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**Name and Current Affiliation**

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**Dr Ravi Kumar Venkatraman, MRSC PhD**  
**Postdoctoral Research Associate**

Department of Chemistry  
University of Sheffield  
Sheffield, United Kingdom

**Tel:** +447867019363

**Email:** [r.k.venkatraman@sheffield.ac.uk](mailto:r.k.venkatraman@sheffield.ac.uk)

**Date of Birth:** 24/02/1985

**Alternate Email:** [ravi.ipc.iisc@gmail.com](mailto:ravi.ipc.iisc@gmail.com) ;

[rk.venkatraman@bristol.ac.uk](mailto:rk.venkatraman@bristol.ac.uk)

[ravikvraman@gmail.com](mailto:ravikvraman@gmail.com)

**Website:** <https://ravikvraman.com/>

**Publons ID:** [publons.com/a/1187751/](https://publons.com/a/1187751/)

**ORCID ID:** [orcid.org/0000-0003-0636-5310](https://orcid.org/0000-0003-0636-5310)

**Researcher ID:** [A-1232-2017](https://orcid.org/0000-0003-0636-5310)

**SCOPUS ID:** [56600208000](https://orcid.org/0000-0003-0636-5310)

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**Research Experience**

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**University of Sheffield, United Kingdom**

Postdoctoral Research Associate (*March 2021 to till date*)

**Research Title:** *Tracking Energy Transfer in (Bio)molecular Photonic Breadboards using Ultrafast Spectroscopy*

**Principal Investigator:** Professor Julia Weinstein & Dr Jenny Clark

**Indian Institute of Science, India\***

Postdoctoral Research Associate (*Feb 2020 to Mar 2021*)

**Research Title:** *Ultrafast Solvation Dynamics and its Influence on Photophysics and Photochemistry of Model Molecular Systems*

**Principal Investigator:** Professor Siva Umamathy

**The University of Texas at Austin, United States**

Postdoctoral Research Scholar (*Feb 2019 to Jan 2020*)

**Research Title:** *Effect of Cryoprotectant on the Ultrafast Dynamics of Water at the Lipid Membrane Surface*

**Principal Investigator:** Dr Carlos Baiz

**The University of Bristol, United Kingdom**

Newton International Fellow (*Feb 2017 to Jan 2019*)

**Research Title:** *Ultrafast Studies of Biophysical Dynamics on Models of Bio-molecular Systems*

**Funding:** The Royal Society, London, United Kingdom and Science and Engineering Research Board, India

**Co-applicant:** Professor Andrew J. Orr-Ewing

**Indian Institute of Science, India**

Postdoctoral Research Assistant (*Jul 2016 to Jan 2017*)

**Project Title:** *Development of Indigenously Built Compact (< 1 foot) Raman Spectrometer.*

**Principal Investigator:** Professor Siva Umamathy

**Indian Institute of Science, India**

PhD in Physical Chemistry (*Aug 2009 to Jul 2016*)

*Council of Scientific and Industrial Research Fellow*

**Thesis Title:** *Solvent Effects on Photophysics and Photochemistry of Aromatic Carbonyls: A Raman and Computational Study*

**Research Advisor:** Professor Siva Umamathy

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\* Interim Postdoctoral Position owing to COVID-19 Pandemic Situation and Informal Parental Care.

**Indira Gandhi Centre for Atomic Research, India**Summer Research Internship Fellow (*May to Jun 2008*)**Project Title:** *Thermal Ionization Mass Spectrometry***Project Advisor:** Dr T. S. Lakshmi Narasimhan**Education History**

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**Indian Institute of Science, India (*Aug 2009 to Mar 2017*)**

PhD in Physical Chemistry

*Council of Scientific and Industrial Research Fellow***Thesis Title:** *Solvent Effects on Photophysics and Photochemistry of Aromatic Carbonyls: A Raman and Computational Study*Best Thesis Award, National Laser Symposium-26 (Dec 2017)**Research Advisor:** Professor Siva Umamathy

