

PROFILE

NAME	LIJA L. RAJU		
DESIGNATION & OFFICIAL ADDRESS	Assistant Professor Department of Zoology Mar Ivanios College Nalanchira Thiruvananthapuram Kerala		
RESIDENTIAL ADDRESS	Bethel Puliyancode Ayrooppara P.O. Thiruvananthapuram Kerala		
TELEPHONE NUMBER(S)	9447782937		
EMAIL ID(S)	lijalraju@gmail.com lija.raju@mic.ac.in		
ACADEMIC QUALIFICATIONS (with name of degree awarding University)	<ul style="list-style-type: none"> • M.Sc. (KERALA UNIVERSITY) • CSIR UGC NET WITH JRF • PhD thesis submitted (University of Kerala) 		
TEACHING EXPERIENCE	LEVEL	YEARS OF SERVICE	INSTITUTION
	UG	7	Mar Ivanios College
	PG	7	Mar Ivanios College
SPECIALIZATION	Bioinformatics and Nanobiology		
PUBLICATIONS/ PARTICIPATION IN SEMINARS/ CONFERENCES ETC (Separate detailed list with titles of papers, names of conferences etc. is attached herewith)		INTERNATIONAL	NATIONAL
	NO. OF RESEARCH PAPERS IN JOURNALS	33	2
	BOOK CHAPTERS	1	
	NO. OF PUBLICATIONS IN CONFERENCE PROCEEDINGS	6	3
	NO. OF CONFERENCES, SEMINARS, WORKSHOPS PARTICIPATED	6	16
HONOURS AND AWARDS	<p>Second rank in Kerala University- M.Sc 2011 University Merit Scholarship for Post-graduate course (2009-2011)</p> <p>University Merit Scholarship for graduate course (2006-2009)</p>		

Publications

Research Paper Published in peer reviewed journals

- 1 **Lija L. Raju**, Ajith M. Thomas, Manish K., Valsa S. Peter, M. C. Subhash Peter. Impact of Restraint Stress on Mitochondrial Ion Transporter Activity in Mice Brain-Gut Regions and Gender Response to Aging. *Journal of Endocrinology and Reproduction* (Accepted for publication).
- 2 B. Janani, **Lija L. Raju**, Ajith M. Thomas, Mohammed Nasser Alyemeri, Gani Asa Dudin, Leonard Wijaya, Abdulaziz Abdullah Alsahli, Parvaiz Ahmad, S. Sudheer Khan, Impact of bovine serum albumin – A protein corona on toxicity of ZnO NPs in environmental model systems of plant, bacteria, algae and crustaceans, *Chemosphere* (2021): 128629. <https://doi.org/10.1016/j.chemosphere.2020.128629> (Impact Factor: 5.778).
- 3 Kokilavani, S., Asad Syed, **Lija L. Raju**, Sarah Al-Rashed, Ajith M. Thomas, and S. Sudheer Khan. "Synthesis of novel heterostructured FeS₂/Ag₂MoO₄ nanocomposite: Characterization, efficient antibacterial and enhanced visible light driven photocatalytic activity." *Surfaces and Interfaces* (2021): 101003. <https://doi.org/10.1016/j.surfin.2021.101003> (Impact Factor: 3.724)
- 4 Janani, B., Asad Syed, Ajith M. Thomas, Sarah Al-Rashed, **Lija L. Raju**, and S. Sudheer Khan. "A simple approach for the synthesis of bi-functional pn type ZnO@CuFe₂O₄ heterojunction nanocomposite for photocatalytic and antimicrobial application." *Physica E: Low-dimensional Systems and Nanostructures* (2021): 114664. <https://doi.org/10.1016/j.physe.2021.114664> (Impact Factor: 3.570)
- 5 Balasurya, S., Asad Syed, **Lija L. Raju**, Sarah Al-Rashed, Ajith M. Thomas, Arunava Das, and S. Sudheer Khan. "Elucidation of photocatalysis, photoluminescence and antibacterial studies of Ag₂MoO₄ decorated NiMoO₄ nano-heterostructure." *Optical Materials* 113 (2021): 110856. <https://doi.org/10.1016/j.optmat.2021.110856> (Impact factor: 2.779)
- 6 Kokilavani, S., Asad Syed, Ajith M. Thomas, Abdallah M. Elgorban, Sarah Al-Rashed, **Lija L. Raju**, and S. Sudheer Khan. "Integrating Ag₂WO₄ on VS₄ nanoplates with synergy of plasmonic photocatalysis and boosted visible-light harvesting and its antibacterial applications." *Journal of Alloys and Compounds* (2021): 158810. <https://doi.org/10.1016/j.jallcom.2021.158810> (Impact factor: 4.650)

