

PERSONAL INFORMATION



Dinesh, Sanka Loganatha Chetti, INDIAN (DOB: 29/07/1985; Passport no: S0771973)

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PERSONAL STATEMENT

I am a dedicated, sincere individual with a great deal of ambition. I intend to undergo intensive research in the field of Microbial ecology and Biotechnology. I enjoy having good rapport with my colleagues and work as a team. I am looking for a suitable postdoctoral research position, where I can contribute actively for the productivity of laboratory.

WORK EXPERIENCE

04/09/2018–Present

Research Associate

Arctic division, National centre for polar and ocean research, Vasco Da Gama, Goa (India)

- Study on methane cycling microbial communities of tundra, lake and fjord of polar regions. This culture independent work is carried out using amplicon sequencing, TA cloning based functional gene sequencing (*mcrA* and *pmoA*) and qPCR quantitation.
- Application of Oxford nanopore Minion NGS for whole metagenome sequencing and analysis
- Member of Indian Arctic Expedition (May-June 2019)

15/06/2017–07/08/2018

Project Associate

Environmental engineering Division, Civil Engineering department, Indian institute of Technology Madras, Chennai (India)

- Study of sludge microbiome from anaerobic biodigestors under different operational conditions.
“A commercial inoculum was added to medium scale anaerobic biodigestors under different operational conditions such as inoculum load, chemical treatment, HRT and OLR to compare the microbial diversity and community dynamics”
- Operation of lab based biological wastewater treatment reactors for ammonia removal from synthetic urine waste water using nitrifying and denitrifying microbes.
“Series of modified septic tank (MST) and submerged attached biological filter (SABF) used for treatment of urine wastewater. A lab scale model was constructed in order to evaluate ammonia removal efficiency under various parameters such as ammonia loading rate, hydraulic retention time and organic loading by feeding synthetic media. The inputs and ideas from lab reactor later implemented at field level in schools”
- Field monitoring of ammonia removal from school urine waste water using nitrifying and denitrifying microbes.

01/01/2009–21/12/2010

Post graduate student researcher

University College Dublin, Dublin, Éire/Ireland

- Isolation of bacteria and fungi from disease suppressive soil and compost
- Screened 330 bacteria for broad spectrum anti-phytopathogenic activity against eight pathogens
- *Alcaligenes faecalis* fosmid genomic library construction and screening for anti-

phytopathogenic activity

- Mini-Tn5 transposon mutagenesis based knock out screening on *B. subtilis*.

EDUCATION AND TRAINING

| | | |
|-----------------------|---|------------------|
| 01/01/2012–14/06/2017 | <p>Doctor of Philosophy in Microbiology (PhD) (Qualified on March 2nd 2018)</p> <p>Bharathidasan University, Trichy (India)</p> <p>Thesis title “Metagenomic studies on microbial diversity of mangrove soil, its functional relationship and biomedical potential of Fluostatin C”</p> <p>Brief summary :</p> <ul style="list-style-type: none"> ▪ Optimization of metagenomic DNA isolation and purification from mangrove soil. ▪ Prokaryotic diversity of pneumatophore attached soil during monsoon and summer using 454 pyrosequencing ▪ Microbial diversity and community structure of <i>A. marina</i> microhabitats (pneumatophore attached soil, rhizosphere and bulk sediment) using Ion torrent sequencing ▪ Functional screening of fosmid metagenomic library for biomolecules (hemicellulase enzymes and secondary metabolites)-Identification of novel AXE1 enzyme using fosmid based metagenomic exploration. ▪ Biomedical potential of Fluostatin C using reverse pharmacology approach and in vitro studies | Highly Commended |
| 14/08/2006–30/05/2008 | <p>Master of science (MSc) in Industrial Microbiology</p> <p>Centre for Advanced Studies in Botany, University of Madras, Guindy campus, Chennai (India)</p> <p>Thesis title “Role of effector T cells and natural regulatory T cells in HIV-TB co-Infection”</p> | 5.47/6 |
| 15/06/2003–30/04/2006 | <p>Bachelor of science (BSc) in Plant biology and Biotechnology</p> <p>Loyola College (Affiliated to University of Madras), Chennai (India)</p> | 78 % |