CGPA: 6.8/8.0

**Guru Nanak College Affiliated to the University of Madras, India (*Jul 2007 to Jun 2009*)****M. Sc. in Chemistry with Distinction (78%)**University 4<sup>th</sup> Rank Holder and College Topper**Guru Nanak College Affiliated to the University of Madras, India (*Jul 2004 to Jun 2007*)****B. Sc. in Chemistry with First Class (79%)****Allied subjects:** Physics and Mathematics (89%)

College Topper

**Higher Secondary School Examination (*Jul 2002 to Jun 2004*)****Chemistry, Physics, Biology and Mathematics (91%)**

School Topper

**Research Interests**

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Venkatraman's research interest mainly focusses on understanding the influences of solvent on a plethora of chemical and biological processes from a molecular level viewpoint. The solvent motion entangled with these processes dictate their course and collectively called as solvation dynamics. Their timescales can range from a few tens of femtosecond through picosecond to nanosecond. His main research objective is to disentangle the solvent motion contribution to these processes and subsequently understand their influence on these processes. To this end, he uses a variety of complementary time-resolved spectroscopy techniques which can be thought of a camera with a shutter speed of quadrillionth through trillionth to the billionth of a second and captures molecular motion pictures of solvation dynamics in action. To complement his experimental outcomes, he uses computational techniques like molecular dynamics and simulation, density functional theoretical (DFT) calculations.

**Technical Expertise:**

- Femtosecond Time-resolved Electronic & Vibrational Absorption Spectroscopy
- Femtosecond Raman Spectroscopy
- 2D IR Spectroscopy (using a pulse shaper)
- Nanosecond Time-resolved Resonance Raman & Electronic Absorption Spectroscopy
- Raman Shifter
- Steady State UV-vis, Fluorescence, IR and Raman spectroscopy

- DFT Calculations & Molecular Dynamics and Simulations
- Dynamic Light Scattering
- Liposome Extrusion

## Research Funding

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- Grant:** Newton International Fellowship Alumni Follow-on Grant (Travel and Research Grant)  
**Sponsor:** The Royal Society, London, United Kingdom  
**Research Title:** *Ultrafast Studies of Solvation Dynamics and its Influence on Model Biomolecular/Molecular Systems*  
**Amount:** £5,000  
**Period:** Jul 1 2020 to Jun 30 2022
- Grant:** Newton International Fellowship (Co-Applicant: Professor Andrew J Orr-Ewing)  
**Sponsor:** The Royal Society, London, United Kingdom and Science and Engineering Research Board, India  
**Research Title:** *Ultrafast Studies of Biophysical Dynamics on Models of Molecular/Bio-molecular Systems*  
**Amount:** £99,000  
**Period:** Feb 1 2017 to Jan 31 2019

## Publications

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**ORCID No:** [orcid.org/0000-0003-0636-5310](https://orcid.org/0000-0003-0636-5310) | **Researcher ID:** A-1232-2017 | **Publons:** Citations – 78; h-index – 6

**Publication summary:** 10 published articles, 8 as the first author, 1 as the corresponding author, 2 book chapters | \*: Corresponding Author

### Peer-reviewed Journal Publications

- 11.) M. Kao, Ravi Kumar Venkatraman, M. Sneha, M. N. R. Ashfold and A. J. Orr-Ewing, "Solvent Effects on the Photophysics and Photochemistry of Dimethylamino Hydroxybenzoyl Hexyl Benzoate, Submitted to *J. Phys. Chem. A*, **125**, 636-645, 2021 ([DOI: 10.1021/acs.jpca.0c10313](https://doi.org/10.1021/acs.jpca.0c10313))
- 10.) Ravi Kumar Venkatraman and Carlos R. Baiz\*: Ultrafast dynamics at the lipid-water interface: DMSO modulates H-bond lifetimes, *Langmuir*, **36**, 6502-6511, 2020 ([DOI: 10.1021/acs.langmuir.0c00870](https://doi.org/10.1021/acs.langmuir.0c00870))
- 9.) Min-Hsien Kao, Ravi Kumar Venkatraman, Michael N.R. Ashfold and Andrew J. Orr-Ewing\*: Effects of Ring Strain on the Ultrafast Photochemistry of Cyclic Ketones, *Chem. Sci.*, Edge Article, **11**, 1991-2000, 2020 ([DOI: 10.139/C9SC05208A](https://doi.org/10.139/C9SC05208A))
- 8.) Venkatraman Ravi Kumar\* and A. J. Orr-Ewing\*: Photochemistry of Benzophenone in Solution: A Tale of Two Different Solvent Environments, *J. Am. Chem. Soc.*, **141**, 15222-15229, 2019 ([DOI: 10.1021/jacs.9b074047](https://doi.org/10.1021/jacs.9b074047))
- 7.) Ravi Kumar Venkatraman, S. Kayal, A. Barak, A. J. Orr-Ewing\* and S. Umaphathy\*: Intermolecular Hydrogen Bonding Controlled Intersystem Crossing Rates of Benzophenone, *J. Phys. Chem. Lett.*, **9**, 1642-1648, 2018 ([DOI: 10.1021/acs.jpcllett.8b00345](https://doi.org/10.1021/acs.jpcllett.8b00345))

