A. Research

a. Research outputs:

1. Journal papers

2. Book chapters

3. Reports and discussion papers

4. Editorials and commentaries (in academic journals)

5. Seminar proceedings

6. Conference papers (oral or poster)
b. Ongoing/Completed Projects: List of funded projects

- **2017-20**: Co-Investigator, Global innovation for sustainable rural communities, Funded by the Scottish Government, Principal -Investigator: Rachel Helliwell, James Hutton Institute, UK. (USD 206,000)
- **2017-18**: Co-Investigator, Groundwater and sanitation nexus in small towns of Bangalore: Case study of Nelamangala, Funded by Arghyam’s Groundwater- Sanitation (GW-SAN) Nexus Programme, Principal-Investigator: Durba Biswas, ATREE (USD 15,000)
- **2017-18**: Co-Investigator, BES for treating of wastewater and monitoring of effluent quality, Funded by Global Challenges Research Fund, Research Council UK, Principal-Investigator: Paolo Bombelli, University of Cambridge, UK. (USD 30,000)
- **2017-18**: Co-Investigator, Microfluidics Diagnostics for Water Quality: Applications in Decentralised Water Treatment, Funded by Global Challenges Research Fund, Research Council UK, Principal-Investigator: Helen Bridle, Herriot Watt Institute, UK (USD 30,000)
- **2015-18**: Co-Investigator, Citizen's dashboard for Bengaluru's lakes, Funded by Oracle CSR, Principal-Investigator: Veena Srinivasan, ATREE (USD 45,000)
- **2011-16**: Principal-Investigator, Rural-urban conundrum: political economy of social and environmental transformation in agrarian landscapes, Funded by Sir Dorabji Tata Trust and the Allied Trusts, Co-Investigator-Bejoy Thomas, ATREE (USD 110,000)
- **2014-16**: Co-Investigator, 2035 Vision for Sustainable Water and Wastewater Management in Bangalore, Funded by Royal Norwegian Embassy, Principal-Investigator: Veena Srinivasan ATREE (USD 110,000)

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National Convention of Environmental Engineers. Organised by The Institution of Engineers (India), 5 – 6 August 2016, Pune Local Center, India.

2012-15: Co-Investigator. Adapting to climate change in urbanizing watersheds (ACCUWa), Funded by International Development Research Centre (IDRC). Principal-Investigator: Sharachchandra Lélé (USD 500,000)

2012-15: Principal-Investigator: Water distribution network study on fate and transport of contaminant and its decontamination by Pilot-Scale Tests, Funded by Department of Science and Technology (USD 15,000)

2014: Co-Investigator. Strategy and action plan for strengthening the ecological and integrity of Dal Lake. 6 months study, Funded by United Nations Development Programme (USD, 88000).

c. Proposals: List of submitted proposals

- 2018 - ALLSTAR – Action on Local biological Sewage Treatment for Agricultural Re-use submitted to European Commission – Horizon 2020, Indian Department of Science and Technology (DST) and Indian Department of Biotechnology (DBT) (in review)
- 2018 - Rapid and low-cost water quality monitoring – a step towards sustainable water resource management, IMPRINT, submitted to the Department of Science and Technology (DST) (in review)
- 2018 - Bio- Electrochemical System (BES) as self-sustainable method of wastewater monitoring, with the University of Cambridge, submitted to The University of Chicago and Tata Trusts (unsuccessful)
- 2018- Strategic in-stream systems: A Decentralised anticipatory approach to wastewater contamination in Bangalore with The Common studio, submitted to The University of Chicago and Tata Trusts (unsuccessful)
- 2017- Strategic In-stream Systems (STRAINS): A Decentralized, Anticipatory Approach to Urban Wastewater Contamination Within India’s Emerging Cities, submitted to HCL CSR (unsuccessful)
- 2017- Decentralised ecological wastewater treatment solutions for surface water bodies in India, submitted to Natural Environment Research Council UK and Department of Science and Technology India (unsuccessful)