- 7 Kokilavani, S., Fahad A. Al-Misned, Ajith M. Thomas, Hamed A. El-Serehy, **Lija L. Raju**, and S. Sudheer Khan. "Enhanced visible light driven photocatalytic and antibacterial activities of Ag₂WO₄ decorated ZnS nanocomposite." *Ceramics International* (2021). <https://doi.org/10.1016/j.ceramint.2021.01.163> (Impact factor: 3.83)
- 8 Janani, B., Asad Syed, Ajith M. Thomas, Sarah Al-Rashed, **Lija L. Raju**, and S. Sudheer Khan. "Designing spinel NiCr₂O₄ loaded Bi₂O₃ semiconductor hybrid for mitigating the charge recombination and tuned band gap for enhanced white light photocatalysis and antibacterial applications." *Journal of Alloys and Compounds*: 158735. <https://doi.org/10.1016/j.jallcom.2021.158735> (Impact factor: 4.650)
- 9 Janani, B., Amal M. Al-Mohaimed, **Lija L. Raju**, Dunia A. Al Farraj, Ajith M. Thomas, and S. Sudheer Khan. "Synthesis and characterizations of hybrid PEG-Fe₃O₄ nanoparticles for the efficient adsorptive removal of dye and antibacterial, and antibiofilm applications." *Journal of Environmental Health Science and Engineering* (2021): 1-12. <https://doi.org/10.1007/s40201-021-00612-1> (Impact factor:2.179)
- 10 Kokilavani, S., Asad Syed, Ajith M. Thomas, Abdallah M. Elgorban, Ali H. Bahkali, Najat Marraiki, **Lija L. Raju**, Arunava Das, and S. Sudheer Khan. "Development of multifunctional Cu sensitized Ag-dextran nanocomposite for selective and sensitive detection of mercury from environmental sample and evaluation of its photocatalytic and anti-microbial applications." *Journal of Molecular Liquids* (2020): 114742. <https://doi.org/10.1016/j.molliq.2020.114742> (Impact factor - 5.065).
- 11 S. Balasurya, Asad Syed, Ajith M. Thomas, Najat Marraiki, Abdallah M. Elgorban, **Lija L. Raju**, S. Sudheer Khan, Development of silver-polyvinylpyrrolidone nanocomposite for the selective and sensitive detection of sulfide from aqueous sample and its antimicrobial activity. *Materials Chemistry and Physics* 257 (2021) 123789. <https://doi.org/10.1016/j.matchemphys.2020.123789> (Impact Factor: 3.408).
- 12 R. Janani, M. Rubashree, B. Hari Kumar, Asad Syed, Ajith M. Thomas, Abdallah M. Elgorban, **Lija L. Raju**, S. Sudheer Khan, Synthesis of CTAB functionalized MnS/PVP-Ag nanocomposite for Hg²⁺ detection, photocatalysis and antibacterial application, *Optical Materials* 110 (2020) 110452. <https://doi.org/10.1016/j.optmat.2020.110452> (Impact Factor: 2.779).
- 13 B. Janani, Dunia A. Al Farraj, **Lija L. Raju**, Mohamed S. Elshikh, Noorah A. Alkubaisi, Ajith M. Thomas, Arunava Das, S. Sudheer Khan, Cytotoxicological

evaluation of copper oxide nanoparticles on green algae, bacteria and crustacean systems, *Journal of Environmental Health Science and Engineering* xxx (2020). (In Press) <https://doi.org/10.1007/s40201-020-00561-1>. (Impact Factor: 2.179)

