PG and Research Department of Zoology
Jamal Mohamed College (Autonomous)
Tiruchirappalli-620 020

Dr. Kandasamy Prabakar Ph.D.

Associate Professor

23+ years of

Teaching & Research

Formation

B.Sc. 1988, National College, Bharathidasan University, Tiruchirappalli.

M.Sc. 1994, Jamal Mohamed College, Bharathidasan University, Tiruchirappalli.

M.Phil. 1995, New College, University of Madras, Chennai.

Ph.D. 2000, New College, University of Madras, Chennai.

Responsibilities

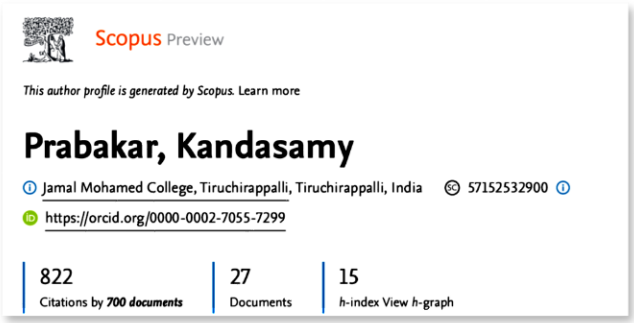
College

- NSS Programme Officer 2011-2014
- IQAC core member 2016-2018
- College broacher 2018-2019
- Research Committee Member 2020-2022
- Member in-charge of SF Zoology –Women 2022
- Student Induction Programme – Coordinator 2018-till date
- BDU-CDE- Examinations-Additional Chief Superintendent 2018- till date

Department

- CIA-Test Coordinator 2010-2013
- UG Tutor 2010-2013
- Library in-charge 2008-2010
- Vice President of Zoology Association 2013-2016
- PG Tutor 2016-2018
- Museum in-charge 2017-2018
- Minutes record 2018-2021
- Coordinator of Diploma in Aquaculture 2018-2023
- M.Phil. programme coordinator 2018-till date
- PG Tutor 2023-2025

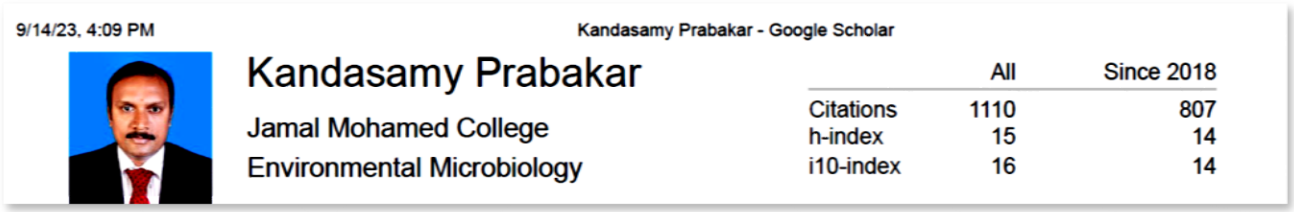
Research



Scopus

https://www.scopus.com/authid/detail.uri?authorId=57152532900

Google Scholar



https://scholar.google.com/citations?user=3ULMGyIAAAAJ&hl=en&authuser=1

ORCID
Connecting Research and Researchers

https://orcid.org/0000-0002-7055-7299

Focus

- The main goal of the research is the temporal variation in the antibiotic load and antibiotic resistant (Gram positive and Gram negative) bacterial population in the hospital and sewage effluents.
- The phenotypic and molecular epidemiology of antibiotic resistance bacteria and the antibiotic resistance genes encoding resistance to selected antibiotics in the selected subset of bacterial isolates from polymerase chain reaction (PCR) and Southern hybridization.
- The genetic fingerprinting of the antibiotic resistant bacteria isolates using pulsed field gel electrophoresis (PFGE).
- The mobile genetic elements and transferability of antibiotic resistance genes through horizontal gene transfer by plasmid profiles, PCR and conjugation experiments and bioactive fractions of herbal plants and structure elucidation with *in-vitro* of cell line cancer research.