PUBLICATIONS

- Ligy Philip, Kalaivani Kannappan, Dinesh Sanka Loganathachetti, Guthala Ravikumar, Laila Jaseela, Archana P Abraham "Performance Evaluation and Prokaryotic Community Structure of Onsite Anaerobic Bio-digesters Treating Black Water" **communited** to RSC advances.
- S.L. Dinesh, P. Anbu and M. Sundararaman (2017), Fungal community assemblage of different soil compartments in mangrove ecosystem, **Scientific reports**, Nature Publishing Group, London. DOI: 10.1038/s41598-017-09281-3. (Impact factor: 4.259)
- S.L. Dinesh, S. Balamurugan, P. Anbu and M. Sundararaman (2016), Pyrosequencing based seasonal observation of prokaryotic diversity in pneumatophores associated soil of *Avicennia marina*, **Current microbiology** (springer), 72(1): 68-74. (Impact factor: 1.322)
- S.L. Dinesh and M. Sundararaman (2015), Biomedical potential of natural products derived through metagenomic approaches, **RSC advances** (Royal society of

chemistry), 5, 101200-101213. (Impact factor: 3.108)

- B. Ravindran, S. L. Dinesh, L. John Kennedy & G. Sekaran (2008), Vermicomposting of Solid Waste Generated from Leather Industries Using Epigeic Earthworm *Eisenia foetida*, **Appl Biochem Biotechnol** (springer), 151:480–488. (Impact factor: 1.751)
- J. Ziyu, Joe Antony, S.L. Dinesh, N. Prasanna balaji, C. Baoan (2017), β -Elemene: Mechanistic Studies on Cancer Cell Interaction and Its Chemosensitization Effect, Volume 8, Article 105, **Frontiers in Pharmacology**, DOI: 10.3389/fphar.2017.00105. (Impact factor: 4.4)

INTERNATIOANL CONFERENCES

- Dinesh S.L & Sundararaman. M (2016), Seasonal variation of prokaryotic diversity and root exudates in pneumatophore-associated soil of *Avicennia marina*, International conference on Biodiversity and Biotechnology 2016, Trichy, India
- Dinesh S.L & Sundararaman. M (2015), Seasonal observation of prokaryotic and root exudate diversity in pneumatophore rhizosphere microhabitat (PRM) soil of *Avicennia marina*. RHIZO4, Maastricht, The Netherlands.
- Henneberger R., Dinesh S.L, Doohan F., Dobson A.D.W. and Marchesi J. (2009): Isolation of novel anti-phytopathogen agents from Irish soil using metagenomic strategies. Bacterial Genetics and Ecology BAGECO 10, Uppsala, Sweden
- N. Sudhakar, S.L. Dinesh, S. Sudha, S. Kumaran and K. Murugesan (2007), Induction of systemic resistance cv. PKM1 against cucumber mosaic virus by using plant growth promoting rhizobacteria (PGPR), 10th IPVE (International Plant virus Epidemiology symposium), ICRISAT (International crop research institute for semi-arid tropics), Hyderabad, India

PERSONAL SKILLS

Mother tongue(s) Tamil, Telugu

Foreign language(s)

| | UNDERSTANDING | | SPEAKING | | WRITING |
|---------|---------------|---------|--------------------|-------------------|---------|
| | Listening | Reading | Spoken interaction | Spoken production | |
| English | C1 | C1 | C1 | C1 | C1 |
| German | A1 | A1 | A1 | A1 | A1 |

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages

Job-related skills

- Physico-chemical characterization of wastewater (ammonia, nitrite, nitrate, TN, TKN, COD, TP and BOD)
- Bioinformatics : Linux using high performance computing cluster, MOTHUR, Canu assembly, PICRUST, CLARK, Kraken1, Kraken2, RDP pipeline, MG-RAST pipeline, PAST, Primer7, MEGA, R (heatmap and ggplot) and Schrodinger docking tool.
- Isolation of metagenomic DNA, genomic and metagenomic fosmid library construction and large scale screening for anti-microbial and enzyme activities using GENTIX

automated robot or manual method, tri-parental mating based mini-Tn5 mutagenesis of *Alcaligenes sp*, analysis of sequences.

- Microscopy: Fluorescent imaging (DAPI bacterial staining and animal cell culture AO-EB staining) and Inverted microscope.
- PCR, semi-quantitative RT PCR, quantitative PCR, ELISpot, immuno staining and Nitric oxide assay

Scholarships/Prizes/award:

- Junior & Senior research scholar award (2012-2017) by Lady Tata Memorial trust, Mumbai, India
- Best oral presentation award, International conference on Biodiversity and Biotechnology 2016, Trichy, India
- Travel award to attend Rhizosphere4 international conference in Maastricht, The Netherlands (2015).
- A.L. Mudaliar scholarship for meritorious students (during Masters)-2008 by University of Madras, India
- Summer internship carried out under Science Talent Promotion Scheme (STPS) by University of Madras during Masters.
- Member of Indian Arctic expedition team (May-June, 2019)