Mahesh Hariharan *FRSC*
Associate Professor and Head, School of Chemistry
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Education

- **B.Sc.**, 1998, Mahatma Gandhi University, Kottayam, Kerala.
- **M.Sc.**, 2000, Mahatma Gandhi University, Kottayam, Kerala.
- **Ph.D.**, 2006, National Institute for Interdisciplinary Science and Technology, Trivandrum, Kerala (Title: *"Design of Photoactivated DNA Cleaving Agents: Synthesis and Study of Photophysical and Photobiological Properties of Bifunctional Organic Ligands"* Supervisor: Dr. Danaboyina Ramaiah).

Appointments

Nov 2016	**Visiting Professor**, University of Würzburg, Germany
June 2016-present	**Head**, School of Chemistry, IISER Thiruvananthapuram, Kerala, India
Sept 2014-present	**Associate Professor**, IISER Thiruvananthapuram, Kerala, India
June 2014-Sept 2014	**Visiting Professor**, Montana State University, Montana, USA
May-July 2010, July 2013	**Visiting Fellow**, Northwestern University, Illinois, USA
July 2009-Sept 2014	**Assistant Professor**, IISER Thiruvananthapuram, Kerala, India
March 2007-July 2009	**Postdoctoral Fellow**, Northwestern University, Illinois, USA Mentor: Prof. Frederick D. Lewis

Honors and Awards

- Featured in Chemistry-A European Journal Young Chemists Special Issue 2018
- Featured in ChemComm Emerging Investigators Issue 2017
- Chemical Society of Japan Distinguished Lectureship Award, 2017
- Fellow of the Royal Society of Chemistry, 2016-
- Associate Editor of Photochemical and Photobiological Sciences, 2016-
- Associate Editor of RSC Advances, 2015-
- Chartered Chemist and Scientist of the Royal Society of Chemistry, 2015
- Asian and Oceanian Photochemistry Association Young Scientist Prize, 2014
- Indo-US Science and Technology Forum Fellowship, 2014 to visit MSU, USA, Mentor: Prof. Bern Kohler
- Editorial Board Member of Advances in Chemistry, 2013-2017
- Kerala State Young Scientist Award, 2013
- Editorial Board Member of Dataset Papers in Science, 2012-2017
- DST-DAAD Fellowship, 2004 to visit University of Mainz, Germany, Mentor: Prof. Bernd Epe
- CSIR-Research Scholarship, 2001 and shortlisted for Shyama Prasad Mukherjee Fellowship exam

Research Interests

Excited state dynamics in biomolecules, organic crystals and organised donor-acceptor systems

Ongoing Research Grants

1. DST Nano Mission: *Dipolar and Multipolar Interactions in Assembled Molecules and Nanostructures: Developing a General Description and its Applications*, 01/06/2016-31/05/2019, Rs. 5,61,20,800. Collaborative grant for Prof. K. George Thomas, Dr. R. S. Swathi, Dr. Adithya Lakshmanna and myself.
2. KSCSTE: *Design, synthesis and photocatalytic water splitting properties of functional cobalt based inorganic-organic hybrids*, 26/10/2015-15/10/2018, Rs. 45,20,000.

Professional Service

Member, Congress Committee of European Advanced Materials Congress 2018, Sweden
Co-organiser, Mini-Symposium on Photoprocesses in Chemistry and Biology, IISER-TVM, 2018
Member, International Advisory Board, XXVII IUPAC Symposium on Photochemistry, 2018, Ireland
Co-Chair, Faraday Discussions on Photoinduced Processes in Nucleic Acids and Proteins, 2018
Member, Organising Committee of 2nd Annual Conference Nanobioteck-2017
Organiser, Mini-Symposium on Spectroscopy, IISER-TVM, 2017
Organiser, Mini-Symposium on Photochemistry and Supramolecular Chemistry, IISER-TVM, 2017
Member, International Advisory Board, International Conference on Tropical Plants& Molecular Design, 2017
Co-Chair, Theme Symposium on Photonic Materials, IUMRS-ICYRAM 2016
Session Chair, International Symposium on Clusters, Cluster-Assemblies and Nanomaterials, 2016

Secretary, Organising Committee of Asian Photochemistry Conference 2014
Co-organiser, IISER-TVM/American Chemical Society Mini-Symposium 2013
Member, Organising Committee of 14th CRSI National Symposium in Chemistry 2012

Graduate Students: Graduated 4 (Dr. R. T. Cheriya, Dr. A. R. Mallia, Dr. S. K. Rajagopal and Dr. K. Nagarajan)
Ongoing 5 (A. M. Philip, R. Ramakrishnan, E. Sebastian, D. Sasikumar and A. T. John)

Publications (Total Publications: 59; Patent: 1; Book Chapter: 1)

2018

1. Extending the Scope of Carbonyl Facilitated Triplet Excited State towards Visible Light Excitation**,** S. K. Rajagopal, K. Nagaraj, S. Deb, V. Bhat, D. Sasikumar, E. Sebastian and **M. Hariharan***, *Phys. Chem. Chem. Phys.* **2018**, DOI: 10.1039/C8CP01023D
2. γ-Herringbone Polymorph of 6,13-Bis(trimethylsilylethynyl)pentacene: A Potential Material for Enhanced Hole Mobility, V. Bhat, G. Gopan, N. Nair and **M. Hariharan***, *Chem. Eur. J.* **2018**, DOI: 10.1002/chem.201800875
3. Structure-Packing-Property Correlation of Self-Sorted vs. Interdigitated Assembly in TTF.TCNQ Based Charge-Transport Materials, M. A. Niyas, R. Ramakrishnan, V. Vishnu and **M. Hariharan***, *Chem. Eur. J.* **2018**, DOI: 10.1002/chem.201705537 (Young Chemists Issue 2018; Inside Front Cover)
4. Excited State Dynamics of Mononucleotides and DNA Strands in a Deep Eutectic Solvent, Y. Zhang, K. deLaHarpe, **M. Hariharan** and B. Kohler*, *Faraday Discuss.*, **2018**, *207,* 267-282 (Front Cover)

