

Name: Dr. Mohammed Iqbal
Designation: Assistant Professor,
Department of Chemistry,
Berhampore Girls' College
P. O. Berhampore, Dist. Murshidabad,
West Bengal-742101, India



Contact Information:

WhatsApp or Mobile No: +917407772481

E-mail ID: md.iqbal.chem@gmail.com

Educational Qualification:

- ❖ Ph.D. in Organic Chemistry, 2013, IIT-Kharagpur (Supervisor: Prof. N. D. Pradeep Singh) Kharagpur.
- ❖ M.Sc. in Organic Chemistry, 2007, Vidyasagar University, (Project Supervisor: Prof. B. G. Bag), Midnapore.
- ❖ B.Sc. in Chemistry (Hons.), 2005, Vidyasagar University, Midnapore.

Professional Experience/Academic Position:

- ✚ October 2017-Present: Assistant Professor, Department of Chemistry, Berhampore Girls' College).
- ✚ July 2016-July 2017: Postdoctoral fellow at King Abdullah University of Science and Technology (KAUST), KSA.
- ✚ September 2013-January 2016: Postdoctoral fellow at Hebrew University of Jerusalem (HUJI), Israel.
- ✚ January 2008-April 2013: Doctoral research fellow at IIT-Kharagpur,

Instructor: Sole responsibility for 2 graduate students and 2 undergraduate students, emphasis on research project and presentations in conferences.

- Under graduate Organic Chemistry practical course, 1 term in the year 2008-2009 at IIT Kharagpur.
- Under graduate Organic Chemistry practical course, 1 terms in the year 2009-2010 at IIT Kharagpur.
- Post graduate Organic Chemistry practical course, 2 terms in the year 2009-2010 at IIT Kharagpur.

- Under graduate Organic Chemistry theoretical classes (tutorial), 4 terms with in the year 2010-2012 at IIT Kharagpur.

Area of Teaching:

- i) Basic organic chemistry and reaction mechanism,
- ii) Stereo chemistry of organic molecules,
- iii) Spectroscopic application in organic chemistry,
- iv) Photochemistry,
- v) Skill enhancement based chemistry,
- vi) Introductory Chemistry Lab,
- vii) Application of Modern Instrumental Methods.

Awards & Honors:

- ❖ Qualified in **JAM Examination (2005, India)**.
- ❖ Qualified in **GATE Examination (2007, India)**
- ❖ Qualified in **CSIR-UGC NET Examination (2007, India)**.
- ❖ Awarded as **JRF (Junior Research Fellow)** by **CSIR (2007, India)**.
- ❖ Awarded as **SRF (Senior Research Fellow)** by **CSIR (2009, India)**
- ✚ Awarded for **Lady Davis Fellowship** as postdoctoral research fellow (**September 2014-January 2016, Israel**)
- ✚ Post Doctoral Award at KAUST (**July 2016-July 2017, KSA**).

Extracurricular Activity: NIL

Research Profile:

My doctoral research (Ph. D.) work was based on “Design and Development of Smart Photoresponsive materials for the release of active molecules, also synthesized photoresponsive polymers for the construction of smart photoactive surfaces.

In my postdoc, I was involved in the project design and fabrication of optoelectronic devices (memristive devices) based on photochrome (spiropyran) functionalized Au-nanoparticles.

Research interest:

- Fabrication of photoresponsive fluorescent materials
- Design and synthesis of new photoremovable protecting groups for drug delivery,
- Development of new type organic fluorophores.
- Fabrication of memristive devices
- Design & synthesis of new type Photochromic and Photoswitchable Organic Materials and their Applications.

Instrument Proficiencies:

- UV-visible spectrophotometer.
- NMR Spectroscopy
- FTIR.
- HPLC
- Raman Spectroscopy

List of Publications:

