

CURRICULUM VITAE

PONMURUGAN KARUPPIAH

E.mail: ponsathya2005@gmail.com

PERMANENT ADDRESS

P.CHOKKALINGAPURAM
SILAIMALIPATTI (Post)
PERAIYUR - 625 307
MADURAI (Dt) .

COMMUNICATION ADDRESS

15/8, Dr.Ambethkar Nagar
Panchali Amman Kovil St.
Arumbakkam
Chennai - 600 106
Mobile:94434 09030

Current Positions

Researcher (from October, 2011 onwards), Department of Botany and Microbiology,
College of Science, King Saud University, Riyadh, Saudi Arabia.

Teaching Experience

- Lecturer, Thanthai Hans Roever College, Perambalur (1998 – 2000).
- Lecturer, K.S.Rangasamy College of Arts and Science, Tiruchengode, Tamil Nadu (1998 – 2005).
- Assistant Professor, K.S.Rangasamy College of Arts and Science, Tiruchengode, Tamil Nadu (2005 - 2011).

University Education

Degree Obtained	Year	University/ Institution	Results (%)	Class
Ph.D., Microbiology	Pursuing	Periyar University, Salem.	Thesis Submitted	
DMLT, Medical Lab Technology	2007	Bharat Sevak Samaj, National Development Agency Government of India, Tiruvananthapuram.	83.6	Distinction
Advanced Diploma in Bioinformatics	1997	School of Biotechnology, Madurai. Kamaraj University, Madurai	72.5	First
M.Sc., Microbiology	1996	V.H.N.S.N. College, Virudhunagar. (Madurai Kamaraj University)	69.5 U3	First
B.Sc., Botany	1994	ANJA College, Sivakasi. (Madurai Kamaraj University)	72.5 C3	First

Specialization

- Environmental Microbiology (PGPR), Secondary Metabolites from Actinomycetes

National Level Exam

- ♦ Qualified in GATE 1996

Thesis

- **M.Sc.**

Title: Production and Assay of Streptomycin Antibiotics and Production and Assay of Amylase Enzyme.

- **Advanced Diploma in Bioinformatics**

Title: Upgradation and Updating of India Plant Virus Database (IPVD) (Fox Pro 6.2, MS – DOS 6.22)

Projects

List of projects carried out with Financial Support

Name of the Agency: **Tamil Nadu State Council for Science and Technology, Chennai.**

- ♦ Analysis of Carcinogen Effect of Various Food Additives and Dyes September 2001 – April 2002; Rs. 5000 / -.
- ♦ Prevalence of Leptospirosis among tribal population of Coimbatore and Nilgiris District of Tamil Nadu, December 2002 – April 2003; Rs. 3000 / -.
- ♦ Study on Turmeric Plants free living Rhizosphereic bacteria for their Multiple Plant Growth Promoting Activities, November 2007 – April 2008; Rs. 5000/-
- ♦ Screening of Antimicrobial Metabolites in Marine Microalgae, November 2008 – April 2009; Rs. 5000/-

Completed Students Projects

1. **John O. Nyambega** - Characterization of multiple plant growth promoting traits of *Serratia* spp. Associated with vegetables rhizospheric soil (2009)
2. **N. Nithya** – Heavy metal tolerant and Phosphate solubilizing *Azotobacter* spp. Associated with Soils (2009)
3. **T.Sangeetha** – Multiple plant growth promoting activities of soil Actinomycetes (2009)
4. **R. Anitha** – Antimicrobial activity of Garlic and Ginger extracts against Gram negative and Gram positive isolated from clinical specimens (2009)
5. **Sheerin Shithara** - Antiphytopathogenic fungal activity of Actinomycetes isolated from Kolli Hills (2009)
6. **Nilkantha Banerjee** – Determination of Folic acid in combination with iron in pharmaceutical dosage form by chemical and microbiological methods (2009)
7. **M. Madesh** - Screening of Antimicrobial metabolites of *Chloromonas* spp. (marine microalgae) isolated from marine ecosystem (2009)
8. **P.Jeyanthi** - Study on Plant Growth Promoting Rhizobacteria (PGPR) of turmeric plants and their multiple plants growth promoting activities (2008)
9. **R. Palanivel** – Study on indirect multiple plant growth promoting activities of Plant Growth Promoting Rhizobacteria (PGPR) associated with turmeric plants (2008)
10. **Mutum Jeena Devi** - Modulation of arsenic induced DNA damage by tea In Swiss Albino Mice (2008)
11. **K.V. Dhanesh** – Semidiurnal Dynamics of bacterial indicators and their response to environmental stress in sea water at Vallarpadam, Kerala, India (2008)
12. **Rubani Shahni** – Pigment production from *Monascus* spp. and its application (2008)
13. **P. Karivaradharajan** – Prevalence of multi drug resistant *Klebsiella pneumoniae* and *K. oxytoca* from clinical specimens in Coimbatore district (2008)
14. **B. Revathi** – Current trends on resistant pattern of *Salmonella* spp. from clinical specimens (2008)