Publications

2022

Occurrence, Spatial Distribution and Ecological Impact of Heavy Metals in Rivers, Lakes and Marine Environments of Tamil Nadu, India

Chinnaperamanoor Madhu Ganesan,Chinnasamy Chinnaraju, A.R. Lavanya, and **Kandasamy Prabakar**

Asian Journal of Chemistry: *Asian J. Chem. / 2022 / 34(12) / pp 3037-3047*

https://doi.org/10.14233/ajchem.2022.24024

Received: 20 August 2022; Accepted: 6 October 2022; Published online: 25 November 2022; AJC-21026

2020

Extracellular DNA (eDNA): Neglected and Potential Sources of Antibiotic Resistant Genes (ARGs) in the Aquatic Environments

Periyasamy Sivalingam,John Poté and **Kandasamy Prabakar**

Pathogens **2020**, *9*(11), 874; **https://doi.org/10.3390/pathogens9110874**

MDPI Publications

Received: 30 August 2020 / Revised: 11 October 2020 / Accepted: 20 October 2020 / Published: 23 October 2020

2019

Environmental Prevalence of Carbapenem Resistance *Enterobacteriaceae* (CRE) in a Tropical Ecosystem in India: Human Health Perspectives and Future Directives.

Periyasamy Sivalingam,John Poté and **Kandasamy Prabakar**

Pathogens **2019**, *8*(4), 174;

MDPI Publications

https://doi.org/10.3390/pathogens8040174

Received: 1 August 2019 / Revised: 29 September 2019 / Accepted: 29 September 2019 / Published: 2 October 2019

Extreme Environment *Streptomyces*: Potential Sources for New Antibacterial and Anticancer Drug Leads?

Periyasamy Sivalingam,John Poté and **Kandasamy Prabakar**

Hindawi *International Journal of Microbiology* Volume 2019, Article ID 5283948, 20 pages https://doi.org/10.1155/2019/5283948

2018

Silver Nanoparticles (Medicinal Scenario): A Novel Platform to Combat Microbial Pathogens- A Review

Kalitha Parveen P and **Kandasamy Prabakar**

Volume 5 Issue 6 June-2018 eISSN: 2349-5162

Journal of Emerging Technologies and Innovative Research

https://www.jetir.org/view?paper=JETIR1806361

Facile And Green Synthesis of Silver nanoparticles Using Leaf Extract of *Blepharis maderaspatensis* (L) Heyne ex Roth: A Prospective Cytotoxic Negotiator Against A431 Epidermoid Carcinoma Cells

Kalitha Parveen P and **Kandasamy Prabakar**

2018 IJCRT | Volume 6, Issue 1 February 2018 | ISSN: 2320-2882

International Journal of Creative Research Thoughts (IJCRT) www.ijcrt.org

https://www.ijcrt.org/papers/IJCRT1872134.pdf

Spectral studies and antibacterial activity of Garlic (*Allium sativum* L.)

Akilan S. **K. Prabakar**

July 2018, Volume 5, Issue 7, Page No. 452-457. ISSN: 2349-5162.

Journal of Emerging Technologies and Innovative Research (JETIR) www.jetir.org

https://www.jetir.org/papers/JETIR1807787.pdf

Phytochemical, antimicrobial, antioxidant and anticancer properties of *Allium sativum* L. Extract.

Akilan S. **K. Prabakar**

July 2018, Volume 5, Issue 7, 913-918. ISSN: 2349-5162.

Journal of Emerging Technologies and Innovative Research

(An International Scholarly Open Access Journal, Peer-reviewed, Refereed Journal)

https://www.jetir.org/view?paper=JETIR1807864

2016

Occurrence of Antibiotic Resistance Genes and Bacterial Markers in a Tropical River Receiving Hospital and Urban Wastewaters.

