

Curriculum Vitae

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Dr. D. Sureshkumar

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Assistant Professor
Ramanujan Fellow (DST, New Delhi)
Department of Chemical Sciences
Indian Institute of Science Education and Research Kolkata
Mohanpur 74146, Nadia, West Bengal, India

PROFESSIONAL EXPERIENCE

- Feb 2015-till date Assistant Professor (**Ramanujan Fellow**), Department of Chemical Sciences, IISER Kolkata, Mohanpur, Nadia, West Bengal, India.
- Oct 2013-Feb 2015 **JSPS Fellow (Pathway to University Positions in Japan)**. *Prof. Masakatsu Shibasaki*, Institute of Microbial Chemistry, Shinagawa-ku, Tokyo, Japan.
- April-Sept 2013 **IMC Senior Postdoctoral Fellow**. *Prof. Masakatsu Shibasaki*, Institute of Microbial Chemistry, Shinagawa-ku, Tokyo, Japan.
- April 2011-March 2013 **JSPS Postdoctoral Fellow**. *Prof. Masakatsu Shibasaki*, Institute of Microbial Chemistry, Shinagawa-ku, Tokyo, Japan.
- Oct 2010-March 2011 **IMC Postdoctoral Fellow**. *Prof. Masakatsu Shibasaki*, Institute of Microbial Chemistry, Shinagawa-ku, Tokyo, Japan.
- April 2010-Sept 2010 **Max-Planck Postdoctoral Fellow**. *Prof. Wilhelm Boland*, Department of Bioorganic Chemistry, Max-Planck-Institute for Chemical Ecology, Jena, Germany.
- April 2008-March 2010 **AvH Fellow (Alexander von Humboldt)**. *Dr. Martin Klussmann* and *Prof. Benjamin List*, Max-Planck-Institute for Köhlenforschung, Mülheim an der Ruhr, Germany.
- Sept 2007-March 2008 **Max-Planck Postdoctoral Fellow**. *Dr. Martin Klussmann* and *Prof. Benjamin List*, Max-Planck-Institute for Köhlenforschung, Mülheim an der Ruhr, Germany.

EDUCATION

- 2000-2007 **Ph. D. Synthetic Organic Chemistry**. *Prof. S. Chandrasekaran*, Department of Organic Chemistry, Indian Institute of Science, Bangalore, Karnataka, India. Thesis Title: "**Chemistry of Tetrathiomolybdate and Tetraselenotungstate: Studies on Aziridine and Epoxide Ring Opening Reactions**".
- 1998-2000 **M. Sc Organic Chemistry**, Department of Organic Chemistry, University of Madras, Guindy Campus, Chennai 600025, Tamil Nadu, India.
- 1994-1997 **B. Sc Chemistry**, University of Madras, Tamil Nadu, India.

RESEARCH PUBLICATIONS

2015

24. Tandem Aziridine Ring Opening-Disulfide Formation-Reduction-Michael Addition in One-pot Mediated by Tetrathiomolybdate. **Sureshkumar, D.**; Gunasundari, T.; Chandrasekaran, S. *Tetrahedron* **2015**, *71*, 7267-7281. *Invited article. Special Issue of Tetrahedron: Memorial for Professor Katritzky*

2014

23. Direct Catalytic Addition of Alkylnitrides to Aldehydes by Transition Metal/NHC Complexes. **Sureshkumar, D.**; Ganesh, V.; Kumagai, N.; Shibasaki, M. *Chem. Eur. J.* **2014**, *10*, 15723-15726. *Appeared in cover page. Selected as a "Hot Paper"*.

2013

22. A Modified Preparation Procedure for Carbon Nanotube-Confined Nd/Na Heterobimetallic Catalyst for *anti*-Selective Catalytic Asymmetric Nitroaldol Reactions. **Sureshkumar, D.**; Hashimoto, K.; Kumagai, N.; Shibasaki, M. *J. Org. Chem.* **2013**, *78*, 11494-11500.

