Curriculum Vitae

Dr. Basanta Kumar Rajbongshi

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Educational Background

Jul, 2005 – Feb, 2012 Ph.D. Organic Chemistry

- Title of the Thesis: *Photophysical, Crystallographic and Photovoltaic Studies on Imidazolin-5-ones* (Advisor: Prof. Gurunath Ramanathan)
- Indian Institute of Technology, Kanpur, INDIA

Sep, 2002 – Nov, 2004 M. Sc. (Organic Chemistry)

- Gauhati University, Assam, INDIA
- Specialization in Organic Chemistry

Sep, 1999 – Aug, 2002 B. Sc. (Chemistry, Physics and Mathematics)

- B. Borooah College, Guwahati, Assam, INDIA
- Honors in Chemistry

Teaching Experience

- 20th February, 2015 – Continuing as Assistant Profesor in chemistry department, Cotton College State University
- 28th January, 2014 – 19th February, 2015 - Worked as Assistant Professor in chemistry department, Biswanath College, Biswanath Chariali
- 3rd October, 2012 – 27th January, 2014 – Worked as Assistant Professor in chemistry department, Nowgong College, Nagaon
- Worked as a guest lecturer in post-graduate section in the department of chemistry, B. Borooah College, Guwahati, Assam, INDIA (March, 2005 to June, 2005)

Awards, Fellowships and Positions

- **2004**: **Qualified National Eligibility Test (NET)** in Chemical Sciences for **Junior Research Fellowship (JRF)** of CSIR, INDIA.
- **2005**: **Qualified All INDIA Graduate Aptitude Test for Engineering (GATE)** in Chemical Sciences Conducted by Indian Institute of Technology, Guwahati with 98.49 Percentile. All INDIA Rank 51
- **2007**: **Received Senior Research Fellowship (SRF)** of CSIR, INDIA.

Publications

1. Introduction of an electron push-pull system yields a planar Red Kaede fluorescence protein chromophore analogue stabilized by a C=O···π interaction. Asish Singh, **Basanta Kumar Rajbongshi** and Gurunath Ramanathan. *Journal of Chemical Sciences* **2015**, *127*, 941-948.

2. Tuning of Intermolecular Interactions Results in Packing Diversity in Imidazolin-5-ones. Ashish Singh, **Basanta Kumar Rajbongshi** and Gurunath Ramanathan. *Journal of Chemical Sciences* **2014**, *126*, 1275-1284.

3. Solution Processed Imidazolin-5-one Based Bulk-heterojunction Organic Solar Cells. Vineet Kumar, S. Sundar Kumar Iyer and **Basanta Kumar Rajbongshi**. Delve, Volume II, Number II, July 2013-December 2013, p91-100 (A Bi-annual research journal of Nowgong College, ISBN 2278-7402).

4. Segregation into Chiral Conformations of an Achiral Molecule by Concomitant Polymorphism. **Basanta Kumar Rajbongshi**, Nisanth N. Nair, M. Nethaji and Gurunath Ramanathan *Crystal Growth* & *Design* **2012**, *12*, 1823-1829.

5. Excited State Relaxation Dynamics of Model Green Fluorescent Protein Chromophore Analogs: Evidence for *cis-trans* Isomerization. Shahnawaz Rafiq,* **Basanta Kumar Rajbongshi**,* Nisanth N. Nair, Gurunath Ramanathan and Pratik Sen. *Journal of Physical Chemistry A* **2011**, *115*, 13733-13742.

6. Twisted Intramolecular Charge Transfer in a Model Green Fluorescent Protein Luminophore Analog **Basanta K. Rajbongshi**, Pratik Sen and Gurunath Ramanathan. *Chemical Physics Letters* **2010**, *494*, 295-300.

7. Dominant π···π Interaction in the Self Assemblies of 4-Benzylidene Imidazolin-5-one Analogs **Basanta K. Rajbongshi** and Gurunath Ramanathan. *Journal of Chemical Sciences* **2009**, *121*, 973-982.