- 14 Janani, B., Khaloud Mohammed Alarjani, **Lija L. Raju**, Ajith Mesmin Thomas, Arunava Das, and S. Sudheer Khan. "A potent multifunctional Ag/Co-polyvinylpyrrolidone nanocomposite for enhanced detection of Cr (III) from environmental samples and its photocatalytic and antibacterial applications." *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* (2020): 118766. <https://doi.org/10.1016/j.saa.2020.118766> Elsevier (Impact factor - 3.232).
- 15 Balasurya, S., Dunia A. Al Farraj, Ajith M. Thomas, Noorah A. Alkubaisi, **Lija L. Raju**, Arunava Das, and S. Sudheer Khan. "Sensitive and robust colorimetric assay for the detection of Hg²⁺ at nanomolar level from real samples by TPM functionalized Ag-Fe NCs and its photocatalytic and antimicrobial activities." *Journal of Environmental Chemical Engineering* (2020): 104305. <https://doi.org/10.1016/j.jece.2020.104305> Elsevier (Impact factor - 4.300).
- 16 Kokilavani, S., Asad Syed, Ajith M. Thomas, Abdallah M. Elgorban, **Lija L. Raju**, Arunava Das, and S. Sudheer Khan. "Facile synthesis of Ag/Cu-cellulose nanocomposite for detection, photocatalysis and anti-microbial applications." *Optik* (2020): 165218. <https://doi.org/10.1016/j.ijleo.2020.165218> Elsevier (Impact factor- 2.187).
- 17 Kokilavani, S., Asad Syed, **Lija L. Raju**, Sarah Al-Rashed, Abdallah M. Elgorban, Ajith M. Thomas, Arunava Das, and S. Sudheerkhan. "Citrate functionalized Ag NPs-polyethylene glycol nanocomposite for the sensitive and selective detection of mercury (II) ion, photocatalytic and antimicrobial applications." *Physica E: Low-dimensional Systems and Nanostructures* (2020): 114335. <https://doi.org/10.1016/j.physe.2020.114335> Elsevier (Impact factor- 3.570).
- 18 Balasurya, S., Asad Syed, Ajith M. Thomas, Ali H. Bahkali, Sarah Al-Rashed, Abdallah M. Elgorban, **Lija L. Raju**, Arunava Das, and S. Sudheer Khan. "Preparation of Ag-cellulose nanocomposite for the selective detection and quantification of mercury at nanomolar level and the evaluation of its photocatalytic performance." *International Journal of Biological Macromolecules* (2020). <https://doi.org/10.1016/j.ijbiomac.2020.07.119> Elsevier (Impact factor- 5.162).

