

BIODATA

Dr.M.Karthikeyan

Assistant Professor

Department of Zoology & Microbiology

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Academic Profile:

Degree	Year	Institution / University
Ph.D., Zoology (Spl. Microbiology)	2016	Thiagarajar College, Madurai Kamaraj University (MKU)
M.Sc., Microbiology (Equivalent to Zoology)	2010	Madura College, Madurai Kamaraj University (MKU)
PGDMIDD	2008	Thiagarajar College, Madurai Kamaraj University (MKU)
B.Sc., Biochemistry	2006	The American College, Madurai Kamaraj University (MKU)

Awards, Fellowships and Honours received

- Recipient Indian National Science Academies (INSA) **Visiting Scientist Award**- 2018.
- Received Indian National Science Academies (INSA) **Summer Research Fellowship Award** - 2018.
- Recipient, **Junior Research Fellowship** - Ministry of Environment and Forest, Govt. of India.
- Qualified **State Eligibility Test** for Lectureship (**SET-2016**).
- Recipient **Student Project Fellowship** from **TNSCST-DBT**.for M.Sc., project-2010.
- **Best Oral presentation Award** in International seminar on Emerging Trends in Biological Research at Jamal Mohamed College, Thiruchirapalli, March 3, 2018.
- **Best Oral Presentation Award** in ICMR sponsored National Conference on Novel Technologies on Natural products for Mosquito and Disease control at KSR college of Arts and science, Thiruchengode. February 23 & 24, 2017.

Teaching Experience:

- Serving as Assistant Professor in the Department of Zoology & Microbiology, Thiagarajar College, Madurai from June 21, 2013 to till date. (4years)
- Visiting Faculty - Thiagarajar College of Engineering for M.Tech Environmental Engineering Programme (2016-2018).

Research Experience:

- Worked as a Junior research fellow in MoEF sponsored major research project “Environmental concentration of microbial polyesters as potential bioindicators of pollution and their degradation studies” at Department of Zoology & Microbiology. Thiagarajar college, Madurai.

Research Projects

#	Project Title	Agency	Grant Rs.	Period
1.	Utilization of Hydrocarbon waste for Bioplastics (Polyhydroxyalkanoates) Production by Marine Bacteria. F.No:4-4/2015-16(MRP/UGC-SERO) 3407 (PI)	UGC	75000.00	2016-2018
2.	Screening of Honey based Nanofibrous scaffold for Wound dressing Application F.No:4-4/2015-16(MRP/UGC-SERO) 3402 (Co-PI)	UGC	75000.00	2016-2018
3.	Fabrication and Characterization of Electrospun honey bacterial cellulose nanofibres for wound dressing applications. (PI) Ref:TNSCST /SPS /AR/2016-2017 BS-18 (PI)	TNSCST	10,000.00	2016-2017
4.	Microbial production of bioplastics using petrochemical wastes. (PI) Ref: TNSCST /SPS /AR/2013-2014 BS-18 (PI)	TNSCST	7,500.00	2013-2014
5.	Screening, Characterization & Antibiosis of Siderophores produced by Marine Yeast Ref:TNSCST /SPS /AR/2009-2010 BS-37	TNSCST-DBT	10,000.00	2009-2010