Naresh Devarajan, Amandine Laffite,Crispin Kyela,MulajiJean- Paul, OtamongaPius, Tshimankinda Mpiana, Josuéllunga, Mubedi, **Kandasamy Prabakar**, Bastiaan, Willem IbelingsJ, John Poté.
PLOS ONE | DOI:10.1371/journal.pone.0149211 February 24, 2016.
https://doi.org/10.1371/journal.pone.0149211

Antimicrobial activity and characterization of green synthesized silver nanoparticles from *Blepharis maderaspatensis* (L) hyne ex. Roth.

Kalitha Parveen, **Kandasamy Prabakar,** John Pote-Wembonyama.
International Journal of Current Research, 2016, vol. 8,no. 9, p. 38482-38488
https://www.journalcra.com/article/antimicrobial-activity-and-characterization-green-synthesized-silver-nanoparticles-blepharis

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Phytochemical profiling of the aqueous leaf extracts of *Blepharis maderaspatensis* (L.) Heyne ex Roth its HPLC, GC-MS, and column chromatographic analysis.

Kalitha Parveen, **Kandasamy Prabakar**, John Pote Wembonyama.
*Imperial Journal of Interdisciplinary Research (IJIR)*m Vol-2, Issue-7, 2016, ISSN: 2454-1362
https://www.imperialjournals.com/index_php/IJIR/article/view/1303/

2015

Synthesis and characterization of silver nanoparticles using *Blepharis maderaspatensis* (L) Hyne Ex Roth leaf extract and it's anti- inflammatory Activity against human blood cells.

Kalitha Parveen, **Kandasamy Prabakar**.2016.
Int. J. Adv. Res. ISSN: 2320-5407. 4(9), 53-60
http://dx.doi.org/10.21474/IJAR01/1458

Hospital and urban effluent waters as a source of accumulation of toxic metals in the sediment receiving system of the Cauvery River, Tiruchirappalli, Tamil Nadu, India.

Naresh Devarajan, Amandine Laffite, Patience Ngelikoto, Vicky Elongo, **Kandasamy Prabakar**, Josué I. Mubedi, Pius T. M. Piana, Walter Wildi and John Poté.
2015
Environmental Science and Pollution Research volume 22, pages12941–12950 (2015)
Springer Publications
https://link.springer.com/article/10.1007/s11356-015-4457-z

Accumulation of Clinically Relevant Antibiotic-Resistance Genes, Bacterial Load, and Metals in Freshwater Lake Sediments in Central Europe.

Naresh Devarajan,,Amandine Laffite,Neil D. Graham, Maria Meijer, **Kandasamy Prabakar**, JosuéI. Mubedi, Vicky Elongo, Pius T. Mpiana, Bastiaan Willem Ibelings, Walter Wildi, and John Poté.
Environ.Sci.Technol. **2015**. 49. 6528-6537.
American Chemical Society.
ACS Publications
https://pubs.acs.org/doi/10.1021/acs.est.5b01031

Phytochemicals screening, antioxidant and antibacterial potential of *Mukiascabrella* (Musumusukkai) against nosocomial bacterial pathogens.

Kandasamy Prabakar, Samyvel Periyasamy and Charli Deepak
Int.J.of Pure and Appl. Zoology. **2015***.* 3(1): 1-8.
https://www.alliedacademies.org/articles/phytochemicals-screening-antioxidant-and-antibacterialpotential-of-mukia-scabrella-musumusukkai-againstnosocomial-bacterial-pathogens.pdf

Trace metal distributions in the sediments from river-reservoir systems: case of the Congo River and Lake Ma Vallée, Kinshasa (Democratic Republic of Congo).