2017

5. Enhanced Intersystem Crossing in Carbonylpyrenes, S. K. Rajagopal, A. R. Mallia and **M. Hariharan***, *Phys. Chem. Chem. Phys.*, **2017**, *19*, 28225-28231
6. Unsolicited Photoexcited State Pathways Relegate the Long-Lived Charge Separation in Self-Assembled Nucleobase-Arene Conjugate, A. M. Philip, F. Kuriakose and **M. Hariharan***, *J. Phys. Chem. C* **2017**, *121*, 23259–23267 (Front Cover)
7. Long Alkyl Side-Chains Impede Exciton Interaction in Organic Light Harvesting Crystals, K. Nagarajan, G. Gopan, R. T. Cheriya and **M. Hariharan***, *Chem. Commun.*, **2017**, *53*, 7409 (Emerging Investigator's Issue 2017)
8. Twisted Perylene Diimides with Tunable Redox Properties for Organic Sodium-Ion Batteries, H. Banda, D. Damien, K. Nagarajan, A. Raj, **M. Hariharan*** and M. M. Shaijumon*, *Adv. Energy Mater*. **2017**, *7*, 1701316 (Inside Front Cover)
9. Self-Assembled Donor-Acceptor Trefoils: Long-Lived Charge Separated State Through Aggregation, A. R. Mallia and M. Hariharan*, *J. Phys. Chem. C* **2017**, *121*, 4778–4788
10. Persistent Charge Separated States in Self-Assembled Twisted Non-Symmetric Donor-Acceptor Triad, A. R. Mallia, A. M. Philip, V. Bhat and **M. Hariharan***, *J. Phys. Chem. C* **2017**, *121*, 4765–4777 (Front Cover)
11. Enhanced Intersystem Crossing in Core-Twisted Aromatics, K. Nagarajan, A. R. Mallia, K. Muraleedharan and **M. Hariharan***, *Chem. Sci.* **2017**, *8*, 1776-1782 (Outside Back Cover)
12. V-shaped Oxydiphthalimides: Side Chain Engineering Regulates Crystallisation-Induced Emission Enhancement, G. Gopan, P. S. Salini, S. Deb and **M. Hariharan***, *CrystEngComm* **2017**, *19*, 419 (Front Cover)
13. Crystalline Triphenylamine Substituted Arenes: Solid State Packing and Luminescence Properties**,** A. R. Mallia, R. Ramakrishnan, M. A. Niyas, R. Sethy and **M. Hariharan*, ***CrystEngComm,* 2017**, *19*, 817 – 825

2016

14. Prolonged Charge Separated States in Twisted Stacks of All-carbon Donor and Acceptor Chromophores, A. M. Philip, A. R. Mallia and **M. Hariharan***, *J. Phys. Chem. Lett.* **2016**, *7*, 4751–4756 (ACS Liveslides)
15. On the Origin of Multiexponential Fluorescence Decays from 2-Aminopurine-Labeled Dinucleotides, J. Remington, A. Philip, **M. Hariharan** and B. Kohler*, *J. Chem. Phys.* **2016**, *145,* 155101

16. Columnar/Lamellar Packing in Cocrystals of Arylbipyridines with Diiodoperfluorobenzene, R. Ramakrishnan, A. R. Mallia, M. A. Niyas, R. Sethy and **M. Hariharan***, *Cryst. Growth Des.* **2016**, *16*, 6327–6336

17. Haloacetylation Driven Transformation of Sandwich Herringbone to Lamellar/Columnar Packing in Pyrene, P. S. Salini, S. K. Rajagopal and **M. Hariharan***, *Cryst. Growth Des.* **2016**, *16*, 5822–5830 (One of the most read articles)

18. S•••π, π–π and C–H•••π Contacts Regulate Solid State Fluorescence in Regioisomeric Bisthiazolylpyrenes, S. K. Rajagopal, P. S. Salini and **M. Hariharan***, *Cryst. Growth Des.* **2016**, *16*, 4567–4573 (One of the most read articles)

19. Crystallization Induced Green-Yellow-Orange Emitters Based on Benzoylpyrenes, S. K. Rajagopal, V. S. Reddy and **M. Hariharan***, *CrystEngComm* **2016**, *18*, 5089-5094

20. Access to Triplet Excited State in Core-Twisted Perylenediimide K. Nagarajan, A. R. Mallia, V. S. Reddy and **M. Hariharan***, *J. Phys. Chem. C* **2016**, *120*, 8443–8450

21. Crystallization induced enhanced emission in conformational polymorphs of a rotationally flexible molecule, A. R. Mallia, R. Sethy, V. Bhat and **M. Hariharan***, *J. Mater. Chem. C* **2016**, *4*, 2931-2935

2015

22. Nonparallel Stacks of Donor and Acceptor Chromophores Evade Geminate Charge Recombination, A. R. Mallia, P. S. Salini and **M. Hariharan***, *J. Am. Chem. Soc.* **2015**, *137*, 15604–15607 (Front Cover and JACS Spotlights)

23. A Polyimide based all-organic sodium ion battery, H. Banda, D. Damien, K. Nagarajan, **M. Hariharan** and M. M. Shaijumon*, *J. Mater. Chem. A* **2015**, *3*, 10453-10458

2014

24. C–H•••H–C and C–H•••π Contacts Aid Transformation of Dimeric to Monomeric Anthracene in the Solid State, K. Nagarajan, S. K. Rajagopal and **M. Hariharan***, *CrystEngComm* **2014**, 16, 8946-8949

25. Progressive Acylation of Pyrene Engineers Solid State Packing and Colour via C-H•••H-C, C-H•••O and π-π Interactions, S. K. Rajagopal, A. M. Philip, K. Nagarajan and **M. Hariharan***, *Chem. Commun.* **2014**, *50*, 8644-8647 (Inside Front Cover)