- 6.) K. Roy, S. Kayal, Venkatraman Ravi Kumar, A. Beeby, F. Ariese and S. Umapathy\*: Understanding Ultrafast Dynamics of Conformation Specific Photo-Excitation: A Femtosecond Transient Absorption and Ultrafast Raman Loss Study, *J. Phys. Chem. A*, **121**, 6538-6546, 2017 ([DOI: 10.1021/acs.jpca.7b03893](https://doi.org/10.1021/acs.jpca.7b03893))
- 5.) Venkatraman Ravi Kumar and S. Umapathy\*: Solvent Effects on the Structure of the Triplet Excited State of Xanthone: A Time-Resolved Resonance Raman Study, *J. Raman Spectrosc.*, **47**, 1220-1230, 2016 ([DOI: 10.1002/jrs.4954](https://doi.org/10.1002/jrs.4954))
- 4.) Venkatraman Ravi Kumar, F. Ariese and S. Umapathy\*: Triplet Excited Electronic State Switching Induced by Hydrogen bonding: A transient absorption spectroscopy and time-dependent DFT, *J. Chem. Phys.*, **144**, 114301, 2016 ([DOI: 10.1063/1.4943514](https://doi.org/10.1063/1.4943514))
- 3.) Venkatraman Ravi Kumar, C. Verma\* and S. Umapathy\*: Molecular Dynamics and Simulation Study on the Electronic and Vibrational Solvatochromism of Benzophenone, *J. Chem. Phys.*, **144**, 064302, 2016 ([DOI: 10.1063/1.4941058](https://doi.org/10.1063/1.4941058))
- 2.) Ravi Kumar Venkatraman, N. Rajkumar, F. Ariese and S. Umapathy\*: Direct Observation of Thermal Equilibrium of Excited Triplet States of 9,10-Phenanthrenequinone. A Time-Resolved Resonance Raman Study, *J. Phys. Chem. A*, **119**, 10147-10157, 2015 ([DOI: 10.1021/acs.jpca.5b07972](https://doi.org/10.1021/acs.jpca.5b07972))
- 1.) Venkatraman Ravi Kumar, N. Rajkumar and S. Umapathy\*: Solvatochromism of 9,10-phenanthrenequinone: An electronic and resonance Raman spectroscopic study, *J. Chem. Phys.*, **142**, 024305, 2015 ([DOI: 10.1063/1.4905126](https://doi.org/10.1063/1.4905126))

### **Manuscripts to be Submitted/In Preparation**

- 3.) Ravi Kumar Venkatraman, "Introduction to Two-dimensional Infrared Spectroscopy and its application to Membrane Biology", Invited Review Article in the Journal of Membrane Biology (In Preparation)
- 2.) Ravi Kumar Venkatraman, S Umapathy and A. J. Orr-Ewing "Intermolecular Hydrogen Bonding in the Ground and the Excited Electronic States and Its Influence on the Photophysics and Photochemistry of Aromatic Carbonyls", Feature Article (In Preparation)
- 1.) Ravi Kumar Venkatraman, G. Greetham, P. M. Donaldson, M. Towrie, and Andrew J. Orr-Ewing, "Hydrogen Bond Exchange Dynamics of Benzophenone and 4-Cyano-Phenol (4CNP) Complex: A 2D IR Study" (In Preparation)