2012

21. Tetraethylammonium Tetraselentungstate: A Versatile Selenium Transfer Reagent in Organic Synthesis. **Sureshkumar, D.**; Gopinath, P.; Chandrasekaran, S. *CHIMIA International Journal for Chemistry* **2012**, *66*, 921-929. *Invited Review*.
20. Bromonium Catalyzed Tandem Ring Opening/Cyclization of Vinylcyclopropanes and Vinylcyclobutanes: Metal-free [3+2+1]/ [4+2+1] Cascade for the Synthesis of Chiral Amidines and Computational Investigation. Ganesh, V.;[†] **Sureshkumar, D.**;[†] Chandrasekaran, S. *Chem. Eur. J.* **2012**, *18*, 12498-12511. ([†] equal contribution)
19. Direct Catalytic Enantio- and Diastereoselective *anti*-Aldol Reaction of Thiolactams. **Sureshkumar, D.**; Kawato, Y.; Iwata, M.; Kumagai, N.; Shibasaki, M. *Org. Lett.* **2012**, *14*, 3108-3111. **Highlights: Synfacts** **2012**, *8*, 982.

2011

18. Mechanistic Studies on a Cu-Catalyzed Aerobic Oxidative Coupling Reaction with Amines: Structure of Intermediates and the Role of Methanol as a Solvent. Böß, E.; **Sureshkumar, D.**; Sud, A.; Wirtz, C.; Farès, C.; Klussmann, M. *J. Am. Chem. Soc.* **2011**, *133*, 8106-8109.
17. Tandem Ring Opening Cyclization of Vinylcyclopropanes: A Facile Synthesis of Chiral Bicyclic Amidines. Ganesh, V.;[†] **Sureshkumar, D.**;[†] Chandrasekaran, S. *Angew. Chem. Int. Ed.* **2011**, *50*, 5878-5881. ([†] equal contribution)
16. Direct Catalytic Enantio- and Diastereoselective Aldol Reaction of Thioamides. Iwata, M.; Yazaki, R.; Chen, I-H.; **Sureshkumar, D.**; Kumagai, N.; Shibasaki, M. *J. Am. Chem. Soc.* **2011**, 5554-5556. **Highlights: Synfacts** **2011**, *6*, 649.
15. Catalytic Oxidative Coupling Reactions for the Formation of C–C Bonds *via* Non-organometallic Mechanisms. Klussmann, M.; **Sureshkumar, D.** *Synthesis* **2011**, 353-369. *Invited Review*.

2010

14. Tetrathiomolybdate Mediated Rearrangement of Aziridinemethanol Tosylates: A New Thia-aza-Payne Rearrangement. **Sureshkumar, D.**; Koutha, S.; Chandrasekaran, S. *J. Org. Chem.* **2010**, *75*, 5533-5541.
13. Autoxidative Carbon-Carbon Bond Formation from Carbon-Hydrogen Bonds. Pinter, A.; Sud, A.; **Sureshkumar, D.**; Klussmann, M. *Angew. Chem. Int. Ed.* **2010**, *49*, 5004-5007.

2009

12. Direct Synthesis of Unsymmetrical Disulfides by Tetrathiomolybdate Mediated Aziridine Ring Opening Reactions. **Sureshkumar, D.**; Ganesh, V.; Vidyarini, R. S.; Chandrasekaran, S. *J. Org. Chem.* **2009**, *74*, 7958-7961.
11. "Thieme Chemistry Journal Awardees - Where Are They Now? Aerobic Oxidative Coupling of Tertiary Amines with Silyl Enolates and Ketene Acetals". **Sureshkumar, D.**; Sud, A.; M. Klussmann. *Synlett.* **2009**, 1558-1561.
10. Oxidative Coupling of Amines and Ketones by Combined Vanadium and Organocatalysis. Sud, A.;[†] **Sureshkumar, D.**;[†] M. Klussmann. *Chem. Commun.* **2009**, 3169-3171. **Appeared in back cover page.** ([†] equal contribution)

2007

9. A New Seleno-Aza-Payne type Rearrangement of Aziridinemethanol Tosylates Mediated by Tetraselenotungstate. **Sureshkumar, D.**; Koutha, S.; Chandrasekaran, S. *Eur. J. Org. Chem.* **2007**, 4543-4551.
8. Conformationally Locked Bridged Bicyclic Diselenides: Synthesis, Structure, Se...O Interaction and Theoretical Studies. **Sureshkumar, D.**; Ganesh, V.; Chandrasekaran, S. *J. Org. Chem.* **2007**, *72*, 5313-5319.
7. Regio and Stereospecific Synthesis of β -Sulfonamidodisulfides and β -Sulfonamidodisulfides from Aziridines using Tetrathiomolybdate as a Sulfur Transfer Reagent. **Sureshkumar, D.**; Gunasundari, T.; Ganesh, V.; Chandrasekaran, S. *J. Org. Chem.* **2007**, *72*, 2106-2117.
6. Tetraselenotungstate: An Efficient Selenating Reagent for the Synthesis of β -Amino diselenides by Aziridine Ring Opening Reactions. **Sureshkumar, D.**; Gunasundari, T.; Saravanan, V.; Chandrasekaran, S. *Tetrahedron Lett.* **2007**, *48*, 623-626.