26. Light Harvesting Vesicular Donor-Acceptor Scaffold Limits the Rate of Charge Recombination in the Presence of an Electron Donor, R. T. Cheriya, A. R. Mallia and **M. Hariharan***, *Energy Environ. Sci.* **2014**, *7*, 1661-1669 (Front Cover; Hot Article)

27. Non-natural G-quadruplex in a Non-natural Environment, S. K. Rajagopal and **M. Hariharan***, *Photochem. Photobiol. Sci.* **2014**, *13*, 157-161 (Nick Turro's Special Issue)

28. Thymine Photodimer Formation in DNA Hairpins. Unusual Conformations Favor (6-4) vs. (2+2) Adducts, **M. Hariharan**,* K. Siegmund, C. Saurel, M. McCullagh, G. C. Schatz and F. D. Lewis*, *Photochem. Photobiol. Sci.* **2014**, *13*, 266-271. (Nick Turro's Special Issue)

2013

29. Thermal Response of DNA Supramolecular Polymers Assembled with Hydrophobic Sticky Ends, **M. Hariharan**,* Y. Zheng, B. Rybtchinski and F. D. Lewis*, *J. Phys. Chem. B*, **2013**, *117*, 14649–14654.

30. Perylene Polyimide Based Organic Electrode Materials for Rechargeable Lithium Batteries, P. Sharma, D. Damien, K. Nagarajan, M. M. Shaijumon,* and **M. Hariharan***, *J. Phys. Chem. Lett.*, **2013**, *4*, 3192–3197 (One of the most read articles)

31. Breakdown of Exciton Splitting through Electron Donor–Acceptor Interaction: A Caveat for the Application of Exciton Chirality Method in Macromolecules, J. Joy, R. T. Cheriya, K. Nagarajan, A. Shaji, and **M. Hariharan***, *J. Phys. Chem. C*, **2013**, *117*, 17927–17939

32. Single Component Organic Light-Harvesting Red Luminescent Crystal, R. T. Cheriya, K. Nagarajan and **M. Hariharan***, *J. Phys. Chem. C*, **2013**, *117*, 3240-3248

2012

33. DNA-Enforced Conformational Restriction of an Atropisomer, R. T. Cheriya, J. Joy, S. K. Rajagopal, K. Nagarajan and **M. Hariharan***, *J. Phys. Chem. C*, **2012**, *116*, 22631-22636

34. Effect of Temperature on Symmetry Breaking Excited State Charge Separation: Restoration of Symmetry at Elevated Temperature, H. Khandelwal, A. R. Mallia, R. T. Cheriya and **M. Hariharan***, *Phys. Chem. Chem. Phys.*, **2012**, 15282-15285

35. Energy Transfer in Near-Orthogonally Arranged Chromophores Separated through a Single Bond, R. T. Cheriya, J. Joy, A. P. Alex, A. Shaji, and **M. Hariharan***, *J. Phys. Chem. C*, **2012**, *116*, 12489–12498

36. Facially-Selective Thymine-Thymine Photodimerization in TTT Triads, P. P. Neelakandan, Z. Pan, **M. Hariharan** and F. D. Lewis*, *Photochem. Photobiol. Sci.*, **2012**, *11*, 889-892

2011

37. Electron Donor–Acceptor Interactions with Flanking Purines Influence the Efficiency of Thymine Photodimerization, Z. Pan, **M. Hariharan**, J. D. Arkin, A. S. Jalilov, M. McCullagh, G. C. Schatz, and F. D. Lewis*, *J. Am. Chem. Soc.* **2011**, *133*, 20793–20798.

38. Conformation of a Dodecane DNA Hairpin Linker, Multiple Gauche Bonds Cover the Bases, K. Siegmund, **M. Hariharan**, and F. D. Lewis*, *J. Phys. Chem. B*, **2011**, *115*, 3740–3746

2010

39. Hydrophobic Self-Assembly of a Perylenediimide-Linked DNA Dumbbell into Supramolecular Polymers, P. P. Neelakandan, Z. Pan, **M. Hariharan**, Y. Zheng, F. D. Lewis*, H. Weissman, and B. Rybtchinski*, *J. Am. Chem. Soc.* **2010**, *132*, 15808-15813.

40. Conformational Control of Thymine Photodimerization in Single-Strand and Duplex DNA Containing Locked Nucleic Acid TT Steps, **M. Hariharan**, M. McCullagh, G. C. Schatz, and F. D. Lewis*, J. Am. Chem. Soc.* **2010**, *132*, 12856-12858.

41. Structure and Stability of Alkane-Linked DNA Hairpin Conjugates, **M. Hariharan*** K. Siegmund, and F. D. Lewis*, *J. Org. Chem.* **2010**, *75*, 6236–6243.

42. Perylenediimide-Linked DNA Dumbbells: Long-Distance Electronic Interactions and Hydrophobic Assistance of Base-Pair Melting, **M. Hariharan**, K. Siegmund, Y. Zheng, H. Long, G. C. Schatz, and F. D. Lewis*, J. Phys. Chem. C* **2010**, *114*, 20466–20471.

43. DNA Base-Pair Flipping with Fluorescent Perylenediimide Pincers, T. A. Zeidan, **M. Hariharan**, K. Siegmund, and F. D. Lewis*, *Photochem. Photobiol. Sci.* **2010**, *9*, 916-922.

44. Conformational Control of TT-Dimerization in DNA Hairpins. A Molecular Dynamics Study, M. McCullagh, **M. Hariharan**, F. D. Lewis, D. Markovitsi, T. Douki and G. C. Schatz, *J. Phys. Chem. B* **2010**, *114*, 5215-5221.