### **Book Chapters**

- 2.) F. Ariese, K. Roy, Venkatraman Ravi Kumar *et al.*, Invited Article "Time-Resolved Spectroscopy and Instrumentation" in the "*Encyclopedia of Analytical Chemistry*", Edited by R. A. Meyers, pp. 1-55; 2016, John Wiley and Sons ([DOI: 10.1002/9780470027318.a9555](https://doi.org/10.1002/9780470027318.a9555))
- 1.) S. Umapathy, K. Roy, S. Kayal, N. Rai and Ravi Kumar Venkatraman, Chapter: Structure and Dynamics from Time-resolved Absorption and Raman Spectroscopy in "*The Future of Dynamic Structural Science*" Edited by J. A. K. Howard, H. A. Sparkes, P. R. Raithby, A. V. Churakov, pp. 25-42, 2014; NATO Science for Peace and Security Series A: Chemistry and Biology Book Series, Springer ([ISBN: 978-94-017-8550-1](https://doi.org/10.1007/978-94-017-8550-1))

### **Conference Discussions and Proceedings**

- 5.) Ravi Kumar Venkatraman, Carlos R. Baiz, **Cryoprotectants Disrupt Hydrogen-Bond Networks at the Lipid-Water Interface**, *Biophys. J.*, **118**, 80a, 2020. DOI:[10.1016/j.bpj.2019.11.609](https://doi.org/10.1016/j.bpj.2019.11.609)
- 4.) Ravi Kumar Venkatraman, **Solvent Effects on Photochemistry and Photophysics of Aromatic Carbonyls: A Laser Raman and Computational Study**, *Kiran (A Bulletin of the Indian Laser Association)*, Accepted, Special Issue of National Laser Symposium – 26 Best Poster/Thesis Award Winners Contribution, 2018.
- 3.) Daisuke Koyama, Ravi Kumar Venkatraman, Harvey J. A. Dale, Andrew J. Orr-Ewing, **Ultrafast Transient Absorption Spectroscopy of Photochemical Dynamics in Solution**, 2018. DOI:[10.15278/isms.2018.RA02](https://doi.org/10.15278/isms.2018.RA02)
- 2.) Amitabha Chattopadhyay.... Ravi Kumar Venkatraman, *et al.*, **Light Induced Charge and Energy Transport in Nucleic Acids and Proteins: General discussion**, *Faraday Discussions*, **207**, 153-180, 2018. DOI:[10.1039/C8FD90004C](https://doi.org/10.1039/C8FD90004C)
- 1.) K. Dhoke, M. Zanni... Ravi Kumar Venkatraman, *et al.*, **Dynamics of Chemical Bond: General Discussion**, *Faraday Discussions*, **177**, 121-154, 2015. DOI:[10.1039/C5FD90016F](https://doi.org/10.1039/C5FD90016F)

### **Contributed Conference Presentation**

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#### **Postdoctoral Research**