17. Sk Asraf Ali, Sanjay Bhaumik, Akash Jana, Susanta Kumar Manna, **Mohammed Iqbal**, Arabinda Mandal, Anirban Bera, Avijit Jana, and Shubhankar Samanta “NaN₃/NH₄Cl-Promoted Aza-Cyclization: A Convenient Route for Bio-Active Diverse Isoindolinone Derivatives”, *Chemistry Select*, **2018**, 3, 11950–11956. (*Published from Berhampore Girls' College)
16. **Mohammed Iqbal**, Balogh Dora, Evgeniy Mervinetsky Ruthy Sfez and Shlomo Yitzchaik, “Light-Induced Aggregation of Gold Nanoparticles and Photoswitching of Silicon Surface Potential” *J. Phys. Chem. C*, **2017**, 121, 27176-27181.
15. Nina Gizzie, Richard Mayne, Shlomo Yitzchaik, **Mohammed Iqbal**, Andrew Adamatzky, “Living Wires-Effects of Size and Coating of Gold Nanoparticles in Altering the Electrical Properties of Physarum polycephalum and Lettuce Seedlings” *Nano LIFE*, **2016**, 6, 1650001.
14. Sanghamitra Atta, Manoranjan Bera, Tirthartha Chattopadhyay, Amrita Paul, **Mohammed Iqbal**, Mrinal K. Maiti and N. D. Pradeep Singh, “Nano-pesticide formulation based on fluorescent organic photoresponsive nanoparticles: for controlled release of 2,4-D and real time monitoring of morphological changes induced by 2,4-D in plant systems” *RSC Adv.*, **2015**, 5, 86990-86996.
13. Sanghamitra Atta, Amrita Paul, Rakesh Banerjee, Manoranjan Bera, **Mohammed Iqbal**, Dibakar Dhara and N. D. Pradeep Singh, “Photoresponsive polymers based on coumarin moiety for the controlled release of pesticide 2,4-D” *RSC Adv.*, **2015**, 5, 99968-99975.
12. R. Sfez, E. Natan, Y. Bardavid, **M. Iqbal**, E. Arbeli, S. Arkin, I. Popov and Shlomo Yitzchaik, “Enzyme Mediated Encapsulation of Gold Nanoparticles by Polyaniline Nanoshell”, *Journal of Self-Assembly and Molecular Electronics*, **2015**, 3, 1-16.
11. **Mohammed Iqbal**, Rakesh Banerjee, Shrabani Barman, Sanghamitra Atta, Dibakar Dhara and N. D. Pradeep Singh, “1-Acetylferroceneoxime based Photoacid Generators: Application towards sol-gel transformation and development of photoresponsive

- polymer for controlled wettability and patterned surfaces”, *J. Mater. Chem. C*, **2014**, *2*, 4622-4630.
10. **Mohammed Iqbal**, Biswajit Saha, Shrabani Barman, Sanghamitra Atta, Debranjana Banerjee, Sudip Kumar Ghosh, and N. D. Pradeep Singh, “Benzo[a]acridinyl methyl esters as pH Sensitive Fluorescent Photoactive precursors: Synthesis, Photophysical, Photochemical and Biological Applications”, *Org. Biomol. Chem.*, **2014**, *12*, 3459-3469.
 9. Susanta Kumar Manna, Suresh Kumar Mondal, Atiur Ahmed, Arabinda Mandal, Atanu Jana, **Mohammed Iqbal**, Shubhankar Samanta and Jayanta K. Ray, “One-pot synthesis of highly fluorescent polycyclic benzimidazole derivatives”, *RSC Adv.*, **2014**, *4*, 2474-2481.
 8. Pradeep N. D. Singh, Avijit Jana, Biswajit Saha, Karthik S, Shrabani Barman, **Mohammed Iqbal** and Sudip Kumar Ghosh, “Fluorescent Photoremovable precursors (acridin-9-ylmethyl)ester: Synthesis Photophysical, Photochemical and Biological applications”, *Photochem. Photobiol. Sci.*, **2013**, *12*, 1041-1052.
 7. Sanghamitra Atta, **Mohammed Iqbal**, Nishitha Boda, Samiran S. Gauri and N. D. Pradeep Singh, “Photoremovable protecting groups as controlled-release device for sex pheromone”, *Photochem. Photobiol. Sci.*, **2013**, *12*, 393-403.
 6. **Mohammed Iqbal**, Rakesh Banerjee, Sanghamitra Atta, Dibakar Dhara, Anakuthil Anoop, and N. D. Pradeep Singh, “Synthesis, Photophysical and Photochemical Properties of Photoacid Generators Based on N-Hydroxyanthracene-1,9-dicarboxyimide and Their Application toward Modification of Silicon Surfaces”, *J. Org. Chem.*, **2012**, *77*, 10557–10567.
 5. Sanghamitra Atta, **Mohamed Iqbal**, Ashutosh Kumar, N. D. Pradeep Singh, “Application of photoremovable protecting group for controlled release of plant growth regulators by sunlight”, *J. Photochem. Photobiol B. Biology*, **2012**, *111*, 39-49.
 4. Avijit Jana, Biswajit Saha, **Mohammed Iqbal**, Sudip Kumar Ghosh. N. D. Pradeep Singh, “1-(Hydroxyacetyl)pyrene a new fluorescent phototrigger for cell imaging and caging of alcohols, phenol and adenosine”, *Photochem. Photobiol. Sci.*, **2012**, *11*, 1558-1566.
 3. Avijit Jana, **Mohammed Iqbal**, N. D. Pradeep Singh, “Perylen-3-ylmethyl Fluorescent Photoremovable Protecting Group (FPRPG) for carboxylic acids and alcohols”, *Tetrahedron*, **2012**, *68*, 1128-1136.
 2. **Mohammed Iqbal**, Rakesh Banerjee, Sanghamitra Atta, Avijit Jana, Dibakar Dhara, Anakuthil Anoop, N. D. Pradeep Singh, “Development of 1-Hydroxy-2(1H)-quinolone