45. Site-selective Interactions: Squaraine Dye-Serum Albumin Complexes with Enhanced Fluorescence and Triplet Yields, V. S. Jisha, K. T. Arun, **M. Hariharan** and D. Ramaiah*, *J. Phys. Chem. B* **2010**, *114,* 5912-5919.

46. Electron Hopping among Cofacially Stacked Perylenediimides Assembled Using DNA Hairpins, T. M. Wilson, T. A. Zeidan, **M. Hariharan**, F. D. Lewis, and M. R. Wasielewski, *Angew. Chem.* **2010**, *49*, 2385-2388.

47. Direct Evidence on the External Stimuli Induced Dissembly of DNA through Microscopic Techniques, **M. Hariharan**, E. Kuruvilla and D. Ramaiah*, *J. Phys. Chem. Lett.* **2010**, *1*, 834-838.

48. Photoinduced DNA Damage Efficiency and Cytotoxicity of Novel Viologen Linked Pyrene Conjugates, **M. Hariharan**, D. Ramaiah,* I. Schulz, S. C. Karunakaran and B. Epe*, *Chem. Comm.* **2010**, *46*, 2064-2066.

2009

49. Hydrophobic Dimerization and Thermal Dissociation of Perylenediimide-Linked DNA Hairpins, **M. Hariharan**, Y. Zheng, H. Long, T. A. Zeidan, G. C. Schatz, J. Vura-Weis, M. R. Wasielewski, X. Zuo, D. M.

Tiede, and F. D. Lewis*, *J. Am. Chem. Soc.* **2009**, *131*, 5920-5929.

50. Sum rules and determination of exciton coupling using absorption and circular dichroism spectra of biological polymers, A. Burin, M. Armbruster, **M. Hariharan** and F. D. Lewis*, *Proc. Natl. Acad. Sci. USA* **2009**, 106, 989-984.

2008

51. Photoinduced Charge Separation in Pyrenedicarboxamide-linked DNA Hairpins, P. Daublain, K. Siegmund, **M. Hariharan**, J. Vura-Weis, M. R. Wasielewski, F. D. Lewis, V. Shafirovich, Q. Wang, M. Raytchev, and Torsten Fiebig, *Photochem. Photobiol. Sci.* **2008**, 7, 1501-1508.
52. Context-Dependent Photodimerization in Isolated Thymine–Thymine Steps in DNA, **M. Hariharan** and F. D. Lewis,* *J. Am. Chem. Soc.* **2008**, *130*, 11870-11871.

2007

53. Encapsulation of Electron Donor-Acceptor Dyads in b-Cyclodextrin Cavity: Unusual Planarization and Enhancement in Rate of Electron Transfer Reaction, **M. Hariharan,** P. P. Neelakandan and D. Ramaiah,*, *J. Phys. Chem. B*, **2007**, *111*, 11940-11947.
54. Chiral Supramolecular Assemblies of a Squaraine Dye in Solution and Thin Films: Concentration-, Temperature-, and solvent-induced chirality inversion, K. Jyothish, **M. Hariharan** and D. Ramaiah,*, *Chem. Eur. J.* **2007**, *13*, 5944-5951.
55. Selective Recognition of Tryptophan through the Inhibition of Intramolecular Charge-Transfer Interactions in an Aqueous Medium, **M. Hariharan,** C. K. Suneesh and D. Ramaiah,*, *Org. Lett.* **2007**, *9*, 417-420.

2006

56. Novel Bifunctional Viologen-Linked Pyrene Conjugates: Synthesis and Study of their Interactions with Nucleosides and DNA, **M. Hariharan**, J. Joseph and D. Ramaiah,*, *J. Phys. Chem. B* **2006**, *110*, 24678-24686.
57. A Supramolecular ON-OFF-ON Fluorescence Assay for Selective Recognition of GTP, P. P. Neelakandan, **M. Hariharan** and D. Ramaiah*, *J. Am. Chem. Soc.* **2006**, *128*, 11334-11335.
58. Site-Selective Binding and Dual Mode Recognition of Serum Albumin by a Squaraine Dye, V. S. Jisha, K. T. Arun, **M. Hariharan** and D. Ramaiah*, *J. Am. Chem. Soc.* **2006**, *128*, 6024-6025.

2005

59. Synthesis of a Novel Cyclic Donor-Acceptor Conjugate for Selective Recognition of ATP, P. P. Neelakandan, **M. Hariharan** and D. Ramaiah*, *Org. Lett.* **2005**, 5765-5768.

LIST OF BOOKS/BOOK CHAPTERS

60. Philip, A. M.; Bhat, V.; **Hariharan, M.**, Excited State Dynamics in Chromophore Appended Nucleic Acids in Templated DNA Nanotechnology: Functional DNA Nanoarchitectonics, ed. Govindraju, T., Pan Stanford Publications, Singapore, **2018**.

LIST OF PATENTS

61. A Novel Cyclic Donor-Acceptor Conjugate, Process and a Supramolecular Fluorescent Marker Thereof, D. Ramaiah, P. P. Neelakandan and **M. Hariharan**, IN Patent No. 253901, dated August 31, **2012**.

Invited Seminar and Colloquium Presentations

135 invited lectures at universities and international conferences since 2009.