15. **Rosari** – Isolation and characterization of lipase from marine actinomycetes (2007)
16. **Chandrasekaran** - Effect of Effective Microorganism (EM) against Pulses for increased productivity and soil health (2007)
17. **Tulassiraman** – Treatment of textile coloured effluents by using marine fungus (2007)
18. **B. Arun** – Role of Effective Microorganisms (EM) on growth of green grams (2006)
19. **Gopisetty Subramaniyam** – Screening of *Salmonella* carrier among hotel workers in and around Namakkal District (2006)
20. **K.V. Manju** – Production, optimization and characterization of cellulase from *Aspergillus niger* (2005)
21. **B. Resmi** – Antibacterial activity of *Momordica tuberosa* and *Trichopus zeylanicus* against selected pathogens (2005)
22. **Resmi Manohar** – Antibacterial activity of *In vivo* and *In vitro* cultivated *Citrus lemon* against methicillin resistant *Staphylococcus aureus* (2005)
23. **M. Raghunadh** – Prevalence of methicillin resistant *Staphylococcus aureus* (MRSA) in a tertiary care hospital in Erode, Tamil Nadu (2005)
24. **P. Saradha** – Antibacterial principles in *in vitro* and *in vivo* cultivated medicinal plants (2004)
25. **Priya Alias** – Diversity of Actinomycetes in Eastern Hill Station (2004)
26. **K. Subash** – Prevalence of Leptospirosis among Tribal populations of Coimbatore and Nilgiri's district of Tamil Nadu by Microscopic Agglutination Test (MAT) and polymerase Chain Reaction (PCR) (2003)
27. **P.T. Sujatha** – Prevalence of Multi drug resistance *Salmonella* species among hotel workers in and Erode (2003)
28. **Deepa Varghese** – Analysis of The Carcinogenic Effect of Laboratory chemicals and Dyes (2003)
29. **C.A. Faizal** – Micropropagation of Ginger (*Zingiber officinale* Rosc.) (2002)
30. **K. Dhanya** - Analysis of The Carcinogenic Effect of Food Additives and Dyes (2002)

31. Thulasi Raj – Prevalence of Multi drug resistance Salmonella species and their plasmid profile among hotel workers in and Tiruchengode (2002)

Research Interests

- Anti Phytopathogenic fungal Secondary metabolites from Actinomycetes
- Plant Microbes interaction (Plant Growth Promoting Rhizobacter (PGPR) for sustainable agricultural practices.

Research Projects (In Progress)

ANTIPHYTOPATHOGENIC FUNGAL ACTIVITY OF ACTINOMYCETES FROM EASTERN COASTAL OF SOUTH INDIA

Fungal phytopathogens pose serious problems worldwide in the cultivation of economically important plants, especially in the subtropical and tropical regions. *Colletotrichum gloeosporioides* (Penz.) and *Sclerotium rolfsii* (Sacc.) cause anthracnose and leaf blight or stem-rot diseases in a wide variety of agricultural crops, respectively. Chemical fungicides are extensively used in current agriculture. However, excessive use of chemical fungicides in agriculture has led to deteriorating human health, environmental pollution, and development of pathogen resistance to fungicide. Because of the worsening problems in fungal disease control, a serious search is needed to identify alternative methods for plant protection, which are less dependent on chemicals and are more environmentally friendly. Microbial antagonists are widely used for the biocontrol of fungal plant diseases.

Many species of actinomycetes, particularly those belonging to the genus *Streptomyces*, are well known as antifungal biocontrol agents that inhibit several plant pathogenic fungi. The antagonistic activity of *Streptomyces* to fungal pathogens is usually related to the production of antifungal compounds and extracellular hydrolytic enzymes. Chitinase and β -1,3-glucanase are considered to be important hydrolytic enzymes in the lysis of fungal cell walls, as for example, cell walls of *Fusarium oxysporum*, *Sclerotinia minor*, and *S. rolfsii*. The antifungal potential of extracellular metabolites from Actinomycetes against some fungi was previously reported. However, data related to the antagonistic ability of the extracellular metabolites of *Streptomyces* strains to suppress the growth of the fungal pathogens *C. gloeosporioides* and *S. rolfsii* having a broad host range are limited.