2006

5. Regio- and Stereoselective Synthesis of Aziridino Epoxides from Cyclic Dienes. **Sureshkumar, D.**; Maity, S.; Chandrasekaran, S. *J. Org. Chem.* **2006**, *71*, 1653-1657.
4. Synthesis of Enantiopure *bis*-Aziridines, *bis*-Epoxides, and Aziridino-epoxides from D-Mannitol. **Sureshkumar, D.**; Maity, S.; Chandrasekaran, S. *Tetrahedron* **2006**, *62*, 10162-10170.

2002-2005

3. Chemistry of Tetrathiomolybdate: Aziridine Ring Opening Reactions and Facile Synthesis of Interesting Sulfur Heterocycles. **Sureshkumar, D.**; Koutha, S.; Chandrasekaran, S. *J. Am. Chem. Soc.* **2005**, *127*, 12760-12761.
2. Michael Addition of Masked Thioliates to Conjugated Systems in Aqueous Media Promoted by Ammonium Tetrathiomolybdate. Devan, N.; **Sureshkumar, D.**; Beadham, I.; Prabhu, K. R.; Chandrasekaran, S. *Indian Journal of Chemistry, Section B: Organic Chemistry Including Medicinal Chemistry* **2002**, *41B*, 2112-2115.

PATENTS

1. Procedure for the Production of Aromatic Compounds Under Formation of Carbon-Carbon Compounds or a Carbon Oxygen Bond in the Context of a Coupling Reaction. Klusmann, M.; Pinter, A.; Sud, A.; Sureshkumar, D. *Ger. Offen.* **2011**, DE **102010010706 A1** 2011.09.08.

AWARDS/FELLOWSHIPS

- **2017 - Early Career Research (ECR) Award** from Science and Engineering Research Board (SERB) Government of India.
- **Ramanujan Fellowship 2016** - Department of Science and Technology, Government of India
- **Japan Society for the Promotion of Science Fellowship (JSPS)** - Postdoctoral Fellowship for Foreign Researchers (**Pathway to University Positions in Japan**) at Institute of Microbial Chemistry, Tokyo, Japan. Oct **2013**.
- **IMC Fellowship** for senior postdoctoral research at Institute of Microbial Chemistry, Tokyo, Japan. April-Sept **2013**.
- **Japan Society for the Promotion of Science Fellowship (JSPS)** - Postdoctoral Fellowship for Foreign Researchers at Institute of Microbial Chemistry, Tokyo, Japan. April **2011**-March **2013**.
- **Max-Planck Fellowship** for postdoctoral research at Department of Bioorganic Chemistry, Max-Planck-Institute for Chemical Ecology, Jena, Germany. April 2010- Sep 2010.
- **Alexander von Humboldt (AvH) Fellowship** for postdoctoral research at Max-Planck-Institute for Köhlenforschung, Mülheim an der Ruhr, Germany. April **2008**-March **2010**.
- **Max-Planck Fellowship** for postdoctoral research at the Max-Planck-Institute for Köhlenforschung, Mülheim an der Ruhr, Germany. Sept **2007**- March **2008**.
- **Senior Research Fellowship** (SRF) by Council for Scientific and Industrial Research, India (**2002-2004**).
- **Junior Research Fellowship** (JRF) by Council for Scientific and Industrial Research (CSIR), India (**2000**). Selected among the top 20% awardees qualified in CSIR-JRF.
- Qualified in **Graduate Aptitude Test in Engineering (GATE)-2000** (**98.25** percentile, All India 33rd rank).
- Awarded **Junior Research Fellowship** (JRF) by University Grant Commission (UGC), India (**1999**).
- **Prof. S. Swaminathan Endowment Lectureship and Prize, 2000**. For an outstanding student in M. Sc Organic Chemistry.
- Summer Training in Chemistry for the Pre-final Post-graduate Students, during May-July **1999**, on "**Matrix Isolation Infrared Spectroscopy and Molecular Orbital Computations: Study of Vibrational Spectroscopy**" under **Prof. K. S. Viswanathan**, Indira Gandhi Centre for Atomic Research, Kalpakkam, 603102, Tamil Nadu, India.
- Got 1st rank in M. Sc level entrance examination in Madras University (A state wise entrance examination).
- First rank in B. Sc.