Invited Lectures

- Modulation of Rate of Charge Recombination in DNA, 'Conference on the Complex Interactions of Light and Biological Matter: Experiments meet Theory', International Centre for Theoretical Physics, Trieste, Italy, May 21-25, 2018
- Strategies to Reduce the Rate of Charge Recombination, 'UK-India Frontiers of Science Meeting', The Royal Society at Chiechley Hall, London, May 15-18, 2018
- Strategies to Reduce the Rate of Charge Recombination, Department of Chemistry, University of Sheffield, UK, May 14, 2018
- Strategies to Reduce the Rate of Charge Recombination, 'Molecular Biradicals: Structure, Properties and Reactivity', University of Wuerzburg, Germany, February 27-March 2, 2018
- Strategies to Reduce the Rate of Charge Recombination, '8th MRS Trilateral Conference on Advances in Nanomaterials', University of Chinese Academy of Sciences, Beijing, October 28-30, 2017
- Strategies to Reduce the Rate of Charge Recombination, Osaka Prefecture University, Japan, March 22, 2017
- Strategies to Reduce the Rate of Charge Recombination, Kyoto University, Japan, March 21, 2017
- Strategies to Reduce the Rate of Charge Recombination, 'The 97th Chemical Society of Japan Annual Meeting', Keio University, Yokohama, Japan, March 16-19, 2017
- Twists and Turns in the Excited State Properties of Aromatics, 'Mini-Symposium on Photofunctional π Materials", Nara Institute of Science and Technology, Nara, Japan, March 15, 2017
- Strategies to Reduce the Rate of Charge Recombination, 'Symposium on Photonic Materials', IUMRS-ICYRAM 2016, IISc, Bangalore, December 11-15, 2016
- Strategies to Reduce the Rate of Charge Recombination, '9th Asian Photochemistry Conference', Nanyang Technological University, Singapore, December 4-8, 2016
- Ultrafast Intersystem Crossing in Core-Twisted Aromatics, 'Light-Induced Dynamics in Molecular Aggregates', Niederstetten, Germany, November 24-25, 2016
- Strategies to Reduce the Rate of Charge Recombination, University of Wuerzburg, Germany, November 17, 2016
- Strategies to Reduce the Rate of Charge Recombination 'Pacifichem 2015-Molecular and Supramolecular Photochemistry', Honolulu, Hawaii, USA, December 15-20, 2015
- Tuning the Solid State Packing and Optical Properties of Organic Crystals 'Pacifichem 2015-Aggregation Induced Enhanced Emission', Honolulu, Hawaii, USA, December 15-20, 2015
- Tuning the Solid State Packing and Optical Properties of Organic Crystals 'Department of Chemistry, University of Durham', Durham, UK, February 19, 2015
- Strategies to Reduce the Rate of Charge Recombination '24th Winter I-APS Conference' Florida, USA, January 1-4, 2015
- Exciton Interactions in DNA and Superstructured Organic Materials '8th Asian Photochemistry Conference' Trivandrum, India, November 9-13, 2014
- Light Harvesting Vesicular Donor-Acceptor Scaffold Limits the Rate of Charge Recombination 'Department of Chemistry, Montana State University', Montana, US, June 12, 2014
- Ultrafast Dynamics of Charge Carriers in Superstructured Organic Materials 'The State Key Laboratory of Molecular Reaction Dynamics', ICCAS, Beijing, China, April 18, 2014
- Light Harvesting Vesicular Donor-Acceptor Scaffold Limits the Rate of Charge Recombination '*2nd International Conference on Clean Energy Science*' Qingdao, China, April 13-16, 2014
- Conformational and Excited State Dynamics of Near-Orthogonal Donor-Acceptor Bichromophores *'Photochemistry Gordon Research Conference'* Stonehill College, Easton, MA, July 14-19, 2013
- Light Harvesting Vesicular Donor-Acceptor Scaffold Limits the Rate of Charge Recombination '*International Symposium on Fundamental and Applied Chemistry'* Northwestern University, IL, July 12-13, 2013

Invited Lectures (International Conferences Organised/Held in India)

- Strategies to Reduce the Rate of Charge Recombination, 'International Conference on Photochemistry and its Applications', Mahatma Gandhi University, Kerala, India, November 10-13, 2017
- Strategies to Reduce the Rate of Charge Recombination, 'International Conference on Spectroscopy of Biomolecules and Advanced Materials', Christian College, Kerala, India, October 4-7, 2017
- Strategies to Reduce the Rate of Charge Recombination, '8th East Asia Symposium on Functional Dyes and Advanced Materials', CSIR-NIIST, Thiruvananthapuram, India, September 20-22, 2017

- Crystal Engineering π-ways for Enhanced Charge Transport, '24th Congress & General Assembly of the International Union of Crystallography 2017', Hyderabad International Convention Centre, Hyderabad, August 21–28, 2017
- Light Harvesting Vesicular Donor–Acceptor Scaffold Limits the Rate of Charge Recombination '*India-Israel Meeting on Materials Science and Nanoscience'* M. G. University, Kerala, India, Jan 31-Feb 01, 2013
- DNA Donor-Acceptor Conjugates: Towards Understanding Biological Processes in Femtosecond Timescale '*IISER-American Chemical Society Mini-Symposium'* IISER-TVM, Kerala, India, November 28, 2013
- DNA Donor-Acceptor Conjugates: Towards Understanding Biological Processes in Femtosecond Timescale '*International Conference on Frontiers of Mass Spectrometry 2013'* M. G. University, Kerala, September 6-9, 2013
- Ultrafast Dynamics of Charge Carriers in Superstructured Organic Materials '*Organic Devices: The Future Ahead'* Bhabha Atomic Research Center, Mumbai, March 3-6, 2014
- Ultrafast Dynamics of Charge Carriers in DNA and Superstructured Organic Materials '*Light in Chemistry, Materials and Biology'* Indian Institute of Technology, Kharagpur, February 24-25, 2014
- Ultrafast Dynamics of Charge Carriers in DNA and Superstructured Organic Materials '*International Conference on Advanced Functional Materials'* CSIR-NIIST, Kerala, India, February 19-21, 2014
- Light Harvesting Vesicular Donor–Acceptor Scaffold Limits the Rate of Charge Recombination '*India-Japan Workshop on Biomolecular Electronics & Organic Nanotechnology for Environment Preservation*' Delhi Technological University, Delhi, India, December 13-15, 2013
- Ultrafast Dynamics of Charge Carriers in Superstructured Organic Materials 'Indo-UK Scientific Seminar', University of Leeds, UK, February 16-18, 2015

Invited Lectures (Universities, Colleges and Schools)