- 23.) Ravi Kumar Venkatraman and Carlos R. Baiz\*, “DMSO induced dehydration at the Lipid-Water Interface” (**Poster Presentation**), *8th International Conference on Perspectives in Vibrational Spectroscopy*, Feb 24 - 28, 2020, JNCASR, Bengaluru, **India**.
- 22.) Ravi Kumar Venkatraman and Carlos R. Baiz\*, “DMSO induced dehydration at the Lipid-Water Interface”, *International Symposium on Cell Surface Macromolecules*, Feb 17-21, 2020, IISER Pune, **India**.
- 21.) Ravi Kumar Venkatraman and Carlos R. Baiz\*, “Cryoprotectants Disrupt Hydrogen-Bond Networks at the Lipid-Water Interface” (**Poster Presentation**), *64<sup>th</sup> Annual Meeting of the Biophysical Society*, Feb 15-19, 2020, San Diego, California, **United States**.
- 20.) Ravi Kumar Venkatraman and Andrew J. Orr-Ewing\*, “Novel Insights into the Photophysics and Photochemistry of Benzophenone” (**Oral Presentation**), *7th International Conference on Perspectives in Vibrational Spectroscopy*, Nov 25 - 29, 2018, Bhabha Atomic Research Center, Mumbai, **India**.
- 19.) Ravi Kumar Venkatraman and Andrew J. Orr-Ewing\*, “Photophysics and Photochemistry of Dimethylamino Hydroxybenzoyl Hexyl Benzoate (DHHB): Is it an Ideal Sunscreen?” (**Poster Presentation**), *Royal Society of Chemistry Photophysics and Photochemistry Group’s Early Career Meeting 2018*, Sep 20 - 21, 2018, University of Swansea, **United Kingdom**.
- 18.) Ravi Kumar Venkatraman and Andrew J. Orr-Ewing\*, “DNA Photosensitization by Benzophenone: A Tale of Two Different Solvent Environments” (**Oral Presentation**), *5<sup>th</sup> Royal Society of Chemistry Early Career Symposium*, Aug 30 - 31, 2018, Liverpool, **United Kingdom**.

- 17.) Ravi Kumar Venkatraman and Andrew J. Orr-Ewing\*, “Resolving the Hydrogen Bond Making and Breaking Processes in Hydrogen-bonded Systems” (**Flash Oral and Poster Presentations**), *Gordon Research Conference, Vibrational Spectroscopy*, Jul 29 - Aug 3, 2018, University of New England, Maine, **United States of America**.
- 16.) Ravi Kumar Venkatraman and Andrew J. Orr-Ewing\*, “DNA Photosensitization by Benzophenone: A Tale of Two Different Solvent Environments” (**Poster Presentation**), *Gordon Research Seminar, Vibrational Spectroscopy*, Jul 28 - 29, 2018, University of New England, Maine, **United States of America**.
- 15.) Ravi Kumar Venkatraman and Andrew J. Orr-Ewing\*, “DNA Photosensitization by Benzophenone: A Tale of Two Different Solvent Environments” (**Flash Oral and Poster Presentations**), *Faraday Discussions: Photoinduced Processes in Nucleic Acids and Proteins*, Jan 11 - 13, 2018, Indian Institute of Science Education and Research, Trivandrum, **India**.
- 14.) Ravi Kumar Venkatraman and Andrew J. Orr-Ewing\*, “Selective Photochemistry by Tuning Excitation Wavelength: A Time-resolved Study” (**Poster Presentation**), *Trombay Symposium on Radiation and Photochemistry*, Jan 3 - 7, 2018, Bhabha Atomic Research Center, Mumbai, **India**.
- 13.) Ravi Kumar Venkatraman, “Solvent Effects on Photophysics and Photochemistry of Aromatic Carbonyls: A Raman and Computational Study” (**Thesis Presentation – Oral**), *National Laser Symposium – 26*, Dec 19 - 23, 2017, Bhabha Atomic Research Center, Mumbai, **India**.
- 12.) Ravi Kumar Venkatraman, Surajit Kayal, Siva Umaphathy\* and Andrew J. Orr-Ewing\*, “Intermolecular Hydrogen Bonding Controlled Intersystem Crossing Rate of Benzophenone” (**Oral Presentation**), *Royal Society of Chemistry Photochemistry Group Meeting*, Sep 14 - 15, 2017, University of Birmingham, **United Kingdom**.
- 11.) Ravi Kumar Venkatraman, Surajit Kayal, Siva Umaphathy\* and Andrew J. Orr-Ewing\*, “Intermolecular Hydrogen Bonding Controlled Intersystem Crossing Rate of Benzophenone” (**Oral Presentation**), *Southern Universities Spectroscopy and Dynamics Group Meeting*, Sep 7 - 8, 2017, University of Bristol, **United Kingdom**.
- 10.) Ravi Kumar Venkatraman, Surajit Kayal, Siva Umaphathy\* and Andrew J. Orr-Ewing\*, “Intermolecular Hydrogen Bonding Controlled Intersystem Crossing Rate of Benzophenone” (**Poster Presentation**), *Time Resolved Vibrational Spectroscopy Conference*, Jul 16 - 21, 2017, University of Cambridge, **United Kingdom**.
- 9.) Ravi Kumar Venkatraman, Surajit Kayal, Siva Umaphathy\* and Andrew J. Orr-Ewing\*, “Intermolecular Hydrogen Bonding Controlled Intersystem Crossing Rate of Benzophenone” (**Poster Presentation**), *Royal Society Chemistry Faraday Joint Interest Group Conference*, Jan 11 - 13, 2017, University of Warwick, **United Kingdom**.
- 8.) Ravi Kumar Venkatraman, Surajit Kayal and Siva Umaphathy\*, “Intermolecular Hydrogen Bonding in the Ground and Excited Electronic States: Steady-state and Time-resolved Absorption, Resonance Raman Studies” (**Oral Presentation**), *6<sup>th</sup> International Conference on Perspectives in Vibrational Spectroscopy*, Nov 5 - 8, 2016, University of Lucknow, **India**.