Paola M. Mwanamoki, Naresh Devarajan, Birane Niane, Patience Ngelinkoto, Florian Thevenon, José W. Nlandu, Pius T. Mpiana, **Kandasamy Prabakar** , Josué I. Mubedi, Christophe G. Kabele, Walter Wildi, John Poté.
Environ Sci. Pollut. Res. (**2015**) 22:586–597.
Springer Publications
https://link.springer.com/article/10.1007/s11356-014-3381-y

Age and growth of red toothed triggerfish Odonus niger (Ruppell, 1836)(Family: Balistidae)off Thoothukudi coast of Gulf of Mannar, Southeast coast of India($08^0$53.6'N$78^0$16E and 08^0 53.8'N 78^0 32'E)-(36m).
Vaitheeswaran T., **K. Prabakar,** S. Malathi, N. Neethisselvan.
International Journal of Fisheries and Aquatic Studies. **2015**. 2(5):204-209.
https://www.fisheriesjournal.com/archives/2015/vol2issue5/PartD/2-5-60.pdf

Length weight relationship of titan triggerfish Balistoides viridesscens (Bloch and Schneider, 1801) (Family: Balistidae) off Thoothukudi coast of Gulf of Mannar,Southeast coast of India. ($08^0$53.6'N$78^0$16E and 08^0 53.8'N 78^0 32'E)-(36m).
Vaitheeswaran T., **K. Prabakar,** S. Malathi, N. Neethisselvan.*International Journal of Fisheries and Aquatic Studies*.**2015**. 2(5):32-3https://www.fisheriesjournal.com/archives/2015/vol2issue5/PartA/2-5-40.pdf

2014

Assessment of pathogenic bacteria in water and sediment from a water reservoir under tropical conditions (Lake Ma Vallée), Kinshasa Democratic Republic of Congo.

Paola M. Mwanamoki&Naresh Devarajan&Florian Thevenon& Emmanuel K. Atibu&Joseph B. Tshibanda&Patience Ngelinkoto&Pius T. Mpiana & **Kandasamy Prabakar** & Josué I. Mubedi&Christophe G. Kabele&Walter Wildi & John Poté .

DOI: 10.1007/s10661-014-3891-6
Springer Publications
https://link.springer.com/article/10.1007/s10661-014-3951-y

Trace metals and persistent organic pollutants in sediments from river-reservoir systems in Democratic Republic of Congo (DRC): Spatial distribution and potential ecotoxicological effects

Paola M. Mwanamoki, Naresh Devarajan, Florian Thevenon, Niane Birane, Luiz Felippe de Alencastro, Dominique Grandjean Pius T. Mpiana, **Kandasamy Prabakar**, Josué I. Mubedi, Christophe G. Kabele, Walter Wildi, John Poté.

Chemosphere 111 (**2014**): 485–492.
Elsevier publications
https://doi.org/10.1016/j.chemosphere.2014.04.083

Microbiological and physicochemical characterization of water and sediment of an urban river: N'Djili River, Kinshasa, Democratic Republic of the Congo.

Joseph B. Tshibanda, Naresh Devarajan, Niane Birane, Paola M. Mwanamoki, Emmanuel K. Atibu , Pius T. Mpiana, **Kandasamy Prabakar**, Josué Mubedi Ilunga,Walter Wildib, John Poté

Sustainability of Water Quality and Ecology 3–4 **(2014): 47–54.**
Elsevier publications
https://doi.org/10.1016/j.swaqe.2014.07.001

Assessment of pathogenic bacteria in water and sediment from a water reservoir under tropical conditions (Lake MaVallée), Kinshasa Democratic Republic of Congo

Paola M. Mwanamoki & Naresh Devarajan & Florian Thevenon & Emmanuel K. Atibu & Joseph B. Tshibanda&Patience Ngelinkoto & Pius T. Mpiana & **Kandasamy Prabakar** & Josué I. Mubedi & Christophe G. Kabele & Walter Wildi & John Poté

Environmental Monitoring and Assessment, 186(10):6821-6830.
Springer publications.

