded Junior Research Fellowship by CSIR, Govt. of India, in July 2005.

- Awarded Junior Research Fellowship by UGC, Govt. of India, in January 2005.
- Awarded Fellowship from University of Calcutta for securing 1st class in B.Sc.
- Awarded **Radharani Bhattacharya Memorial prize** for securing highest marks in Organic Chemistry from Bethune College in B.Sc.
- Awarded **Kamalabala Mukherjee Memorial Scholarship, Santosh Memorial Prize** for standing 1st in Chemistry Honours from Bethune College, Kolkata.
- Awarded 2nd prize in Inter-college Chemistry Quiz contest held in Presidency College in 2001.
- Qualified CSIR-NET held in June-2004.(Called for SPM fellowship Exam.)
- Qualified State Level Eligibility Test (SLET) for Lectureship in Univ. & Colleges of West Bengal held in January 2004.
- Qualified GATE (AIR-43, 98.58 percentile) held in Feb-2004.
- Qualified UGC-NET held in Dec-2003.

5 Professional Experience:

- 06/04/10 - present **Assistant Professor**
 Department of Chemistry
 Royal Group of Institutions, Guwahati
 Assam, India.
- 02/07/07 - 30/03/10 **Senior Research Fellow (CSIR)**
 Department of Chemistry
 Indian Institute of Technology, Kharagpur, India.
Advisor : Professor Amit Basak
- 01/07/05 - 01/07/07 **Junior Research Fellow (CSIR)**
 Department of Chemistry
 Indian Institute of Technology, Kharagpur, India
Advisor : Professor Amit Basak
- 11/01/05 - 30/06/05 **Junior Research Fellow (UGC)**
 Department of Chemistry
 Indian Institute of Technology, Kharagpur, India.
Advisor : Professor Amit Basak

- 2005 - 2008 **Experience in taking Tutorial, Laboratory Practical Classes and Graduate Teaching**
Indian Institute of Technology, Kharagpur, India.
- 2007 - 2008 **Supervising one M.Sc. student's project work**
Title: Studies Toward Enantiospecific Synthesis of Cyclopropane Carboxylic Acids.

6 Current Research Activity:

1. a) To design C₂-symmetric azobenzene based amino acid and peptide derivatives based on the active sites of various aspartyl protease enzymes.
b) To carry out computational studies based on docking experiments to check where the binding occurs.
c) To execute the synthesis of the target molecules.
d) To check their inhibition properties against aspartyl protease enzymes.
2. a) To design azobenzene based sulfones with and without incorporation of amino acids as spacer.
b) To synthesize the molecules.
c) To check the effect of amino acids on thermal and chemical stabilities.
d) To examine and compare their DNA-cleaving efficiencies.
3. a) To design some cinnamoyl - amino acid conjugates
b) To execute their synthesis.
c) To check the effect of amino acid as chiral auxiliary on cyclopropanation reaction.

7 Professional Skill:

- Broad experience in multi step synthesis towards the biologically important and structurally attractive rationally designed target molecules.
- Extensive experience in design, synthesis (micro & macro scale), lead identification & optimization of small molecules as warhead of potential drug candidates.
- Execution of general purification and separation techniques.

- Instrumental analysis of small molecules for structure elucidation and evaluation of purity ^{-1}H and ^{13}C NMR, MS, IR, UV-VIS, DNA-Gel Electrophoresis and documentation HPLC (Agilent), UV-VIS Spectrophotometer (Shimadzu), Gel Doc.
- Computer literacy in MS-Office, Origin, Chemdraw, Sci-finder searching.

8 Invited Talk:

- Invited for oral presentation in 3rd International Junior National Organic Symposium at Guru Nanak Dev Univ. Amritsar, Punjab, India, 15-18th November, 2007.

9 Conference & Seminar Attended:

- Third Chemical Research Society of India (Kolkata Chapter) Symposium, August 06, 2005, held at Indian Institute of Technology, Kharagpur, India.
- International Perspectives In Organic Chemistry, December 7-9, 2006, held at Indian Association for the Cultivation of Science, Jadavpur, Kolkata, India. Topic of the abstract: "Cyloaromatization Processes: Triggering of Bergman, Myers- Saito, and Garratt-Braverman Rearrangements"
- Topic of the abstract at RSC symposium (Talk delivered by my guide): "Azobenzene-based C_2 -Symmetric Eneidyne, Peptides and Related Systems: Synthesis and Reactivity"
- Fifth One Day National Symposium In Chemistry, February 26, 2006, Indian Institute of Technology, Kharagpur, India.
- One day symposium in the department of Chemistry, Bethune College, 2006.
- Oral presentation in National Organic Symposium Trust (NOST) held in Punjab, November-2007.