- 7.) Ravi Kumar Venkatraman and Siva Umopathy\*, "Intermolecular Hydrogen Bonding in the Ground and the Excited Electronic States: Steady-state and Time-resolved Absorption, Resonance Raman Studies" (**Poster Presentation**), *Faraday Discussion: Temporally and Spatially Resolved Molecular Science*, Jan 12 - 14, 2015, Indian Institute of Science, Bangalore, **India**.
- 6.) Ravi Kumar Venkatraman, N. Rajkumar and Siva Umopathy\*, "Resonance Raman, Time-resolved Resonance Raman Spectroscopic and Computational Studies of Singlet and Triplet Manifolds of 9,10-Phenanthrenequinone" (**Poster Presentation**), *National Laser Symposium – 22*, Jan 8 - 11, 2014, Manipal Institute of Technology, Manipal, **India**.
- 5.) Ravi Kumar Venkatraman, N. Rajkumar and Siva Umopathy\*, "Direct Observation of Thermal Equilibrium Between the Triplet States of 9,10-Phenanthrenequinone using TRRRs" (**Poster Presentation**), *4<sup>th</sup> Asian Spectroscopy Conference*, Dec 15 - 18, 2013, Nanyang Technological University, **Singapore**.
- 4.) Ravi Kumar Venkatraman, Chandra Verma\* and Siva Umopathy\*, "Solute-Solvent Interaction Probed by Molecular Dynamics Simulation and ab-initio Quantum Mechanical Calculations" (**Poster Presentation**), *23rd International Conference on Raman Spectroscopy*, Aug 12 - 17, 2012, Indian Institute of Science, Bangalore, **India**.
- 3.) Ravi Kumar Venkatraman, N Rajkumar and Siva Umopathy\*, "Time-resolved Resonance Raman Spectroscopic and Computational Study on the Photochemistry of 9, 10-Phenanthrenequinone" (**Poster Presentation**), *23rd International Conference on Raman Spectroscopy*, Aug 12 - 17, 2012, Indian Institute of Science, Bangalore, **India**.
- 2.) Ravi Kumar Venkatraman, "Hydrogen Fuel Cell", (**Literature Survey-Oral Presentation**), *National Conference on Non-Conventional Energy Sources*, Mar 11 - 13, 2009, Guru Nanak College, Chennai, **India**.
- 1.) Ravi Kumar Venkatraman, "Photovoltaic Cells", (**Literature Survey-Poster Presentation**), *National Conference on Non-Conventional Energy Sources*, Mar 11 - 13, 2009, Guru Nanak College, Chennai, **India**.