In this investigation, the isolation of an Actinomycetes strain from marine soil and its ability to produce extracellular antifungal metabolite(s) against different fungal pathogen such as *Cercospora* spp., *Alternaria* spp., *Fusarium oxysporum*, *Aspergillus flavus*, and *Penicillium* spp. The levels of the extracellular chitinase and β -1, 3-glucanase enzymes and their antifungal activity were determined at different growth phases. Additionally, this study will also investigate the antifungal activity of the cell-free culture filtrate of this antagonist to determine whether the production of the extracellular hydrolytic enzymes or secondary antifungal compound(s) is involved in its observed effect. The antifungal potential of extracellular metabolites produced by soil-borne Actinomycetes could be exploited for its future use as a biofungicide.

Actinomycetes, phylogenetically defined as a number of taxa within the high-G -C subdivision of the gram-positive phylum, are involved in important processes in a wide range of habitats. Actinomycetes have been used in the biological control of plant pathogens, and a few are known as plant pathogens. To overcome the severe limitations of culture dependent methods in discovering actinomycetes diversity, molecular biological techniques have become increasingly popular. Actinomycete groups have been detected and characterized by their 16S rRNA sequences in cases where cultivation has proved unsuccessful. Molecular tools have a great potential to assist in isolating yet-uncultured actinomycetes with known rRNA sequences to further investigate or exploit these groups.

One of these molecular tools is the PCR amplification of variable regions of the genes encoding 16S rRNA (16S rDNA) by use of primers homologous to conserved regions of the gene. In addition, RAPD and RFLP analysis of antiphytopathogenic fungal activity actinomycetes isolates.

Hope this training provided hands on training of molecular techniques in order to perform and give better results. So far, we completed isolation of actinonycetes from marine soil environment.

Publications

➤ Journals

International

1. Maqusood Ahamed, Hisham A. Alhadlaq, M. A. Majeed Khan, **Ponmurugan Karuppiiah**, Naif A. Al-Dhabi. (2014) Synthesis, characterization and Antimicrobial activity of copper oxide nanoparticles. *Journal of Nanomaterials*. 2014 (Article ID 637858): 4 pages. DOI: <http://dx.doi.org/10.1155/2014/637858>.
2. H. Harikrishnan, K. Shine, **K. Ponmurugan**, I. G. Moorthy, R. Shyam kumar. (2014) *In vitro* eco-friendly synthesis of cadmium sulphide nanoparticles using heterotrophic *Bacillus cereus*. *Journal of Optoelectronics and Biomedical Materials*. 6(1): 1-7. DOI:
3. **Ponmurugan Karuppiiah**, Muhammed Mustaffa. (2013) Antibacterial and antioxidant activities of *Musa* sp. leaf extracts against multidrug resistant clinical pathogens causing nosocomial infection. *Asian Pacific Journal of Tropical Biomedicine*. 3(9): 737-742. DOI:
4. **K. Ponmurugan**, A. Sankaranarayanan, Naif Abdullah Al-Dhabi. (2012) Biological Activities of Plant Growth Promoting *Azotobacter* sp. Isolated from Vegetable Crops Rhizosphere Soils. *Journal of Pure and Applied Microbiology*. 6(4): 1689-1698 (IF – 0.064). DOI:
5. Harikrishnan Hariharan, Naif Abdullah Al-Dhabi, **Ponmurugan Karuppiiah**, Shyam Kumar Rajaram. (2012) Microbial synthesis of selenium nanocomposite using *Saccharomyces cerevisiae* and its antimicrobial activity against Pathogens causing nosocomial infection. *Chalcogenide Letters*. 9(12): 509-515 (IF - 0.9). DOI:
6. **Ponmurugan Karuppiiah**, Shyamkumar Rajaram. (2012) Antibacterial effect of *Allium sativum* cloves and *Zingiber officinale* rhizomes against multiple-drug resistant clinical pathogens. *Asian Pacific Journal of Tropical Biomedicine*. 2(8): 597-601. DOI:
7. **Ponmurugan Karuppiiah**, Shyamkumar Rajaram. (2011) Exploring the Potential of Chromium Reducing *Bacillus* sp. and their Plant Growth Promoting Activities. *Journal of Microbiology Research*. 1(1): 17-23, DOI: 10.5923/j.microbiology.20110101.04.
8. A.S. Narayanan, S.S. Raja, **K. Ponmurugan**, S.C. Kandekar, K. Natarajaseenivasan, A. Maripandi, Q. A. Mandeel. (2011) Antibacterial activity of selected medicinal plants against multiple antibiotic resistant uropathogens: a study from Kolli Hills, Tamil Nadu, India. *Beneficial Microbes*. 2(3): 235-243 (IF – 1.47). DOI:
9. P. Sekar, **K. Ponmurugan**, G. Gurusubramanian. (2009) Comparative Susceptibility of BHK 21 and Vero Cell Lines to Bluetongue Virus (BTV) Isolate Pathogenic for Sheep. *The Internet Journal of Microbiology*. 7(1), ISSN: 1937-8289