Research Publications

- R.Abraham, P.Prakash, **M.Karthikeyan**, RM.Murugappan. 2018. A novel series of N-acyl substituted indole-linked benzimidazoles and naphthoimidazoles as potential anti-inflammatory, antibiofilm and antimicrobial agents. *Microbial pathogenesis*.114, 409-413. (IF- 2.4)
- P.Prakash, R.Abraham, **M.Karthikeyan**, RM.Murugappan. Simple synthesis of hydrazones with quorum quenching activity at room temperature in water. *Environmental Chemistry Letters*. doi.org/10.1007/s10311-018-0720-0. (IF- 3.5)
- A.Rajan, Prakash P **Karthikeyan M**, Murugappan RM. A novel and convenient oxidation-controlled procedure for the synthesis of oxazolines from TosMIC and aldehydes in water - Anti biofilm activity. *Arabian Journal of Chemistry*. 2018 (Accepted – Article in Press)
- C.Usha,S.Lok Kirubahar, **M. Karthikeyan**, RM.Murugappan. 2016.Fabrication Of Wound Dressings Impregnated With Zinc Oxide Nanoparticles Synthesized From Honey: A Facile Approach For Antibacterial Application. *TEJAS*,Vol 1(1),PP 88-98.
- Benazir Begum S, Raja roobia R, **Karthikeyan M**, Murugappan RM. 2015. Validation of nutraceutical properties of natural honey and probiotic potential of its innate microbial flora. *LWT- Food science and Technology*. 60: 743-750. (IF- 2.4)
- Murugappan RM, **Karthikeyan M**, Aravinth A, Alamelu M 2012. Siderophore mediated iron uptake promotes yeast-bacterial symbiosis. *Applied Biochemistry and Biotechnology* 168:2170-2183. (IF- 1.9)
- Murugappan RM, Aravinth A, Raja Roobia R, **Karthikeyan M**, Alamelu M 2012. Optimization of MM9 medium constituents for enhancement of siderophoregenesis in marine *Pseudomonas putida* using response surface methodology. *Indian Journal of Microbiology* 52 (3): 433-441. (IF- 0.9)
- Murugappan RM, Aravinth A, **Karthikeyan M** 2011. Chemical and structural characterization of hydroxamate siderophore produced by marine *Vibrio harveyi*. *Journal of Industrial Microbiology and Biotechnology*, 38 (2): 265-273. (IF- 2.7)
- G. Saravana Kumar, S.Kanagavalli and **M.Karthikeyan**. Microbial Production of Bioplastics using Petrochemical Wastes. 2014. TNSCST student research project Scheme Proceedings
- **M.Karthikeyan** and K.M.Rajasekaran. Screening,Characterization & Antibiosis of Siderophores produced by Marine Yeast. 2010. DBT student research project Scheme Proceedings.

- . RM.Murugappan, Benazir begum S, Usha C, Lok kirubahar S, **Karthikeyan M.** Growth Promoting and Probiotic potential of the Endophytic bacterium *Rhodococcus globerulus* colonizing the medicinal plant *Plectranthus amboinicus* (Lour.) Spreng. International Journal of Current Research and Review. 9 (14): 7-13.
- **Karthikeyan M,** Aravinth A, Murugappan RM. Utilization of Oily bilge waste for Polyhydroxybutyrate Production by Marine *Ochrobactrum intermedium* (CMMBO1). International Journal of Biological Macromolecules. (Communicated -under review).
- A.Rajan, P.Prakash, **M.Karthikeyan,** RM.Murugappan. A novel and convenient oxidation-controlled procedure for the synthesis of oxazolines from TosMIC and aldehydes in water. Arabian Journal of Chemistry. (Communicated – under review).

Books Published

Published a lab Manual on “Molecular informatics and Drug Designing” by RM.Murugappan and **M.Karthikeyan** for the National Workshop on Molecular informatics and Drug Designing (MIDD) 2012 organized by Department of Zoology and Microbiology, Thiagarajar college, Madurai.

Gene sequences submitted in NCBI and EMBL (GenBank IDs)

Submitted 7 sequences : *Rhodococcus erythropolis* (**GU120079**); *Micrococcus luteus* (**GU120080**); *Pseudomonas putida* (**GQ404505**); *Vibrio harveyi* (**GQ249053**); *Vibrio natriegens* (**FR846237**); *Aeromonas salmonicida* (**HE610109**) and *Aureobasidium pullulans* (**JN255732**).