- 19 Kokilavani, S., Asad Syed, **Lija L. Raju**, Najat Marraiki, Sarah Al-Rashed, Abdallah M. Elgorban, Ajith M. Thomas, and S. Sudheer Khan. "Highly selective and sensitive tool for the detection of Hg (II) using 3-(Trimethoxysilyl) propyl methacrylate functionalized Ag-Ce nanocomposite from real water sample." *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* (2020): 118738. <https://doi.org/10.1016/j.saa.2020.118738> Elsevier (Impact factor - 3.232).
- 20 Ajith M. Thomas, **Lija L. Raju**, Manish K. and M.C. Subhash Peter. "Regulation of Na⁺/K⁺-ATPase and Plasma Membrane Calcium ATPase in brain-gut axis during restraint stress in ageing male mice". *Journal of Endocrinology and Reproduction* (2019) <https://doi.org/10.18311/jer/2019/26218>
- 21 Janani, B., Asad Syed, Ajith M. Thomas, Najat Marraiki, Sarah Al-Rashed, Abdallah M. Elgorban, **Lija L. Raju**, Arunava Das, and S. Sudheer Khan. "Enhanced SPR signals based on methylenediphosphonic acid functionalized Ag NPs for the detection of Hg (II) in the presence of an antioxidant glutathione." *Journal of Molecular Liquids* (2020): 113281. <https://doi.org/10.1016/j.molliq.2020.113281> Elsevier (Impact factor - 5.065).
- 22 Kokilavani, S., Asad Syed, Ajith M. Thomas, Najat Marraiki, Sarah Al-Rashed, Abdallah M. Elgorban, **Lija L. Raju**, Arunava Das, and S. Sudheer Khan. "Polyethylene glycol functionalised Ag NPs based optical probe for the selective and sensitive detection of Hg (II)." *Journal of Molecular Liquids* (2020): 112978. <https://doi.org/10.1016/j.molliq.2020.112978> Elsevier (Impact factor - 5.065).
- 23 Balasurya, S., Asad Syed, Ajith M. Thomas, Najat Marraiki, Sarah Al-Rashed, Abdallah M. Elgorban, **Lija L. Raju**, Arunava Das, and S. Sudheer Khan. "Colorimetric detection of mercury ions from environmental water sample by using 3-(Trimethoxysilyl) propyl methacrylate functionalized Ag NPs-tryptophan nanoconjugate." *Journal of Photochemistry and Photobiology B: Biology* (2020): 111888. <https://doi.org/10.1016/j.jphotobiol.2020.111888> Elsevier (Impact factor - 4.383).
- 24 Janani, B., Asad Syed, **Lija L. Raju**, Najat Marraiki, Abdallah M. Elgorban, Nouf SS Zaghloul, Ajith Mesmin Thomas, Arunava Das, and S. Sudheer Khan. "Highly selective and effective environmental mercuric ion detection method based on starch modified Ag NPs in presence of glycine." *Optics Communications* (2020): 125564. <https://doi.org/10.1016/j.optcom.2020.125564> Elsevier (Impact factor - 2.125).

- 25 Janani, B., G. Gayathri, Asad Syed, **Lija L. Raju**, Najat Marraiki, Abdallah M. Elgorban, Ajith M. Thomas, and S. Sudheer Khan. "The Effect of Various Capping Agents on Surface Modifications of CdO NPs and the Investigation of Photocatalytic Performance, Antibacterial and Anti-biofilm Activities." *Journal of Inorganic and Organometallic Polymers and Materials* (2020): 1-12. <https://doi.org/10.1007/s10904-020-01440-w> Springer (Impact factor - 1.941).
- 26 Balasurya, S., Parvaiz Ahmad, Ajith Mesmin Thomas, **Lija L. Raju**, Arunava Das, and S. Sudheer Khan. "Rapid colorimetric and spectroscopy based sensing of mercury by surface functionalized silver nanoparticles in the presence of tyrosine." *Optics Communications* 464 (2020): 125512. <https://doi.org/10.1016/j.optcom.2020.125512>. Elsevier (Impact factor - 2.125).
- 27 Balasurya, S., Asad Syed, Ajith Mesmin Thomas, Ali H. Bahkali, Abdallah M. Elgorban, **Lija L. Raju**, and S. Sudheer Khan. "Highly Sensitive and Selective Colorimetric Detection of Arginine by Polyvinylpyrrolidone Functionalized Silver Nanoparticles." *Journal of Molecular Liquids* (2019): 112361. <https://doi.org/10.1016/j.molliq.2019.112361> Elsevier (Impact factor - 5.065).
- 28 Janani, B., Asad Syed, **Lija L. Raju**, Helal F. Al-Harhi, Ajith Mesmin Thomas, Arunava Das, and S. Sudheer Khan. "Synthesis of Carbon Stabilized Zinc Oxide Nanoparticles and Evaluation of Its Photocatalytic, Antibacterial and Anti-biofilm Activities". *Journal of Inorganic and Organometallic Polymers and Materials* (2019): 1-10. <https://doi.org/10.1007/s10904-019-01404-9> Springer (Impact factor-1.941).
- 29 Balasurya, S., Asad Syed, Ajith M. Thomas, Najat Marraiki, Abdallah M. Elgorban, **Lija L. Raju**, Arunava Das, and S. Sudheer Khan. "Rapid colorimetric detection of mercury using silver nanoparticles in the presence of methionine." *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* (2019): 117712. <https://doi.org/10.1016/j.saa.2019.117712> Elsevier (Impact factor - 3.232).
- 30 Janani, B., Asad Syed, Ajith Mesmin Thomas, Ali H. Bahkali, Abdallah M. Elgorban, **Lija L. Raju**, and S. Sudheer Khan. "UV-Visible Spectroscopic Method for the Sensitive and Selective Detection of Mercury by Silver Nanoparticles in Presence of Alanine." *Optik*, (2019): 164160. <https://doi.org/10.1016/j.ijleo.2019.164160>. Elsevier (Impact factor- 2.187).
- 31 Ajith M.Thomas and **Lija L.Raju**. Biosensor Technology-Crossing The Frontiers Of Microbial Analysis. *Science Chronicle – An International peer reviewed Multidisciplinary Journal* (2017) (ISSN:2319-6955). Vol-6 .No .1&2. pp. 56-67.