d. Academic conferences/symposia/workshops

- 2018 March: GCRF-Water Observatory and Solutions Hub (G-WOSH) Full application workshop, 6-9 March 2018, Stirling Highland Hotel, Stirling, United Kingdom.
- 2017 December: Rethinking Water Management in Bengaluru, Workshop supported by IDRC, Royal Norwegian Embassy and Oracle, Alliance Francaise, 19th December 2017 Bangalore, India.
2016 November: Indo-UK Scoping Workshop on Water Quality, Department of Science and Technology, UK Natural Environment Research Council (NERC), and Engineering and Physical Sciences Research Council (EPSRC), 17 – 18 November 2016, New Delhi, India. http://www.nerc.ac.uk/latest/events/list/water-workshop/
2016 November: Apartment Level Waste-Water Treatment and Reuse, In Bengaluru, Meeting Organised 5th November 2016, ATREE, Bangalore, India.

e. Invited talks/keynote addresses
2018 March: Catchment-based strategy to address water quality issues in rapidly urbanising habitations, Key Note address, E-Sail International Conference, 2018-03-01, Christ University campus, Bangalore, India.
2017 November: Catchment-based strategy to address water quality issues in rapidly urbanising habitations, Invited Talk, 2nd Information & Networking, Event: EU-India Call on Water, Bengaluru, 30 -11-2017, Bangalore, India
• **2017 July**: Surface water quality management in urbanising watersheds: Key issues Challenges and way forward, **Invited Talk**, Department of Civil Engineering, Christ College, 2017-07-08, Bangalore, India

• **2017 March**: Surface water quality management in urbanising watersheds: Key issues Challenges and way forward, **Invited Talk**, Society of Civil Engineering, 2017-03-27, NIT Hamirpur, Himachal Pradesh

• **2017 January**: Sustainable Development and Water issue- Scarcity, Pollution and Water conservation management, **Invited Talk**, Training programme on Environment Audit, Regional Training Centre (RTC), 2017-01-04, Bangalore, India

• **2016 November**: Place History: An important determinant of human health: A case study of peri urban Bangalore, **Invited Talk**, Saint John's Medical College, 2016-11-02, Bangalore, India

• **2016 September**: Water Pollution and Sustainable Waste Water Recycling in Urban Areas, **Invited Talk**, National Training Program Audit of waste and water issues, International Centre for Environment Audit & Sustainable Development (iCED), 2016-09-22, Jaipur, India

• **2016 September**: Surface water quality management in urbanising watersheds: present scenario and future directions, **Invited Talk**, School of liberal arts APU, Azim Permi University, 2016-09-26, Bangalore, India

• **2017 July**: City and its wastewater : Key issues and challenges, **Invited Talk**, National Workshop on Advocating for Scaling Safe water Solutions, Freshwater Action Network South Asia (FANSA), 2016-07-21, Himachal Pradesh, India

• **2016 April**: Diagnosing the water quality problem in the Vrishabhavathy watershed in Bangalore: A problem-driven approach, **Invited Talk**, Indo-UK Workshop on Water Quality Source Protection, Indian Institute of Science, 2016-04-30, Bangalore, India

• **2016 January**: Wastewater reuse in urbanizing watersheds: issues and challenge, **Invited Talk**, Urbanized: New Frontiers of Development, Centre for international governance innovation uptown Waterloo, The University of Waterloo, 2016-01-26, Waterloo, Canada

• **2016 May**: Surface water quality management in urbanising watersheds: Key issues, **Invited Talk**, Open Data Meet: datameet.org, 2016-05-14, Bangalore, India

• **2016, May**: Water Pollution and Sustainable Waste Water Recycling in Urban Areas, **Invited Talk**, National Training Programme on Audit of Waste Management and Water issues, The International Centre for Environment Audit and Sustainable Development (iCED), 2016-05-09, Jaipur, India

• **2016, April**: Jakkur lake water quality-key issues and challenges, **Invited Talk**, Srishti Institute of Art Design & Technology, 2016-04-04, Bangalore, India