Participation in Workshops / Training Programs

- Participated in Refresher course on Nanotechnology and its Applications sponsored by Indian Academy of Sciences, organized by KSR College of Technology, Thiruchengode from April 15- 29, 2018.
- Participated in Workshop on Intellectual Property Rights and Innovations on March 14th 2017 organized by Thiagarajar College, Madurai.
- Participated in Two days Workshop on Curriculum Evaluation, Design and Development from September 15 & 16 at Thiagarajar college, Madurai.
- Participated in Two days International Workshop on Recent Trends in Indian Medicine- An Technical Overview from September 23-24, 2016 at SCAD College of Engineering, Thirunelveli
- Undergone a Hands-on training in Next Generation Sequencing (NGS) – Bioinformatics and Data analysis from September 17th -21st 2013 at Anna University, AU-KBC Research Centre, Chennai

- Undergone a hands-on training in “Metagenomic Approach for the Identification of Food Borne Bacterial Pathogens and their Virulence Transcripts” September 5-7, 2012 at PG and Research Department of Biotechnology, Kongu Nadu Arts and Sciences College, Coimbatore.
- Undergone a fifteen days UGC-NRCBS Summer school on Comparative Genomics and Proteomics in Drug Discovery from May 30th-13th June, 2011 at School of Biological Sciences, Madurai Kamaraj University, Madurai.

Paper Presentation / Participation in National Conferences / Symposium/Meetings

- **M.Karthikeyan**, RM.Murugappan. Fabrication and Characterization of Biopolymer based Electrospun Nanofiber for Wound healing Applications. International Seminar on “Emerging Trends in Biological Research (ETBR 2018)” organized by PG and Research Department of Biotechnology and Microbiology, Jamal Mohamed College, Thiruchirapalli. March 3, 2018.
- **M.Karthikeyan**, A.Aravinth, RM.Murugappan. Fabrication and Characterization of *Ficus recemosa* latex biopolymer/*Achalypha indica* plant extract loaded nanofibrous matrix for Biomedical applications. 6th National conference on Emerging Trends and New Challenges in Biotechnology-Advances in Biomaterials and Applications organized by PG and Research centre in Biotechnology, MGR college, Hosur. January 31st – February 1, 2018.
- P.Mari Abinaya, M.Sugitira, RM.Murugappan and **M.Karthikeyan**. Fabrication and Evaluation of Antimicrobial activity of Electrospun *Acalipha indica* extract/PVA loaded nanofiber. National conference on Biomaterials in Medicinal Chemistry organized by school of chemistry, Madurai Kamaraj University. April 12 & 13, 2017.
- Participated in National Colloquium on Biology for Engineers on March 24th 2017 orgainzed by Thiagarajar college of Engineering, Madurai.
- **M.Karthikeyan**, C.Usha, S.Lok Kirubahar, RM.Murugappan. Phytofabrication of Silver nanoparticles using medicinalherb *Ocimum sanctum* for Wound dressing Applications. ICMR sponsored National Conference on Novel Technologies on Natural products for Mosquito and Disease control at KSR college of Arts and science, Thiruchengode. February 23 & 24, 2017.
- S.Lok Kirubahar, **M.Karthikeyan**, D.Baskar, C.Usha, RM.Murugappan. Green synthesis of Graphene oxide Nanoparticles from *Lactobacillus* sp. and its Application for Larvicidal activity. ICMR sponsored National Conference on Novel Technologies on Natural products for Mosquito and Disease control at KSR college of Arts and science, Thiruchengode. February 23 & 24, 2017.
- **M.Karthikeyan**, S.Sivashankari, K.PrakashShyam, R.M.Murugappan. Microbial Siderophore exerts Anticancer action displaying HDAC inhibitor activity. 7th National

Symposium cum Workshop on "Recent Trends in Structural Bioinformatics and Computer Aided Drug Design". Alagappa University, Karaikudi February 2015.