- 32 **Lija L. Raju** and Ajith M. Thomas Water Quality Monitoring - A Transition from Chemometric to Optical methods. *Science Chronicle – An International peer reviewed Multidisciplinary Journal* (2016) (ISSN:2319-6955). Vol-5 .No .1&2. pp. 19-24.
- 33 Minsa M., Aneesh P., Leenamma Joseph, **Lija L Raju**, Krishna A.P. and Dinesh Roy D. Biochemical and Genetic Studies on Infertile Subjects and its Risk for Cardiovascular Disease. *Indian Journal of Applied Research* (2016) (ISSN - 2249-555X). Vol-6.pp.240-243.
- 34 Josey Ann Jijo, Arun William, Aneesh P, Leenamma Joseph, **Lija L Raju**, Viji Krishnan and Dinesh Roy D. Cytogenetics and Molecular Genetics on Female Infertility with Special Emphasis on Polycystic Ovarian Syndrome *Int. J. of Adv. Res.* (2017) (ISSN 2320-5407)5 (2). pp.483-488.
- 35 **Lija L. Raju** and V.Radhakrishnan (2013) Assessment of Water Quality at Selected Sites of Kallada River Using Some Chemical and Biological Parameters. *Science Chronicle – An International peer reviewed Multidisciplinary Journal* (ISSN:2319-6955). Vol-2 . pp. 237-249.

Book Chapter

1. **Lija L. Raju** and Ajith M. Thomas. Book chapter entitled “Broad-spectrum aminoacid racemases (BSRS) - A potential target in microbial research” has been accepted for publication in the forthcoming book: “Microbial Biodiversity, Biotechnology and Ecosystem Sustainability” which will be published by Apple Academic Press, APP (<http://www.appleacademicpress.com/>), exclusive worldwide distribution by CRC Press, Taylor & Francis Group.

Conference Proceedings:

1. **Lija L. Raju** and Ajith M. Thomas. Screening of Potential Anti-Vibrio Compounds from Nature– An Insilco approach. 2nd International E-Conference on “Recent Advancement of Biomolecule Inventions in Life Sciences” (RABILS-2020).
2. Ajith M. Thomas and **Lija L. Raju**. (2020). Structure based drugability assessment of COVID19 targets. Online conference entitled “Study on COVID 19” organized by SERBD.
3. **Lija L. Raju**, Ajith M. Thomas, Manish Krishnan and M. C. Subhash Peter (2019). Role of *Atp1a1* and *Atp2b2* in the brain-gut axis of restraint stressed mice.

International Conference on Integrative Biology and Thyroid Physiology (IBTP 2019).