GRANTS

- Ramanujan Re-entry Fellowship **2016**, DST
- Early Career Research Award **2017**, DST-SERB

COURSES TAUGHT AT IISER KOLKATA

- **Synthesis and Characterization Laboratory** (For 2nd Year BS-MS students, Spring 2015, Spring 2018 until mid-sem)*
- **Principles of Organic Chemistry** (For 5th Year BS-MS, Integrated PhD and PhD students, Autumn 2015)*
- **Asymmetric Synthesis and Catalysis** (For BS-MS, Integrated PhD and PhD students, Autumn 2016 and 2017)

* Received **commendation letters from the Director, Senate, IISER-Kolkata** as an exceptional teacher.

INSTITUTE LEVEL ADMINISTRATIVE ASSIGNMENTS

- 2018** Coordinator for Summer Research Program **2018**
- 2016-till date** Warden of the Ishwar Chandra Vidyasagar Hall.
- 2016-till date** Faculty in Charge (**FIC**) of Institute NMR Facility
- 2016-till date** Member of **UGAC**
- 2016-till date** Faculty in Charge (**FIC**) of Institute Sports Facility
- 2016-2017** Transport Committee Convenor of Vijyoshi Camp **2016**
- 2107** Transport Committee Convenor of Chemistry Interfacing with Biology and Physics 2017 Conference
- 2016** Sports Committee Member of **IISM-2016**
- 2016** Helipad Construction Committee Member

PRESENTATIONS

11. Inter IISER and NISER Chemistry Meet (IINCM-2017), 22-24th December **2017**, NISER Bhubaneswar, India.
10. DST-SERB School on Chemical Ecology (DSCE-2017), 3-16th July **2017**, National Centre for Biological Sciences, Bangalore, India.
9. National Seminar on Emerging Trends in Chemistry on 18-20th February **2015**, School of Chemistry, Madurai Kamaraj University, India.
8. Invited Speaker, August **2014**, Indian Institute of Science Education and Research Kolkata, Mohanpur, West Bengal, India.
7. 132nd Annual Meeting of the Pharmaceutical Society of Japan on 28-30th March **2012**, Hokkaido University, Sapporo, Japan.

6. Invited Speaker, September **2010**, Indian Institute of Technology, Chennai, India.
5. Invited Speaker, September **2010**, Indian Institute of Technology, Kanpur, India.
4. Invited Speaker, September **2010**, Indian Institute of Technology, Mumbai, India.
3. 36th National Seminar on Crystallography on 22th January **2007**, Department of Crystallography and Biophysics, University of Madras, Chennai.
2. Chemical Sciences Divisions Day, 14th February **2004**, Indian Institute of Science, Bangalore, India.
1. Pfizer Endowment Symposium, 19th December **2002**, Indian Institute of Science, Bangalore, India.