• **2016, February**: Rethinking the framework for regulating water quality in urbanizing watersheds, **Invited Talk**, Public lecture series, The Water Institute, University of Waterloo, 2016-02-22, Waterloo, Canada


• **2015 December**: Water Pollution and Sustainable Waste Water Recycling in Urban Areas, **Invited Talk**, National Training Programme on Audit of Waste Management and Water issues,
The International Centre for Environment Audit and Sustainable Development (iCED), 2015-12-18, Jaipur, India

- **2015 November**: Water quality and health risk, *Invited Talk*, Training programme on Environment Audit, Regional Training Centre (RTC), 2015-11-18, Bangalore, India
- **2014 April**: Water and wastewater treatment technology, *Invited Talk*, Training programme on Environment Audit at Regional Training Centre (RTC), 2014-04-30, Bangalore, India

f. Major visits of faculty within the country and abroad

- **2018 August**: Invited to attend stakeholder meeting on Grassroots Field Exposure Initiative (GFES) in the Water Quality Management sector in West Bengal, Supported by the India-UK Water Centre (IUKWC), 5-8 August 2018, India
- **2018 May**: Invited to present my work on water pollution and the associated Health risk at the Annual Planetary health alliance meeting held in the University of Edinburgh, 29-31 May 2018, United Kingdom
- **2018 March**: Invited to attend the pre-proposal workshop on Global Water Observatory and Solution Hub (GWOSH), Supported by the University of Stirling, Scotland, 6-9 March 2018, United Kingdom
- **2017 October**: Invited to attend the Frontiers of Engineering for Development symposium, Supported by the Research councils UK, Oxford Union 17-20 September 2017, United Kingdom
- **2016 February**: Visiting Professor at the University of Waterloo, Waterloo, Supported by Royal Bank of Canada (RBC), 01 – 28 February 2016, Canada

B. Teaching, training and capacity building

a. Teaching: List of courses coordinated

- Fundamentals of Environmental Science (C1B), Research methods (C4) co-taught, ATREE PhD programme (Internal)
- Water and Wastewater Treatment Systems, M.E water resources course, co-taught in the Civil Engineering Department, IISc Bangalore (External)
- Occasional lectures on introduction to water and wastewater treatment, for early and mid-career professionals based in academic centers and NGOs (External)
- Environmental Auditing, iCED, Jaipur (Government of India), India (External)
- Environmental Auditing, Regional Training Centre (RTC) (Karnataka state Government), (External)

b. Mentorship: List of students


c. **List of Research Assistants (RA) and Interns**
- Anusree K Anju, RA Water quality, **NIT Suratkal**, Decentralized wastewater treatment - global innovation for sustainable rural communities, 2017-07-01, till date.
- Chandan Gowda, RA water quality, **Vidyavardhaka College of Engineering**, Efficiency evaluation of apartment scale sewage treatment plants employing different treatment technology, 2015-08-01, till date.
- Mahesh J, Intern, **Mysore University**, Exploring the presence of antibiotic-resistant bacteria in lakes receiving treated/untreated wastewater, 2018-01-01, 2018-03-05.
- Praveen Kumar, RA Water quality, **Annamalai University**, Decentralized wastewater treatment - global innovation for sustainable rural communities, 2017-07-01, 2017-07-01.
- Praveen Raje Urs, RA water quality, **Bangalore University**, Adapting to climate change in urbanizing watersheds (ACCUWa), 2014-03-01, 2017-07-01.
- Isabel S Seguin, Intern, **Massachusetts Institute of Technology**, Are Floating Wetlands a Viable Water Treatment Option for Bangalore’s Lakes?, 2017-07-01, 2017-08-09.
- Sowmya Murugan, Intern, **ISER Thiruvananthapuram**, Filtration Experiment - Assess and compare the passive performance and efficiency of various filter materials on water quality, 2017-04-01, 2018-06-01.
- Divya Nayak, RA, **Carnegie Melon University**, Adapting to climate change in urbanizing watersheds (ACCUWa), 2015-07-01, 2016-08-18.
- Mohammed Idris, RA, **Bangalore University**, Adapting to climate change in urbanizing watersheds (ACCUWa), 2014-12-22, 2016-05-09.
• Syeda Arshiya, Intern, National Institute of Engineering Mysore, Modelling Fecal coliform decay in a Water Distribution System, 2015-11-01, 2016-03-31