10. Thangapandian, V., P. Ponmurugan, **K. Ponmurugan**. (2007) Actinomycetes diversity in the rhizosphere soils of different medicinal plants in Kolly Hills, Tamil Nadu, India, for secondary metabolite production. *Asian Journal of Plant Sciences*. 6 (1): 66- 70. DOI:

National

1. M.Veerapagu, A. Sankaranarayanan, **K. Ponmurugan**, K. R. Jeya. (2013) Screening selection identification production and optimization of bacterial lipase from oil spilled soil. *Asian Journal Pharmaceutical and Clinical Research*. 6(S3): 62-67.
2. **Ponmurugan K.**, M. Madesh (2010) Antibacterial Activity of *Chloromonas* spp. Isolated from marine ecosystem. *Research & Reviews in BioSciences: An Indian Journal*. 8(2): 203-208.
3. Fredimoses, M. and **K. Ponmurugan**. (2010) Bioinformatics Analysis and Database Creation for Biofuel Producing Microbes. *Advanced Biotech*.
4. Gowri M., **Ponmurugan K.**, Suresh S.S. Raja (2009) Genotoxicity of Ground Water due to Nitrate Pollution and Removal of Nitrate by Fungal Consortium. *Environmental Science: An Indian Journal*. 5(1): 100-105.
5. Sekar, P., G. Gurusubramanian, and **K. Ponmurugan**. (2009) Comparison of RT-PCR and Nested PCR for the Diagnosis of Bluetongue Virus Infection. *Research & Reviews in BioSciences*. 3 (1) :
6. Sekar, P., G. Gurusubramanian, and **K. Ponmurugan**. (2008) Optimization and Characterization of Bluetongue Virus in Embryonated Chicken Egg. *Advanced Biotech*. 6 (11): 12-17.
7. Radhika Krishna, A. Maripandi, Suresh S.S. Raja, **K. Ponmurugan**, Sameer Sharma and K. Nataraja Sreenivasan. (2008) Characterization of Leptospiral isolates by using PCR – RFLP analysis. *Advanced Biotech*. 7 (03): 12-16.
8. Sekar, P., N. Yumnam and **K. Ponmurugan**. (2008) Screening and Characterization of Mycotoxin Producing Fungi from dried fruits and grains. *Advanced Biotech*. 7 (01): 12-15.
9. Veerapagu, M., K.R. Jeya and **K. Ponmurugan**. (2008) Mutational effect of *Penicillium chrysogenum* on Antibiotic production. *Advanced Biotech*. 7 (01): 16-19.

➤ Books

Book Chapters

1. **K. Ponmurugan** and P. Jayanthi. (2012) Preliminary study of Multiple Plant Growth Promoting activities of Plant Growth Promoting Rhizobacteria (PGPR) isolated from Vegetable Rhizospheric soil. Ed. Advances in Life Sciences, Tayung, K., Barik, B.P., Mohapatra, U.B. Studium Press LLC, Texas, USA. Pp.183-194.
- 2.