CONFERENCE PAPERS/POSTERS

31. Kolleg on Energy Sustainability: A Roadmap for the Future by Humboldt Club Calcutta, 2-4th February **2018**, Vedic Village Spa Resort, Shikharpur, Rajarhat, Kolkata, India.
30. Frontiers in Organic Synthesis and Catalysis (FOSC-2018), 10-11th January **2018**, IISER Kolkata, West Bengal, India.
28. International Conference on Chemistry for Human (ICCHD-2017), 8-10th January **2018**, Heritage Institute of Technology, Kolkata, India.
27. Indo US Bilateral Workshop on Organometallic Chemistry: From Fundamentals to Applications, 7-10th December **2017**, Rhythm Lonavala, Pune, India.
26. Participation of Early Career Researchers in the Humboldt Colloquium "Germany and India – Partners in Education and Research", 23-25th November **2017**, Bengaluru, India.
25. Scientific Conference to Celebrate 70th Anniversary of India-Russia Diplomatic Relations, 26th October **2017**, IISER Kolkata, India.
24. 24th Congress and General Assembly of the International Union of Crystallography, 21-28th August **2017**, Hyderabad International Convention Centre, Hyderabad, India.
23. "Asian Meeting on Metal Oxide Assemblies 2017" (AMMOA-2017), 9-10th May **2017**, Indian Institute of Science Education and Research Kolkata, Mohanpur, West Bengal, India.
22. Smart Materials: Methods and Applications (SMMA-2017), 20-22nd April **2017**, Indian Institute of Science Education and Research Kolkata, Mohanpur, West Bengal, India.
21. National Conference on Chemistry Interfacing with Biology and Physics, 27-28th January **2017**, Indian Institute of Science Education and Research Kolkata, Mohanpur, West Bengal, India.
20. 21st International Symposium on Organic Synthesis (ICOS 21), 11-16th December **2016**, Indian Institute of Technology Bombay, Mumbai, India.
19. 19th CRSI National Symposium in Chemistry (NSC-19) and CRSI-GDCh Angewandte symposium, 14-16th July **2016**, North Bengal University (NBU), India.
18. 5th Inter-IISER Chemistry Meet 2015, 11-13th Dec **2015**, IISER Thiruvananthapuram, Kerala, India.
17. India-Bangladesh Structural Chemistry Symposium, 18-19th September **2015**, IISER Kolkata, West Bengal, India.
16. 24th Symposium on Optically Active Compounds, 10th October **2014**, Tokyo, Japan.
15. 23rd Symposium on Optically Active Compounds, 1st November **2013**, Tokyo, Japan.
14. 22nd Symposium on Optically Active Compounds, 2nd November **2012**, Tokyo, Japan.
13. AIMECS11, 8th AFMC International Medicinal Chemistry Symposium "Frontier of Medicinal Science", 29th November **2011**, Keio Plaza Hotel Tokyo, Tokyo, Japan. **Poster presentation.**

12. 21st Symposium on Optically Active Compounds, 4th November **2011**, University of Tokyo, Tokyo, Japan.
11. The UEHARA Memorial Foundation Symposium-Chembiomolecular Science: at the Frontier of Chemistry and Biology, 6-8th June **2011**, Hyatt Regency Tokyo, Japan.
10. Network Meeting of Alexander von Humboldt Foundation, 7-9th October **2009**, University of Oldenburg, Oldenburg, Germany-**Poster presentation**.
9. Second German-Indian Symposium on “Frontiers of Chemistry”, 16-19th September **2009**, University of Leipzig, Leipzig, Germany-**Poster presentation**.
8. Fourth ICIQ Summer School, 20-24th July **2009**, Institute of Chemical Research of Catalonia (ICIQ), Tarragona, Spain.
7. Hydrogen Bonding and other Molecular Interactions Symposium, 18th September **2006**, Department of Inorganic and Physical Chemistry, Indian Institute of Science, Bangalore.
6. Annual IIT Madras Chemistry Symposium and The First Mid-Year Meeting of the Chemical Research Society of India on 12th July **2006**, Department of Chemistry, IIT Madras, Chennai, India-**Poster presentation**.
5. International Symposium on “Glycans on Proteins and Lipids: Implications in Cellular Functions and Evolution”, 20-28th February **2006**, Indian Institute of Science, Bangalore, India.
4. Eighth Chemical Research Society of India (CRSI) National Symposium in Chemistry on 3rd February **2006**, Department of Chemistry, Indian Institute of Technology, Bombay, India-**Poster presentation**.
3. Indo-Russian Symposium in Organic Chemistry on Nov 7-8, **2005**, Indian Institute of Science, Bangalore.
2. International Symposium on “Organic Chemistry - Today and Tomorrow” January 4-7, **2006**, Indian Institute of Science, Bangalore, India - **Poster presentation**.
1. Ninth International Conference on the Chemistry of Selenium and Tellurium (ICCST-9) on Feb 23, **2004**, Department of Chemistry, Indian Institute of Technology, Bombay, India - **Poster presentation**.

RESEARCH INTERESTS

- Fluorination
- C–H Bond Activation
- Asymmetric Metal and Organocatalysis
- Asymmetric Halofunctionalization of Olefins
- Visible Light Photocatalysis
- Development of New Methodologies and Total Synthesis of Natural and Non-natural Products
- Drug Design and Development

PROFESSIONAL ACTIVITIES

- Member of Humboldt Club Calcutta.
- Member of Pharmaceutical Society of Japan **2011-2013**.
- Life member of Chemical Research Society of India (CRSI).