d. Outreach

1. Training Workshops/Summer Schools/Conferences organized:
   • 2018 November: Indo-UK workshop on monitoring and analysis strategies for anthropogenic pollutants in environmental and waste waters, Project dissemination Workshop supported by Royal Council of UK: Global Challenges Research Fund, Bangalore, 12 November, 2018 (upcoming)
   • 2017 December: Rethinking Water Management in Bengaluru, Project dissemination Workshop supported by IDRC, Royal Norwegian Embassy and Oracle, Alliance Francaise, Bangalore, 19 December, 2017
   • 2017 May: Surface water quality monitoring: Key issues, challenges and the way forward, Workshop supported by Indo-UK water Centre (IUKWC) ATREE, Bangalore, May 18, 2017
   • 2016 November: Apartment level wastewater treatment and reuse in Bengaluru, Meeting Organised 5 November, 2016, Attended by KSPCB officials, BWSSB officials, Resident associations, Expert members.
   • 2016 August: Adapting to Climate Change in Urbanising Watersheds, National dissemination Workshop supported by IDRC, TSWT and DST, New Delhi, 22-23 August, 2016
   • 2016 August: Managing surface water quality in urbanising watersheds, National Workshop supported by TSWT, IDRC and DST, Bangalore, 8 August, 2016
   • 2015 June: Water and society, Summer school, Adapting to Climate change in an urbanising watersheds, supported by IDRC, Bangalore, 15-26 June 2015, 25 fresh masters and early doctorate students.

C. General Outreach

a. Publications:

1. Popular articles or op-ed pieces published:

b. Outreach to wider audiences

1. Media appearances (TV /radio interviews/talks):
   • 2016: ATREE YouTube Channel, Wastewater: a curse or an untapped resource-Panel discussion on the World Water Day 2016. https://www.youtube.com/watch?v=w_9his6x5Jg

• **2016**: ATREE YouTube Channel, River or Sewer: The Story of Vrishabhavathy River in Bengaluru, Southern India, [https://www.youtube.com/watch?v=lhFfpsy4fyU](https://www.youtube.com/watch?v=lhFfpsy4fyU) (Maximum views on ATREE official YouTube Channel)

c. Legislation /Regulatory Input:

• Using passive sapling monitoring devices for water quality monitoring. Demonstrated the use of Chemcatchers to monitor surface water quality to the key officers of Karnataka State Pollution Control Board, 2017-05-10

• Water quality monitoring of Urban streams, Presented findings of TSWT project to the key officers of Karnataka State Pollution Control Board, 2016-04-05

• Water management in urbanising watersheds, Presented findings of ACCUWa project to the key officers of Bangalore Water Supply And Sewerage Board, 2016-04-05

• Water management in urbanising watersheds, Presented findings of TSWT project presented to the key officers of Karnataka state Pollution control board, 2015-03-31

d. Government committees served on or contributed to:

• **Bellandur Lake Committee**: Member, Urban Development Department, Karnataka

• **Karnataka State Water Policy-Task Group**: Member (Sub Group –Water Quality), Karnataka Jnaana Aayoga

• **National Water Mission**: Invited to contribute to the water quality chapter of the state specific Action plan, National Water Mission

D. Institutional Service

a. ATREE Committees: Duration and whether as Chair or Member

• Waste Management Committee, Chair, 2017-04-01, till date
• Hostel warden, 2017-04-04, till date
• Waste Management Committee, Member, 2016-03-01, 2017-04-01
• Committee Against Sexual Harassment, Chair, 2013-03-01, 2016-01-01
• Committee Against Sexual Harassment, Member, 2016-01-01, 2017-01-01
• Salary Task Force, Member, 2017-10-15

b. Institutional representation

• **Karnataka State Water Policy**: Member, (Water quality –Sub group), Karnataka Jnaana Aayoga