Studies on the Diversity of Phytoplankton in Cauvery River, Thanjavur District, Tamil Nadu, India. Babu, A., Ravimanickam, Joseph Antony Jerald. I., Mohamed Shamsudin and **Prabakar, K.**

ISSN: 2319-7706 Volume 3 Number 5 (2014) pp.824-834
International Journal of Current Microbiology and Applied Sciences
https://www.ijcmas.com/vol-3-5/A.Babu,%20et%20al.pdf

2013

Concentration of metals in surface water and sediment of Luilu andMusonoie Rivers, Kolwezi-Katanga, Democratic Republic of Congo
Emmanuel K. Atibu , NareshDevarajan , Florian Thevenon Paola M. Mwanamoki , Joseph B. Tshibanda , Pius T. Mpiana, **Kandasamy Prabakar** , Josué I. Mubedi , Walter Wildi ,John Poté**.**
Applied Geochemistry 39 (2013):26–32.
Elsevier publications*.*
DOI : 10.1016/j.apgeochem.2013.09.021

Effects of untreated hospital effluents on the accumulation of toxic metals in sediments of receiving system under tropical conditions: Case of South India and Democratic Republic of Congo

Josué Ilunga Mubedi , Naresh Devarajan, Séverine Le Faucheur, John Kayembe Mputu , Emmanuel K. Atibu , Periyasamy Sivalingam , **Kandasamy Prabakar** , Pius T. Mpiana , Walter Wildi, John Poté
Chemosphere 93(2013): 1070-1076.
Elsevier publications*.*
https://doi.org/10.1016/j.chemosphere.2013.05.080

Microalgae associated Brevundimonas sp. MSK 4 as the nano particle synthesizing unit to produce antimicrobial silver nanoparticles

Karthic Rajamanickam, S S Sudha, Mebin Francis, T Sowmya, J Rengaramanujam, Periyasamy Sivalingam, **Kandasamy Prabakar**
Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 113(2013): 10-14
Elsevier publications
DOI: 10.1016/j.saa.2013.04.083

Evaluation of antibacterial efficacy of phyto fabricated silver nanoparticles using *Mukiascabrella* (Musumusukkai) against drug resistance nosocomial gram negative bacterial pathogens.
Prabakar.K, Sivalingam.P, Mohamed.R, Muthuselvam.M, Devarajan.N, Arjunan.A,Karthick.R, Suresh.M.M, Pote.J
Colloids and Surfaces B: Biointerfaces. 104:282-288.
Elsevier publications
https://doi.org/10.1016/j.colsurfb.2012.11.041

Vaitheeswaran T. **K. Prabakar**, K. Anbuarasu and P. Mariappan, **2013**. Record of the Rrog crab, Ranninoides Personatus Henderson, 1888 (Crustacea: Decapoda: Raninidae).

Tamil Nadu J. Veterinary & Animal Sciences 9(5), 362-365.
Corpus ID: 86193100

2010

Detection of NID factor in β-lactam antibiotic drugs
Ramesh Pennamareddy, Suresh. B Kotini and **K.Prabakar.**
2010.*International Journal of Biological Sciences and Engineering.* ISSN 0976-1519, Vol. 01, No. 01, January 2010, pp. 73-77

Resolving Test Interference in Detection of Endotoxin's In 3rd Generation Cephalosporin Drug
Ramesh Pennamareddy, Suresh. B Kotini and **K.Prabakar**
2010. *International Journal of PharmTech Research.* CODEN (USA): IJPRIF ISSN :0974-4304. Vol.2, No.2, April-June 2010. pp 1286-1290.