based photoacid generators and photoresponsive polymer surfaces”, *Chem. Eur. J.* **2012**, *18*, 11968–11975.

1. **Mohammed Iqbal**, Avijit Jana, N.D. Pradeep Singh, Rakesh Banerjee, Dibakar Dhara, “Photoacid generators (PAGs) based on N-acyl-N-phenylhydroxylamines for carboxylic and sulfonic acids”, *Tetrahedron*, **2011**, *67*, 3733-3742.

Manuscript under revision:

1. Anirban Bera, SK Asraf Ali, Susanta Manna, **Mohammed Iqbal**, Amit Saha, Shubhankar Samanta, “An eco-friendly solvent and catalyst-free tandem reaction: synthesis and photophysical application of isoindoloquinazolinones” (*Submitted from Berhampore Girls’ College)

Patent:

1. Sanghamitra Atta, Tirthartha Chattopadhyay, **Mohammed Iqbal**, Mrinal. K. Maiti and N. D. Pradeep Singh, “Nano-pesticide formulation based on fluorescent organic photoresponsive nanoparticles: for controlled release of 2,4-D and real time monitoring of morphological changes induced by 2,4-D in plant system”, **No. 555/Kol/2013**.
2. Sanghamitra Atta, Rakesh Banerjee, **Mohammed Iqbal**, Dibakar Dhara, N. D. Pradeep Singh, “Photoresponsive polymers based on coumarin moiety for the controlled release of pesticide 2,4-D”, **No. 867/Kol/2013**.

Paper Presented in Seminar/Workshop/Conferences:

- **Mohammed Iqbal**, Avijit Jana, Nilanjana Chowdhury and N.D. Pradeep Singh*, “Synthesis of New Photoremovable Protecting Groups (PRPGs), Sixth One Day National Symposium in Chemistry held in the department of Chemistry, Indian Institute of Technology, Kharagpur, India (November 8, 2008).
- **Mohammed Iqbal** and N.D. Pradeep Singh*, “Photoacid generators (PAGs) based on N-acyl-N-phenylhydroxylamines for carboxylic and sulfonic acids” Sixth J-NOST Conference held at School of Chemistry, University of Hyderabad, India (28th - 31st January, 2011).
- **Mohammed Iqbal**, Avijith Jana, Bhaskara Rao. P, Karthik. S, Krishna kalyani. B, Momitha Ganguly, Nilanjana Chowdhury, Sangamithra Atta and N. D. Pradeep Singh*, “Application of Light-Using Photons as Reagents” Diamond Jubilee Symposium on Recent Trend in Chemistry held at Indian Institute of Technology, Kharagpur, India (21st – 23rd October, 2011).
- **Mohammed Iqbal** and N. D. Pradeep Singh*, “Development of 1-Hydroxy-2(1H)-quinolone based photoacid generators and photoresponsive polymer surfaces”

International Symposium on Chemistry and Complexity, 6-8 December, 2011 held at Indian Association for the Cultivation of Science (IACS) Jadavpur, Kolkata.

- **Mohammed Iqbal** and Shlomo Yitzchaik*, “Design and Synthesis of Photochromic Switch based on Spiropyran-Modified Gold Nanoparticles”, Israel Vacuum Society, 8th September, 2014 held at Air Force House, Herzliya, Israel.
- ❖ **Oral Presentation:** 2nd Research Scholars’ Day Symposium in Chemistry held in the department of Chemistry, Indian Institute of Technology, Kharagpur, India (14th September, 2010). Delivered a short lecture on the topic entitled “Development of New type Nonionic Photoacid Generators (PAGs) Based on N-O bond cleavage chemistry.

List of Books/chapters in book published /edited: NIL

Sponsor Project handled/Ongoing: NIL