• **Bellandur Lake Committee**: Member, Urban Development Department, Karnataka

• **National Water Mission**: Invited to contribute to the water quality chapter of the state specific Action plan, National Water Mission
E. Professional service and achievements

a. Achievements

1. Awards
   - Researcher Exchange Grant, NERC, UK and the Ministry of Earth Sciences, India, May 2017
   - RBC Fellowship, Royal Bank of Canada, Canada, February 2016
   - Fast Track Young Scientist Award, Department of Science And Technology, India, March 2012
   - Postdoctoral Research Associate Fellowship, from Indian Institute of science, Bangalore, India, September 2008
   - Research Assistantship Fellowship, Ministry of Human Resource Development (MHRD), India March 2005
   - EGIDE Scholarship, for nine months sandwich program of Ministere Affairs Etrangeres Boursier du Gouvernement Francais as a Research Fellow in CEREVE Paris, France, December 2004

2. Press coverage


• **2016 July:** TV, English, News9, Pollution sensors to revive lakes, 2016-07-10. [https://youtu.be/V_sAdvllXec](https://youtu.be/V_sAdvllXec)


• **2016 May:** Newspaper, English, Bangalore Mirror Bureau, Heavy metals found in the only river that runs through the city, 2016-05-03. [http://epaperbeta.timesofindia.com/Article.aspx?id=31820&articlexml=Heavy-metals-found-in-the-only-river-that-03052016003022](http://epaperbeta.timesofindia.com/Article.aspx?id=31820&articlexml=Heavy-metals-found-in-the-only-river-that-03052016003022)


• **2016 March:** Newspaper, English, The Times of India, Oxygen levels in Ulsoor Lake way below limit, ammonia content high: study featured in Times of India, 2016-03-10.


**F. Other recognition**

**a. Involvement of faculty in other academic activities:**

1. **Journal reviewer / grant reviewer**
   - Water and Environment Journal, Reviewer
   - Physics and Chemistry of the Earth, Reviewer
   - Water and Environment Journal, Reviewer
   - Journal of Environmental Management, Reviewer
   - Current Science, Reviewer
   - Drinking Water and Science Journal, Reviewer

2. **Any other professional activities**
   - Invited by KSPCB along with several members from various organisation to formulate guidelines for the Bangalore Lakes watchdog committee
   - ATREE signed an MOU with Karnataka state pollution control board (KSPCB). In the MOU, ATREE seeks help from KSPCB to conduct a pollution monitoring study on urban river

**b. Academic Visitors hosted:**

- **Supratik Guha**, Professor, University of Chicago, United States of America, Partnership involving water quality monitoring of Jakkur Lake-Part of Water to Cloud Project, April 2018.
- **Paolo Bombelli**, Post-doctoral fellow, Department of Biochemistry, University of Cambridge, United Kingdom, Joint project on wastewater treatment using BES systems, April 2018.
- **Carvalho Laurence**, Professor, Centre for Ecology and Hydrology, Edinburgh, UK, Partnership involving monitoring of GHG from Lakes in and around Bangalore - Part of SUNRISE Project, **February 2018**.

- **Neil Robertson**, Professor, University of Edinburg, UK, Partnership involving assessing the effectiveness of photocatalytic beads for disinfecting drinking water-part of Global Innovation project (JHI), **February 2018**.

- **Gary Fones**, Professor, University of Portsmouth, Portsmouth UK, Joint project on Passive sampling devices for water quality monitoring, **May 2017**.

- **M. S. Mohan Kumar**, Professor, Department of Civil engineering, Indian Institute of Science Bangalore, hosted visit to attend workshop on Surface water quality monitoring: Key issues, challenges and the way forward, ATREE, **May 2017**.

- **Richard Alan**, Business Sector Lead: Environment at the James Hutton Institute, hosted visit to attend ATREE@20: Conference on Conservation Science and Sustainable Development, **January 2017**.