- Participated in one day Refresher Programme on "Stress Management and Emotional Wellbeing" organized by Women's studies centre, Thiagarajar College, Madurai. March 14, 2015
- S.Benazir Begum, R.Raja Roobia, **M.Karthikeyan**, RM.Murugappan. Evaluation of Probiotic and Multiple plant growth promoting traits of Endophytic *Bacillus pumilus* isolated from *Ocimum sanctum*. National conference on Advances in Plant pathology, CAS Botany, University of Madras, Chennai, March 2013.
- **Karthikeyan M**, Lokkirubakar S, Murugappan RM. Screening and characterization of bacteria utilizing Polyaromatic Hydrocarbons for the production of Polyhydroxyalkonates. International Symposium on Environmental Risk Assessments, October 2011 at Bharathiar University, Coimbatore, Tamil Nadu, India.
- Participated in "National Seminar on Challenges in Animal; Biotechnology and Environmental Management Research" organized by Department of Animal Science, Bharathidasan University, Tiruchirappalli. June 23, 2011.
- **Karthikeyan M**, Rajasekaran K.M, Usha.C. Screening, Characterization and Biosorption studies Marine Magnetotactic bacteria. 50th Annual Conference Association of Microbiologist of India (AMI), December 2010 at National Chemical Laboratory, Pune.
- RM. Murugappan, C. Usha, A. Aravinth, **M. Karthikeyan**. Enrichment, Characterization, Bio-Applications of Marine Magnetotactic Bacterium (MTB) and its Nanoparticles (NPs). The 2nd International Symposium on Magnetotactic Bacteria and Biomineralization, September 1-4, 2010 at Institute of Geology and Geophysics, Chinese Academy of Sciences (IGGCAS), Beijing, China.
- Participated in National level seminar on Recent Trends in Genomics organized by Departments of Microbiology, Biochemistry and Biotechnology, S.Vellaichamy Nadar College, Madurai. March 18, 2010
- Participated in DST sponsored Regional seminar on "Biomolecular Modeling from Drug Discovery to Nanotechnology" on 29th & 30th June, 2007 organized by Department of Life sciences, Lady Doak college Madurai.

Guest lectures delivered

- Resource person and delivered a lecture in MHRD funded "Winter school on Bioinformatics and Drug Designing" on November 26, 2017. organized by National centre for excellence in Statistical and Mathematical Modeling on Bioresources Management, Thiagarajar College, Madurai.

- Resource person in MHRD funded "Training Workshop on Basic Bioinformatics tools" on October 8, 2017. organized by National centre for excellence in Statistical and Mathematical Modeling on Bioresources Management, Thiagarajar College, Madurai
- Hands on Training in One Day State Level Seminar cum Workshop on "Bioinformatics – Genomic Analysis and Protein Designing" on 29th January 2016 organized by Department of Biochemistry V.V.V. College, Virudhunagar.
- Hands on Session in UGC-CSIR funded "National Workshop on Molecular informatics and Drug Designing (MIDD)" on March 19-21 2012 organized by Department of Zoology and Microbiology, Thiagarajar college, Madurai.

Membership in Scientific Organizations

- Life member Indian Institute for Management of Antibiotic resistance.
- Life member of Asian PGPR society of Sustainable Agriculture.

Professional Experience and Activities

- Member Board of studies at Department of Biochemistry, The American college, Madurai.
- Member for the betterment of course content of biology for engineers in the "National Colloquium on Biology for Engineers" Thiagarajar College of Engineering , Madurai.
- Member "PFMS &UGC –e-Schemes Committee- 2016-17. Registered the college in PFMS portal to receive funds online from funding agencies.
- Member in the Department purchase committee of Chemicals & Instruments.
- Maintained the MoEF project accounts for Auditing and submission to the funding agency.
- Guidance and counseling I and II M.Sc., Microbiology students as class mentor for the past four years.
- Guided 20 M.Sc., Microbiology students for project work.

References

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