- Strategies to Reduce the Rate of Charge Recombination, 'The Frontiers in Chemical Biology', CSIR-NEIST, June 26-28, 2018
- Colourful Science, 'CRYSTAL', Kerala Science Council for Science Technology and Environment, Thiruvananthapuram, May 14, 2018
- Strategies to Reduce the Rate of Charge Recombination, 'Innovations in Frontier Chemistry', IISER-Pune, May 8-9, 2018
- Ultrafast Processes in Chemical and Biological Systems, 'Seminar Series', M. G. College, Thiruvananthapuram, March 6, 2018
- Introduction to Mass Spectrometry, 'Science Academies' Workshop on Spectroscopic Techniques as Effective Characterization Tools, Mar Athanasius College, Kothamangalam, February 23-24, 2018
- Colourful Science, 'National Level Research Orientation Programme in Sciences (ROP2018)', Maharajas College, Ernakulam, February 17, 2018
- Strategies to Reduce the Rate of Charge Recombination, 'National Seminar on Current Trends in Chemistry (CTric 2018)', Cochin University of Science and Technology, February 16-17, 2018
- Ultrafast Processes in Chemical and Biological Systems, 'National Seminar on Recent Trends in Materials Science and Technology', St. Berchmann's College, Changanassery, February 7-9, 2018
- Ultrafast Processes in Chemical and Biological Systems, 'INSPIRE-Innovation in Science Pursuit for Inspired Research', Mar Ivanios College, Thiruvananthapuram, January 3-7, 2018
- Femtosecond Spectroscopy, 'INSPIRE-A Programme Motivating Young Talents Towards Science', Central University of Kerala, Kasaragod, December 26-31, 2017
- Chemical Kinetics, 'In-service Training Programme for Kendriya Vidyalaya School Teachers', Kendriya Vidyalaya, Pattom, Thiruvananthapuram, December 26, 2017
- Strategies to Reduce the Rate of Charge Recombination, 'National Seminar on Chemistry and Physics at the Excited States', National Institute for Interdisciplinary Science and Technology, Thiruvananthapuram, November 24, 2017
- Ultrafast Processes in Chemical and Biological Systems, 'Recent Advances in Nano and Supramolecular Chemistry', Assumption College, Changanassery, November 16-17, 2017
- Femtosecond Spectroscopy, 'Advances in Photoresponsive Materials-2017 (APM-2017)', Maharajas College, Ernakulam, November 14-15, 2017
- Ultrafast Processes in Chemical and Biological Systems, St. Teresa's College, Ernakulam, November 14, 2017
- Ultrafast Processes in Chemical and Biological Systems, 'JNCASR-FCBS Workshop for College Chemistry Students and Teachers', Hotel Residency Tower, Trivandrum, October 26-28, 2017

- Atomic Force Microscopy, 'Science Academies' Workshop on Spectroscopic Techniques and Applications', Bishop Moore College, Mavelikkara, October 12-13, 2017
- Strategies to Reduce the Rate of Charge Recombination, 'Organic Molecules for Material Applications', Government College for Women, Thiruvananthapuram, September 19-22, 2017
- Physical Organic Chemistry, 'Short Term Course on CSIR/UGC-JRF Exam in Chemical Sciences', National Institute of Technology, Tiruchirappalli, September 2, 2017
- Ultrafast Processes in Materials Science, 'Inter Disciplinary Refresher Courses in Material Sciences', Kannur University Campus, Thavakkara, July 29, 2017
- Ionic Equilibrium, 'In-service Course of Post Graduate Teachers of Kendriya Vendriya Schools', Kendriya Vidyalaya, Pattom, Thiruvananthapuram, May 26, 2017
- Time Correlated Single Photon Counting Techniques and Applications, 'HORIBA Optical School Workshop', JNCASR, Bangalore, May 24, 2017
- Ultrafast Processes in Chemistry and Biology, 'Science Academies' Workshop on Advancement in Supramolecular Chemistry and Nanoscience', St. Joseph's College, Irinjalakkuda, March 3-4, 2017
- Strategies to Reduce the Rate of Charge Recombination, 'National Symposium on Radiation and Photochemistry (NSRP-2017)', Manipal University, Manipal, March 2-4, 2017
- Strategies to Reduce the Rate of Charge Recombination, Department of Chemistry, IIT Mandi, February 17, 2017
- Strategies to Reduce the Rate of Charge Recombination, 'National Conference on Chemistry Interfacing with Biology and Physics (CIBP2017)', IISER Kolkata, January 27-28, 2017
- Ultrafast Processes in Chemical and Biological Systems, 'GIAN Course on Supramolecular Photochemistry', National Institute of Technology, Tiruchirappalli, January 7, 2017
- Strategies to Reduce the Rate of Charge Recombination, 'New Horizons in Chemical Sciences (NHCS-2017)', Vivekhananda College, Tiruchengode, January 6-7, 2017
- Femtosecond Spectroscopy, 'INSPIRE-A Programme Motivating Young Talents Towards Science', Sree Narayana College, Kannur, December 25-30, 2016
- Femtosecond Spectroscopy, 'National Seminar on Advanced Analytical Techniques (NSAAT2016)', Mar Ivanios College, Thiruvananthapuram, May 2016
- Strategies to Reduce the Rate of Charge Recombination, Department of Chemistry, IISER-Pune, March 26, 2016
- Femtosecond Spectroscopy, 'Transcending Topics in Chemistry', Government Arts College, Thiruvananthapuram, March 14-15, 2016
- Strategies to Reduce the Rate of Charge Recombination, 'Modern Trends in Electron Transfer Chemistry: From Molecular Electronics to Devices', ICTS, Bangalore, January 28-29, 2016
- Instrumentation Techniques for Pollination Studies, 'Pollination of flowers by insects: from ecology to chemistry and behaviour', TBGRI, Palode, January 11, 2016
- Femtosecond Spectroscopy, 'National Conference on Emerging Research Trends in Chemistry (NCERTC-2016)', Payyanur College, Payyanur, January 6-8, 2016
- Ultrafast Techniques in Materials Science, 'Seminar on Current Developments in Materials Sciences', Government College for Women, Thiruvananthapuram, January 6-7, 2016
- Strategies to Reduce the Rate of Charge Recombination, 'Inter-IISER Chemistry Meeting 2015', IISER Thiruvananthapuram, Thiruvananthapuram, December 11-13, 2015
- Effect of Light on DNA, 'State Level Seminar on Chemistry of Light Science and its Applications', St. Xavier's College for Women, Kochi, December 4, 2015
- Ultrafast Processes in Chemical and Biological Systems, 'FCBS-Lectures in Chemistry', Catholicate College, Pathanamthitta, November 30, 2015
- UV-Vis Spectroscopy, 'Science Academies' Workshop on Spectroscopic Techniques and Applications', Bishop Moore College, Mavelikkara, November 11-13, 2015
- Strategies to Reduce the Rate of Charge Recombination, 'Recent Advances in Chemistry (RAC-2015)', Central University of Kerala, Padnekkad Campus, November 4-5, 2015
- Noblel Prize in Chemistry-2015, 'Lecture Series on Nobel Prize', IISER-Thiruvananthapuram, October 27, 2015
- Ultrafast Processes in Chemical and Biological Systems, 'JNCASR-FCBS Workshop for College Chemistry Students and Teachers', Hotel Residency Tower, Trivandrum, October 15-17, 2015
- Strategies to Reduce the Rate of Charge Recombination, 'Chemical Frontiers 2015', Majorda Beach Resort, South Goa, August 15-18, 2015