Detection of NID factor in lactobionic acid with Limulus amoebocyte lysate Ramesh Pennamareddy and **K. Prabakar**
International Journal of Pharmacy and Pharmaceutical Sciences.
Vol 2, Suppl 2. 2010
https://innovareacademics.in/journal/ijpps/Vol2Suppl2/517.pdf

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2009

Sorting out of interference in detection of endotoxins in biotherapeutic drugs
Ramesh Pennamareddy, **K. Prabakar** and J. Pandiyan.
Indian Journal of Science and Technology. Vol 2. No. 11. November2009. 20-22.
DOI: 10.17485/ijst/2009/v2i11.13

Determination of NID factor in cephalosporin antibiotics.
Ramesh Pennamareddy, **K. Prabakar** and J. Pandiyan.
Indian Journal of Science and Technology. Vol 2. No. 12. December2009. 40-43.
DOI: 10.17485/ijst/2009/v2i12.8

Book Articles

2004

Ground water quality: An overview
Joseph Jerald I, M.I.H.SyedBava and **K.Prabakar**
Agrobios. Vol.2.No.10: 46-49.

Sustainability of ground water supply- Ground water for the future
Joseph Jerald I, M.I.H.SyedBava and **K.Prabakar**
Agrobios. Vol.3.No.4: 21 and 22.

Book Published

Madhan Chakkaravarthy, V. and **Prabakar. K. 2013.** Enzymology and Enzyme Biotechnology (For UG & PG students of Biological Science). YAZYM Publications, Trichy. ISBN- 978-93-81521-27-4

Research Supervision

	Ph.D.,	M.Phil.,	M.Sc.,
Awarded	04	36	41
Guiding	02	01	01

GenBank: Gene Sequence

Accession No.

JX495945; JX495949; JX495946; JX495950; JX495947; JX495951; JX495948; JX495952

NAME OF THE AUTHORS	SCIENTIFIC NAME OF SPECIMEN / VOUCHER NO	GENE OF INTEREST	GenBank ACCESSION
Dr.K.PRABAKAR	*Streptomyces sp.* BDUSMP 02	non-ribosomal peptide synthetase gene, partial cds	KJ598809.1
	Streptomyces sp. BDUSMP L01	non-ribosomal peptide synthetase gene, partial cds	KJ598808.1
	Streptomyces sp. BDUSMP S05	non-ribosomal peptide synthetase gene, partial cds	KJ598807.1
	Streptomyces sp. BDUSMP R25	non-ribosomal peptide synthetase gene, partial cds	KJ598806.1
	Streptomyces sp. BDUSMP R07	non-ribosomal peptide synthetase gene, partial cds	KJ598805.1
	Streptomyces sp. BDUKAS10 16S	ribosomal RNA gene, partial sequence	JQ231271.1
	Streptomyces sp. BDUKAS07 16S	ribosomal RNA gene, partial sequence	JQ231270.1
	Streptomyces sp. BDUKAS06 16S	ribosomal RNA gene, partial sequence	JQ231269.1
	Streptomyces sp. BDUKAS05 16S	ribosomal RNA gene, partial sequence	JQ231268.1
	Streptomyces sp. BDUKAS03 16S	ribosomal RNA gene, partial sequence	JQ231267.1
	Streptomyces sp. BDUKAS01 16S	ribosomal RNA gene, partial sequence	JQ231266.1
	Streptomyces sp. BDUSMP R07	DNA-directed RNA polymerase subunit B (rpoB) gene, partial cds	KF918277.1
	Streptomyces sp. BDUSMP 02	DNA-directed RNA polymerase subunit B (rpoB) gene, partial cds	KF918276.1
	Streptomyces sp. BDUSMP 01	DNA-directed RNA polymerase subunit B (rpoB) gene, partial cds	KF918275.1
	Streptomyces sp. BDUSMP L01	DNA-directed RNA polymerase subunit B (rpoB) gene, partial cds	KF918274.1
	Streptomyces sp. BDUSMP R25	DNA-directed RNA polymerase subunit B (rpoB) gene, partial cds	KF918273.1
	Streptomyces sp. BDUSMP 02 16S	ribosomal RNA gene, partial sequence	KF918272.1
	Streptomyces sp. BDUSMP 01 16S	ribosomal RNA gene, partial sequence	KF918271.1
	Streptomyces sp. BDUSMP L01 16S	ribosomal RNA gene, partial sequence	KF918270.1
	Streptomyces sp. BDUSMP S05 16S	ribosomal RNA gene, partial sequence	KF918269.1