4. **Lija L. Raju**, Simi S., Manish K. and M. C. Subhash Peter (2019). Regulation of ion transporter function in stressed mice brain during chronological aging. National symposium on advances in biosciences (SEIB 2019).
5. Jayaram V. S, Manish K, Ajith M. Thomas, **Lija L. Raju** and M.C. Subhash Peter (2019). Modulation of stress response through ion transporters during aging in mice. National symposium on advances in biosciences (SEIB 2019).
6. Ajith M. Thomas, Manish K., **Lija L. Raju**, M. C. Subhash Peter (2017). Differential ion transporter functions in gastrointestinal tract of stressed mice. International symposium on challenges in Stress–Ease Physiology and Endocrinology (STRESS 2017).
7. **Lija L. Raju**, Manish K., Ajith M. Thomas, M. C. Subhash Peter (2017). Role of ion-dependent ATPases in cortex and hippocampus of mice under restraint–stress. International symposium on challenges in Stress – Ease Physiology and Endocrinology (STRESS 2017).
8. Ajith M. Thomas, **Lija L. Raju**, Bindulekha D. S. and M.C. Subhash Peter (2015). Rapid Action of Insulin on ion-transport in mice gut and liver. International Symposium on Comparative Endocrinology and Integrative Physiology (CEIP 2015).
9. Seethal G.S., Samuel A., **Lija L. Raju**, Ajith M. Thomas, Peter V.S., Peter M. C. S., (2013). Effects of 2-phenoxyethanol anesthesia on mitochondrial ion transport in fresh water climbing perch *Anabas testudineus* Bloch. International conference on comparative endocrinology and physiology (ICCEP 2013).

Seminars, Conferences, Symposia and Workshops attended

INTERNATIONAL

- International webinar on Research Methodology: Strategies & Norms organized by Aquinas College IQAC 2020, May 25, 2020.
- International symposium on challenges in Stress–Ease Physiology and Endocrinology (STRESS 2017).
- International symposium on Comparative Endocrinology and Integrative Physiology (CEIP 2015).

- International Conference on Integrative and Comparative physiology & first annual meeting of the society for evolutionary and integrative biology, SEIB 2013.
- International conference on Comparative Endocrinology and Physiology (ICCEP 2013).
- International Conference on Global Warming, Climate Change, Sustainable Development and Secular Spirituality conducted by Santhigiri Research Foundation in association with UNESCO, TERI and American Centre ,2010.

NATIONAL

- Webinar on “Structural Characterization of Drugs by Spectroscopic Studies” on 20th May 2020 organized by G.T.N. Arts College, (Autonomous), Dindigul, Tamilnadu, India.
- Hands on Training & Workshop on *In Silico* Docking organized by CEPCI dated 6 - 8th August 2019.
- National Workshop on Integrative Biology: “Innovative Teaching in Biology”. May 21st, 2018.
- National Seminar on “Recent trends in wetland pollution studies using bio-monitoring protocol” at N.S.S. College, Pandalam.2016.
- National workshop on ‘towards formulating best classroom practices in teaching, learning and evaluation conducted by IQAC of Mar ivanios college,2015.
- National workshop on Animal cell culture and cytogenetics conducted by department of Zoology, Mar Ivanios college, Trivandrum,2015.
- National Seminar on Integrative biotechnology and microbiology & 2nd Annual meeting of the society for evolutionary and integrative biology (SEIB 2014).
- National seminar on data analysis, (NSDA-2014).
- Workshop on Bioinformatics held at Govt. college for women, Thiruvananthapuram2013.
- National seminar on challenges in biodiversity conservation in the context of climate change conducted by department of Zoology, University of Kerala,2013.
- National Workshop on “Techniques in Molecular and Cellular Endocrinology” conducted by University of Madras 2013.

- National Seminar on “Water Resource Management: Present Uses, Status, Conservation and Co-operation” conducted by Bishop Moore College, Mavelikkara in association with UGC, DST & KSCSTE ,2013.
- National Seminar on Faunal Biodiversity and Endemism of Southern Western Ghats (BIODIV 2012)
- First Indian Biodiversity Congress held at Thiruvananthapuram, Kerala, 2010.
- Participated in the seminar on Wetland Resource Management for Sustainable Development held at the Department of Environmental Science, University of Kerala, Kariavattom, Thiruvananthapuram ,2010.

Participation in faculty development programmes

- One week online – international faculty development programme on recent advances in next generation sequencing (NGS)” Organized by Col. Dr. Jeppiaar Research Park, Centre for Ocean Research in association with Ministry of Earth Sciences – Earth Science Technology Cell (MoES-ESTC) from 27th July to 2nd August, 2020.
- UGC sponsored orientation programme in conducted by the UGC-Academic Staff College, University of Kerala, 2020.
- UGC sponsored refresher course in life sciences conducted by the UGC-Academic Staff College, University of Kerala, 2014.

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