- Scientific Writing, Department of Chemistry, The Cochin College, August 12, 2015
- Ultrafast Reactions, Department of Chemistry, The Cochin College, August 12, 2015
- (Wo)Man Who Did Not Get the Prize, 'Lecture Series on Nobel Laureates in Science and Literature', Vimala College, Trichur, March 5, 2015
- Science for Nation Building, 'Science Fest in Connection with National Science Day celebration', Sree Sankara College, Kalady, February 12, 2015
- Colourful Chemistry, 'INSPIRE-A Programme Motivating Young Talents Towards Science', Sacred Heart College, Cochin, January 15, 2015
- Effect of Light on DNA, 'Program for Motivation in Science-SPEED Sponsored by KSCSTE', NIIST Thiruvananthapuram, December 29, 2014
- Effect of Light on DNA, 'Science Talent Enrichment Programme (STEP) Sponsored by KSCSTE', IISER-Thiruvananthpuram, Thiruvananthapuram, December 16, 2014
- Modern Tools in Scientific Research, 'Special Winter School for College/University Teachers', Dr. John Matthai Centre, Thrissur, December 12, 2014
- Photonic Crystals, 'New Materials in Chemistry (NMC)', Government College, Kattappana, November 27-28, 2014
- Effect of Light on DNA, 'Rev. Dr. Mathew Thottiyil Memorial Endowment Lecture', Nirmala College, Muvattupuzha, November 8, 2014
- Femtosecond Spectroscopy, 'Short Term Course on Innovative Methods in Chemical Sciences', National Institute of Technology, Tiruchirappalli, May 8, 2014
- Decreasing the Speed Limit of Charge Recombination, 'National Seminar on Frontiers in Chemistry', University of Calicut, Calicut, March 20-21, 2014
- Effect of Light on DNA, 'Refresher Course in Chemistry for College Teachers', UGC-Academic Staff College, University of Kerala, March 17, 2014
- Understanding Biological Processes in Femtosecond Timescale, 'Kerala Science Day Lecture-2014', KSCSTE, February 28, 2014
- Dynamics of Charge Recombination in Superstructured Organic Materials, 'LCMB2014', IIT Kharagpur, February 24-25, 2014
- Strategies to Reduce the Rate of Charge Recombination, 'Department of Chemical Sciences (DCS) seminar series', Tata Institute of Fundamental Research (TIFR) Mumbai, February 2, 2014
- Understanding Biological Processes in Femtosecond Timescale, 'Kerala State Young Scientist Award Lecture-2013', KVASU, Wayanad, January 28-31, 2014
- Effect of Light on DNA, 'INSPIRE-A Programme Motivating Young Talents Towards Science', Sacred Heart College, Cochin, January 21-25, 2014
- Light-Harvesting Vesicular Donor-Acceptor Scaffold Limits the Rate of Charge Recombination, 'National Seminar on Recent Advances in Photochemistry', St. Michael's College, Cherthala, December 5-6, 2013
- Effect of Light on DNA, 'NIT Golden Jubilee Year Celebration Workshop in "Recent Trends in Chemistry', National Institute of Technology, Trichy, December 4, 2013
- Characterization by Atomic Force Microscopy, 'National Level Workshop on Characterization of Advanced Materials', Mar Ivanios College, Thiruvananthapuram, November 6-8, 2013
- Effect of Light on DNA, '11th Refresher Course in Chemistry', Academic Staff College, Calicut University Campus, September 21, 2013
- Effect of Light on DNA, 'Recent Progresses in Chemistry (RPC-2013)', Government College Kasaragod, Kerala, October 7-8, 2013
- Colourful Chemistry, St. Thomas School, June 14, 2013
- Spectroscopy-Physical Perspectives, 'Workshop on Applications of Spectroscopy in Inorganic, Organic & Physical Chemistry', NIT Tiruchirapalli, March 29, 2013
- An Overview on Surface Science Spectroscopy, Microscopy and Applications, 'Special Lecture Series', Kannur University, Payyanur Campus, March 22, 2013
- Introduction to Mass Spectrometry, 'India-UK Scientific Seminar', Aquaserene Resort, Kollam, February 21, 2013
- Colourful Chemistry, 'INSPIRE-A Programme Motivating Young Talents Towards Science', Sacred Heart College, Cochin, January 23, 2013
- A Tutorial on Density Functional Theory, 'Prof. K. V. Thomas Endowment Lecture on Computational Chemistry', Sacred Heart College, Kochi, December 5-6, 2012