8. Bilayer Organic Solar Cells Based on Imidazolin-5-one Molecules. K. A. K. Chidvilas, Pramod Mani, S. Sundar Kumar Iyer, **Basanta Kumar Rajbongshi** and Gurunath Ramanathan. *34th IEEE Photovoltaic Specialist Conference*, Philadelphia, PA, United States, June 7-12 (2009) 786-789.

9. Photovoltaic Effect in Single Layer Organic Solar Cell Devices Fabricated with Two New Imidazolin-5-one Molecules. Vibhore Jain, **Basanta Kumar Rajbongshi**, Arun Tej Mallajosyula, Gitalee Bhattacharjya, S. Sundar Kumar Iyer and Gurunath Ramanathan *Solar Energy Materials and Solar Cells* **2008**, *92*, 1043-1046.

[*Equal contribution]

Patent

1. An Improved Organic Optoelectronic Device Using Imidazolin-5-one Molecules with Other Molecules. Indian Pat. Appl. (2009), 19pp. CODEN: INXXBQ IN 2007DE01231 A 20090116 CAN 152:63967 AN 2009:99304 CAPLUS. Inventors: Jain, Vibhor; Bhattacharjya, Gitalee; **Rajbongshi, Basanta Kumar**; Arun, Tej M.; Gurunath, Ramanathan; Iyer, S. Sundar Kumar.

Poster Presentations/Participations

- Molecular Stacks Through π···π Interactions in the Crystal Lattices of Imidazolin-5-ones **B. K. Rajbongshi** and G. Ramanathan
  Poster Presented at **International Conference on Metals and Alloys: Past, Present and Future (METALLO - 2007)** (7-10 Dec, 2007), IIT Kanpur, INDIA.

- Photovoltaic Effect in Organic Biodegradable Solar Cells Fabricated with Green Fluorescent Protein Luminophore Analogs
  Basanta Kumar Rajbongshi, Vibhore Jain, Gitalee Bhattacharjya, S. Sundar Kumar Iyer and Gurunath Ramanathan
  Poster Presented at **National Conference on the Emerging Trends in the Photovoltaic Energy Generation and Utilization** (27-29 March, 2008), IIT Kanpur, INDIA.

- Concomitant Polymorphs of an Analog of the Green Fluorescent Protein Luminophore and Application in Organic Photovoltaics
  Basanta Kumar Rajbongshi, Nisanth N. Nair, M. Nethaji, K. A. K. Chidvilas, S. Sundar Kumar Iyer and Gurunath Ramanathan
  Poster Presented at **5th J-NOST 2009** (2-5 Dec, 2009), IIT Kanpur, INDIA.

- Molecular Rotor Property of a Model Green Fluorescent Protein Luminophore Analog
  Basanta Kumar Rajbongshi, Pratik Sen and Gurunath Ramanathan
  Poster Presented at **XXIII IUPAC Symposium in Photochemistry** (11-16 July, 2010) Ferrara, Italy.
- Participated in National Workshop on Fluorescence Correlation Spectroscopy and Biophotonics (FCS-2010)", held in Shillong during 8- 13 Nov, 2010.

- Volunteered and participated in "International Winter School (Organic Electronics and Optoelectronics)" for Graduate Students organized jointly by IIT Kanpur and National Nanotechnology Infrastructure Network (NNIN), 8-13th December, 2008, IIT Kanpur.
- Enantiomeric Concomitant Polymorphs from an Analog of Green Fluorescent Protein Chromophore.
  Basanta Kumar Rajbongshi, Nisanth N. Nair, M. Nethaji and Gurunath Ramanathan
  Poster present at "National Seminar on Recent Trends in Fundamental and Applied Chemical Sciences (RTFACS-2014)" (19-21 Nov, 2014), Dibrugarh University, Dibrugarh, INDIA

Research Interest

- Fluorescent sensors
- Organic solar cell

Ongoing project:

Title: Design and synthesis of ratiometric large Stokes shift fluorescent metal ion sensors
PI: Dr. Basanta Kr. Rajbongshi
Funding agency: SERB, Govt. of India.
Project Ref. No. YSS/2014/000589
Budget: INR 25,93,000/- (Rupees twenty five lakhs and ninety three thousand only)
Duration: 3 years (Dec, 2015-Nov, 2018)