Proceedings

1. **Ponmurugan, K.**, K. Dhanya and N.R. Rajendran, 2002. Analysis of The Carcinogenic Effect of Food Additives and Dyes, in the Proceedings of 9th Seminar cum Exhibition on student's project scheme, Tamilnadu State Council for Science & Technology, Chennai, Tamil Nadu, India.
2. **Ponmurugan, K** and K. Subash, 2003. Prevalence of Leptospirosis among tribal population of Coimbatore and Niligris District of Tamilnadu, in the Proceedings of 10th Seminar cum Exhibition on students project scheme, Tamilnadu State Council for Science & Technology, Chennai, Tamil Nadu, India, pp:
3. **Ponmurugan, K** and P. Jayanthi, 2008. Study on Turmeric Plants free living Rhizosphereic bacteria for their multiple plant growth promoting activities. Proceedings – Students Projects Scheme Seminar cum Exhibition, Tamil Nadu State Council for Science and Technology, Chennai, Tamil Nadu, India, pp: 31-34.
4. **Ponmurugan, K** and M. Madesh, 2009. Screening of Antimicrobial Metabolites in Marine Microalgae. Proceedings – Students Projects Scheme Seminar cum Exhibition, Tamil Nadu State Council for Science and Technology, Chennai, Tamil Nadu, India, pp: 350-355.

Abstracts

- **Ponmurugan, K.**, Thulassi Raj, L., and Rajendran, N.R. A Survey on *Salmonella typhi* carries among Workers in Hotels, National Level Third Intercollegiate Students Seminar on Current Trends & Future Direction in Life Science at PG & Research Department of Biological Sciences, Muthayammal College of Arts & Science, Rasipuram and Flora, on 4th & 5th January 2002.
- Ponmurugan, K., Faisal. C.A, and Rajendran, N.R. A *Invitro* Propagation of Ginger (*Gingiber officinale* Rosc) National Level Third Intercollegiate Students Seminar on Current trends & Future Direction In Life Science at PG & Research Department of Biological Sciences, Muthayammal College of Arts & Science, Rasipuram & Flora, on 4th & 5th January 2002.

- **Ponmurugan, K.**, and Ramaswamy, N.M., “Medicinal Plant: Germ Plasam Collection” in International Seminar on Medicinal Plants and Species and Patents on 6 & 7 March 2002 held at VHERDS, Chennai.
- Raghunadh, M., and **K. Ponmurugan**. Prevalence of methicilling resistant *Staphylococcus aureus* in patients of various hospitals in Alwaye, Kerala. Symposium on Recent development in Biological Sciences. Feb 15-16, 2005. K.S.R. College of Arts & Science, Tiruchengode.
- Kulandaivel, S., and **K. Ponmurugan**. Analysis of mutagenic effect of selected lab chemicals and cosmetics using Amest test. Symposium on Recent development in Biological Sciences. Feb 15-16, 2005. K.S.R. College of Arts & Science, Tiruchengode.
- Jino Jose and **K. Ponmurugan**. Production, optimization and characterization of cellulose from *Aspergillus niger*. National symposium on Bioindustrial focuses on microbial anaplerotic action. 12 & 13th Sep’05. K.S.R. College of Arts & Science, Tiruchengode.
- John Jebaraj, M., M. Kalaiarasan, R. Karthikeyan and **K. Ponmurugan**. (2008) Applications of Nanoscience in Medicine. National Symposium on Exploring Microbes for Nanoscience and Technology (Abstracts), PG and Research Department of Microbiology, K.S.R. College of Arts and Science, Tiruchengode, pp: 17.
- Kanjanamala, K., A. Balasubramaniam, K. Dhandapani and **K. Ponmurugan**. (2008) DNA as a Nanocomputer. National Symposium on Exploring Microbes for Nanoscience and Technology (Abstracts), PG and Research Department of Microbiology, K.S.R. College of Arts and Science, Tiruchengode, pp: 14

Symposia / Seminar / Conference Attended

1. National Seminar on "**Biology and Biotechnology of Cyanobacteria**" on 22.04.1995, held at DBT centre for BGA Biofertilizer, School of Biological Sciences, Madurai Kamaraj University, Madurai – 625 021.
2. National Seminar on "**Recent Advances in Plant Biotechnology**" held during 26th and 27th March, 1997 at Research Department of Botany, V.H.N.S.N. College, Virudhunagar – 626 001.
3. State Level “**Inter-Collegiate Students Seminar on Microbiology**” conducted by the Department of Botany and Microbiology, A.V.V.M. Sri Pushpam College, Poondi –613 503, Thanjanyur, on 05.10.1999.
4. International Symposium on “**Recent Advances in Biological Sciences**” on 11 & 12 October 2001, held at Centre for Biological Sciences, K.S.R. College of Arts and Science, Tiruchengode – 637 209.