- An Overview on Thermal Analysis, 'Special Lectures on Thermal Analysis and NMR Spectroscopy', Kannur University, Payyanur Campus, November 29, 2012
- Isothermal Titration Calorimetry, 'One Day Workshop Series on Biothermodynamics and Bioinformatics in Drug Discovery', Kannur University, Thalassery Campus, September 29, 2012
- DNA Donor-Acceptor Conjugates: Towards Understanding Biological Processes in Femtosecond Timescale, 'Eighth JNC Research Conference on Chemistry of Materials', Vivanta by Taj, Kovalam, September 30-October 2, 2012
- Biophysical Chemistry, 'Short Term Course on CSIR/UGC-JRF Exam in Chemical Sciences', National Institute of Technology, Tiruchirappalli, September 2, 2012
- Colourful Chemistry, TIME, Cochin, June 17, 2012
- Ellingham Diagram, 'Lecture Series for St. Thomas School Teachers', St. Thomas School, Thiruvananthapuram, May 22, 2012
- DNA and Protein Based Nanomaterials, 'UGC-SAP One Day Seminar on Chemistry of Advanced Materials', School of Chemical Sciences, M. G. University, March 20, 2012
- Supramolecular Chemistry, 'Science Academies' Workshop on Advancement in Supramolecular Chemistry and Nanoscience', Christ College, Irinjalakkuda, February 23-24, 2012
- Colourful Chemistry, St. Michael's College, Cherthala, January 10, 2012
- Colourful Science, 'Interaction with Young Scientists during Celebrating International Year of Chemistry', Christ Nagar School, Thiruvananthapuram, November 7-11, 2011
- Colourful Chemistry, 'INCULCATE', Cochin University for Science and Technology, CUSAT, September 24, 2011
- Recent Advances in Biomolecular Engineering, St. Thomas School, Thiruvananthapuram, May 24, 2011
- Effect of Light on DNA, 'Science Academies' Workshop on Advances in Molecular Spectroscopy', Sree Neelakanta Government Sanskrit College, Pattambi, March 4-5, 2011
- Structure of Natural and Non-natural DNA, School of Chemical Sciences, M. G. University, Kottayam, February 28, 2011
- Colourful Chemistry, TIME, Mar Theophilus Hall, Trivandrum, February 27, 2011
- Structure of Natural and Non-natural DNA, 'Faculty Training and Motivation Programme for College Teachers', NIIST Thiruvananthapuram, February 18, 2011
- Recent Advances in Biomolecular Engineering, 'VIBRANT2010', JIT, Coimbatore, November 12, 2010
- Structure of Natural and Non-natural DNA, 'JNCASR-FCBS Workshop for College Chemistry Students and Teachers', Hotel Residency Tower, Trivandrum, October 25 - 27, 2010
- Effect of Ultraviolet Light on DNA, 'Observance of International Day for Preservation of Ozone Layer 2010', KSCSTE, Thiruvananthapuram, September 16, 2010
- Effect of Light on DNA, 'Emerging Trends in Chemistry for Medical Applications', Christian College, Martandam, March 18-19, 2010
- Structure of Natural and Non-natural Nucleic Acids, Science Club, IISER-Thiruvananthapuram, February 20, 2010
- Structure of DNA, 'CSIR Programme on Youth for Leadership in Science (CPYLS)-2009', National Institute for Interdisciplinary Science and Technology, Thiruvananthapuram, December 22-23, 2009
- Noblel Prize in Chemistry-2009, 'Lecture Series on Nobel Prize', IISER-Thiruvananthapuram, October 22, 2009
- Structure and Self-assembly of DNA, 'National Symposium in Chemistry', Payyanur College, Payyanur, October 22-24, 2009

Voluntary Service

- Volunteer Visitor, Chemists' Community Fund, Royal Society of Chemistry, 2016-

Member of Professional Societies

Royal Society of Chemistry; American Chemical Society; Asian and Oceanian Photochemistry Association; Inter-American Photochemical Society; European Photochemistry Association; International Association of Advanced Materials; Chemical Society of Japan; Japanese Photochemistry Association; Chemical Research Society of India; Materials Research Society of India; Indian Society for Radiation and Photochemical Sciences; Photosciences Research Society of India; Indian Society of Nano Medicine; Kerala Academy of Sciences, India

Journal Referee

ACS Nano; Journal of American Chemical Society; ACS Applied Materials and Interfaces; Journal of Physical Chemistry Letters/A/B/C; ACS Omega; Energy and Environmental Science; Nanoscale; Chemical Communications; Journal of Materials Chemistry; Organic Chemistry Frontiers; Physical Chemistry Chemical Physics; RSC Advances; New Journal of Chemistry; Acta Cryst B; Crystal Growth and Design; CrystEngComm; Farad. Discuss.; Photochemical and Photobiological Sciences; Chemistry A European Journal; ChemPhysChem; ChemSusChem; ChemPlusChem; Chemistry An Asian Journal; Helvetica Chimica Acta; Photochemistry and Photobiology; Scientific Reports; Journal of Photochemistry and Photobiology A/B/C: Chemistry; Chemical Physics Letters; Spectrochimica Acta Part A; Inorganica Chimica Acta; ChemistrySelect; Chemical Papers; Sensors & Actuators: B. Chemical; Journal of Luminescence; Chemistry and Physics of Lipids; Dyes and Pigments; Chemical Engineering Journal; Bulletin of Materials Science; International Journal of Energy Research; Journal of Chemical Sciences; Current Organic Chemistry; Applied Biochemistry and Biotechnology; JSM Bioinformatics; Genomics and Proteomics