## Awards and Honors

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### Newton International Fellowship Alumni Follow-on Grant

**Research Title:** *Ultrafast Studies of Solvation Dynamics and its Influence on Model Biomolecular/ Molecular Systems*

**Sponsors:** The Royal Society, London, UK (Jul 2020 to Jun 2022)

**Grant Amount:** £5,000

### Recognized Reviewer Award (40 reviews since 2016)

Spectrochimica Acta A: Molecular and Biomolecular Spectroscopy, Elsevier (Feb 2020)

### Best Oral Presentation Award

7<sup>th</sup> International Conference on Perspectives in Vibrational Spectroscopy, Mumbai, India (Nov 2018)

**Sponsor:** Spectrochimica Acta A, Elsevier

**Prize Award:** \$300

**Travel Bursary Award**

Faraday Discussions: Photoinduced Processes in Nucleic Acids and Proteins,  
Trivandrum, India (Jan 2018)

**Sponsor:** The Royal Society of Chemistry

**Amount:** £980

**Best Thesis Award**

**Thesis title:** Solvent Effects on Photophysics and Photochemistry of Aromatic  
Carbonyls: A Raman and Computational Study  
National Laser Symposium-26, Bhabha Atomic Research Centre, India (Dec 2017)

**Prize Award:** Rs5000

**Travel Bursary Award**

RSC Photochemistry Group Meeting, Birmingham, UK (Sep 2017)

**Sponsor:** The Royal Society of Chemistry Photochemistry Group

**Amount:** £50

**Certificate of Completion**

ACS Reviewer Lab, American Chemical Society (Sep 2017)

**Outstanding Reviewer Award**

Spectrochimica Acta A: Molecular and Biomolecular Spectroscopy, Elsevier (Feb 2017)

**Newton International Fellowship**

**Research Title:** *Ultrafast Studies of Biophysical Dynamics on Models of Bio-molecular  
Systems*

**Sponsors:** Science and Engineering Research Board, India and The Royal Society,  
London, UK (Feb 2017 to Jan 2019)

**Grant Amount:** £99,000

**Best Oral Presentation Award**

6<sup>th</sup> International Conference on Perspectives in Vibrational Spectroscopy, Lucknow,  
India (Nov 2016)

**Recognized Reviewer Award**

Spectrochimica Acta A: Molecular and Biomolecular Spectroscopy, Elsevier (Dec 2016)

**Senior Research Fellowship**

Council of Scientific and Industrial Research, Government of India (2012-2015)

**Junior Research Fellowship**

Council of Scientific and Industrial Research, Government of India (2010-2012)

**Junior Research Fellowship**

Indira Gandhi Center for Atomic Research, Government of India (2009)

**Third Prize in Oral Presentation**

National Conference on Non-Conventional Energy Sources, Guru Nanak College,  
Chennai, India (2009)

**Second Prize in Poster Presentation**

National Conference on Non-Conventional Energy Sources, Guru Nanak College,  
Chennai, India (2009)

**Won Several Prizes in Intercollegiate Chemistry Quizzes**

1. Third Prize, Quanta '06, Ethiraj College, Chennai (2006)
2. Third Prize, Effervez, Women's Christian College, Chennai (2007)



3. Second Prize, VEL'S College, Chennai (2007)
4. Second Prize, Meenakshi College for Women, Chennai (2007)
5. First Prize, Sri Ramachandra University, Chennai (2008)
6. Third Prize, Loyola Chemical Society, Loyola College (2008)

**Proficiency Prize (Chemistry) in B. Sc. and M. Sc.**

Guru Nanak College, Chennai, India (2004-2009)

**Merit Scholarship in B. Sc.**

Rajasthani Association, Chennai, India (2004-2007)

**School Topper Prize in Higher Secondary School Leaving Certificate**

Tamil Nadu Parent Teacher Association, Tamil Nadu, India (2004)

**First Prize in Science Exhibition (School Level)**

Government Higher Secondary School, Tamil Nadu (2002)

**First Prize in Science Exhibition (District Level)**

Jawahar Nehru Science Exhibition, Chengalpattu District, Tamil Nadu, India (2002)

**A distinction in Holy Faith Talent Search Examination**

Holy Faith International, New Delhi, India (1997)

**Professional Affiliation and Services**

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**Journal Reviewer ([publons.com/a/1187751/](https://publons.com/a/1187751/)):**

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy

RSC Advances, Journal of Molecular Liquids, Current Science

The Journal of Physical Chemistry A

**Memberships:**

Member of the Royal Society of Chemistry (2018 – till date)

Member of the American Chemical Society (2019 – till date)

Indian Laser Association (Lifetime Member)