5. International Seminar on “**Medicinal Plants and Spices – Patents and Exports**” on 6 & 7 April 2002, held at Sri Raghavendra Mandapam, Kodambakkam, Chennai –600 024 by organized by Voluntary Health Education and Rural Development Society (VHERDS).

Training / Workshop Attended

1. Workshop on “**NMR Techniques**” at Sophisticated Test & Instrumentation Centre, organized by Cochin University of Science & Technology, Cochin – 682 022, from 13 – 15 January 2011.
2. National Workshop on “**Electron Microscopy**” from December 6 to 8 2010, sponsored by , Department of Science and Technology and Board of Research in Nuclear Sciences, Government of India, organized by Thiagarajar College of Engineering, Madurai – 625 015.
3. Summer Workshop on “**Fermentation Technology**” from 27th May to 4th June 2010, organized by Department of Microbiology, K.S.Rangasamy College of Arts and Science, Tiruchengode – 637 215.
4. Training on “**Blue Green Algae: Application in Agriculture and Industry**” from May 12-18, 2010, sponsored by the Department of Science and Technology, Government of India, organized by Centre for conservation and Utilization of Blue Green Algae, Indian Agricultural Research Institute, New Delhi - .
5. Refresher course on “**Biotechnology and Modern Molecular Biology Techniques**” sponsored Indian Academy of Sciences, Indian National Science Academy and The National Academy of Sciences, organized by Manipal Life Science Centre, Manipal University, Manipal - , from 11.01.2010 to 23.01.2010.
6. Quality Improvement Programme on “**Instructional Design and Delivery Systems**” conducted by Technical Teachers Training Institute, Ministry of Human Resource Development, Government of India, Chennai from 20.06.2002 to 22.06.2002, held at K.S.R. College of Arts and Science, Tiruchengode – 637 209.
7. International Training Course on “**Biotechnological Tools for Plant Improvement**” sponsored by International Cell Research Organization (ICRO), United Nations Educational Scientific and Cultural Organization (UNESCO), European Molecular Biology Organization (EMBO) and KSR Educational and Charitable Trust held at Centre for Biological Sciences, KSR College of Arts and Science, Tiruchengode, Tamil Nadu, India from September 7-20, 2003.
8. Workshop on “**Guidance and Counselling**” conducted by Technical Teachers Training Institute, Ministry of Human Resource Development, Government of India, Chennai, from 20.10.2003 to 22.10.2003, held at K.S.R. College of Arts and Science, Tiruchengode – 637 209.

9. Faculty Development Programme (FDP) on “**Effective Teaching and Learning Practices**” conducted by KSR College of Arts and Science, Tiruchengode – 637 209, during the academic year 2006 – 2007.

Computer Knowledge

OPERATING SYSTEM : MS-DOS 6.2, WINDOWS 2007 / WINDOWS 8

SOFTWARES : MS-OFFICE, PHOTOSHOP, etc.

Technical Skills

Subject

- Isolation, Identification, Characterization & Maintenance of Microorganisms
- Isolation of Genomic and Plasmids DNA
- SDS-PAGE, Agarose Gel Electrophoresis, Chromatography (Paper Chromatography and Thin Layer Chromatography), PCR etc.
- Restriction Analysis, RAPD, RFLP, etc.
- Western blotting
- Phase Contrast Microscopy, Fluorescent Microscopy, Dark Field Microscopy and Inverted Microscopy.

Member

- Life Member in **Indian Society for Technical Education**
- Life Member in **Indian Association for Applied Microbiologist**
- Member in **American Society of Microbiology**

Personal Data

Date of Birth : 22 May 1974
Sex : Male
Marital Status : Married, 2 Children (Girl & Boy)
Nationality : Indian
Language Known : Tamil, English
Hobbies : Reading Books, Gardening, Drawing

References

Dr. K. Natarajaseenivasan

Professor
Department of Microbiology
Bharathidhasan University
Trichy – 620 024,
Tamil Nadu, India
Phone: +91 431 2407082 (O)
Mobile: +91 99444 81610
Email: natarajaseenivasan@rediffmail.com

Dr. M. Chandrasekaran

Professor
Department of Biotechnology
Cochin University of Science and Technology
Cochin – 682 022, Kerala, India
Email: chansek10@gmail.com

Dr. K. Murugan

Assistant Professor
Department of Botany and Microbiology
College of Science, King Saud University
P.O Box 2455,
Riyadh -11451, Saudi Arabia
Email: murutan@gmail.com