Research Projects

Major Research Project	Agency	Fund	Period
Isolation and structure elucidation of bioactive fractions of *Mukiascabrella* (Musumusukkai) against drug resistant nosocomial bacterial pathogens and invitro cytotoxicity for A549 (Human lung cancer cell lines)	UGC	1298300	2013-2016
Collaborative Research			
Evaluation of environmental impacts in water ecosystems with genetic based bacteriological and physicochemical aspects guided sustainable water resource management in developing countries: Case of south India and sub-Saharan Africa https://www.unige.ch/mbiolenv/recherches/projets-termines/antibiotic-resistance-1a	Swiss National Science Foundation		2013-2016
Epidemiology of multidrug resistant bacteria according to different climatic conditions https://www.unige.ch/mbiolenv/en/recherches/projets-termines/antibiotic-resistance-1b	Swiss Government Excellence Scholarships for Foreign Students		

Awards/Honoured

- **Best NSS programme Officer** Award received from Bharathidasan University, NSS Award for the year 2012-2013.
- Received **Dr. Abdul Kalam Research Excellence-2016** Award from MARINA LAB Chennai
- Presented a talk on "Nunnuyirgalin Perukkamum atthan thakkkangaluum" on 23th November, 2015 at Broadcasting Corporation of India, **All India Radio**, Tiruchirappalli.
- Programme broadcasted on 23.12.2015 at 7.00am (concept of Talk: Developing of multidrug resistant bacteria in water and wastewater ecosystem)
- **Key note address** to " In-service Training to Secondary Grade Science Teachers" at Srinivasan College of Arts and Science College for Women, Under sponsored by **Tamilnadu State Council for Science and technology, Chennai. 03.08.2015**
- Resource person: Delivered a lecture in the seminar on "Current Status of Zoology Studies" on 19th February 2009 at National College, Tiruchirappalli.

- **Programme Officer in National Service Scheme** (Government of India), Jamal Mohamed College, from 2011 to 2014.

- Presented a talk on "Nunnuyirgalin Perukkamum Vilaivugalum" on 25th September, 2012 at Broadcasting Corporation of India, All India Radio,Tiruchirappalli. Programme broadcasted on 11.10.2012 at 7.00am and re broadcasted on 12.10.2012 at 21.16pm (concept of Talk: Developing of multidrug resistant bacteria in water and wastewater ecosystem)

Membership in Academic Bodies / Board of Studies

- Jamal Mohamed College (Autonomous), Tiruchirappalli in Zoology Board of Studies

Reviewer

International Journal of Nanomedicine (Dove Press), Spectrochimica Acta Part A: Molecular and Bimolecular Spectroscopy in Professional bodies:

Life Member in National Academy of Vector Born Diseases, (19767/199) Orissa, India.

Life Member (1325) in National Environmental Science Academy, New Delhi 110019, India.

Fellow member of Biologists Forum of India, Chennai, India.

Conferences/ Special Course organized:

Organizing Secretary of the National Seminar on Environmental Recourse and Sustainable Management sponsored by UGC and Jamal Mohamed College held at Jamal Mohamed College, Tiruchirappalli on 04 March 2015.

Abroad **Visit:**

Special Lecture on Antibiotic Resistant Bacteria in river Eco-system, from 29th November to 09thDecember, 2014 at Institute of F.A. Forel, University of Geneva, Switzerland

Contact

Dr. Prabakar K.

Associate Professor

PG and Research Department of Zoology

Jamal Mohamed College (Autonomous)

Tiruchirappalli – 620 020

Phone: +91-431-2331135 Ext. 345 (Off) **Mobile:** +91-9659796999 **Fax:** +91-431-2331435

Email: drpklab@gmail.com drpkbio@gmail.com

This data upto September 2023