**Invited Institute Talks**

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**Jan 19, 2019**

**“Photophysics and Photochemistry of Benzophenone: A Tale of Two Different Solvent Environments”**

School of Chemistry, University of Hyderabad, Hyderabad 500 046, Telangana, India

**Jan 4, 2019**

**“Photophysics and Photochemistry of Benzophenone: A Tale of Two Different Solvent Environments”**

Department of Chemistry, BITS-Pilani Hyderabad Campus, Secunderabad 500 078, Telangana, India

## Science Outreach

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**Dec 19, 2018**

Invited Talk (Retired Professors of the Department of Chemistry Endowment Lectures) at Guru Nanak College (Autonomous) Affiliated to the University of Madras, Velachery, Chennai 600 042, India

**“Photophysics and Photochemistry of Benzophenone: A Tale of Two Different Solvent Environments”** and **“Research Career in Science: Prospects”**

**Jun 27, 2016**

Delivered an Introductory Lecture on **“Laser and its Application”** and **“Research Career in Science”** to the Summer Training in Chemistry 2016 fellows (for 1st year MSc Students) at Indira Gandhi Center for Atomic Research, Kalpakkam, India

## Workshops Attended

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### Soft Skills

Nov 7 – 9, 2018      **Leadership Effectiveness**  
The Royal Society and Imperial College Business School, London, United Kingdom

July 18 – 19, 2018      **Science in Context: Universities, the economy and policy**  
The Royal Society and Imperial College Business School, London, United Kingdom

Jan 31, 2018      **Introduction to Public Engagement**  
The Royal Society, London, United Kingdom

May 3, 2017      **Writing About Your Research**  
The Royal Society, London, United Kingdom

Mar 29 - 30, 2017      **Understanding Grant Processes Training**  
The Royal Society, London, United Kingdom

### Technical Skills

Jan 2 - 6, 2012      **Introduction to Gaussian: Theory and Practice**  
Central Leather Research Institute and Indian Institute of Madras, India

## Software and Programming Skills

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- MATLAB
- LabVIEW
- UNIX
- Python

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## Language Skills

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Proficient in English, Hindi, and Tamil

## Managerial Activities

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### Local Organizing Committee Member

Jan 12 – 14, 2015

**Faraday Discussions: Temporally and Spatially Resolved  
Molecular Science**

Indian Institute of Science, Bangalore, India

### Local Organizing Committee Member

Jan 12 – 17, 2012

**23rd International Conference on Raman Spectroscopy**

Indian Institute of Science, Bangalore, India

### Lab Managerial Activities

PhD, 2009 – 2017

Organized group meetings, work presentations, group outings and other lab managerial activities

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## References

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### 1.) Professor Siva Umopathy FRSC, J. C. Bose Fellow

Director

&

Professor

School of Chemistry

Indian Institute of Science Education and Research

Bhopal **462 006** Madhya Pradesh

&

Professor

Department of Inorganic and Physical Chemistry & Instrumentation and Applied Physics

Indian Institute of Science

Bangalore **560 012** Karnataka INDIA

**E-mail:** [director@iiserb.ac.in](mailto:director@iiserb.ac.in), [siva.umopathy@gmail.com](mailto:siva.umopathy@gmail.com)

**Mobile:** +91(0) 755 269 2316

### 2.) Professor Andrew J Orr-Ewing FRS, FRSC

School of Chemistry

University of Bristol

Cantock's Close, Bristol **BS8 1TS**

UNITED KINGDOM

**Email:** [a.orr-ewing@bristol.ac.uk](mailto:a.orr-ewing@bristol.ac.uk)

**Tel:** +44(0)117 928 7672 (office)

### 3.) Professor Chandra Verma

Head of Division

Biomolecular Modeling and Design Division

Bioinformatics Institute (A\*STAR)

30 Biopolis street, # 07-01 Matrix, Singapore 138671

SINGAPORE

**Email:** [chandra@bii.a-star.edu.sg](mailto:chandra@bii.a-star.edu.sg)

**Tel:** +65 6478 8273 (office)

**4.) Professor Freek Ariese**

Associate Professor  
Biophotonics and Medical Imaging  
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