

DISHA SHARMA

Computational Biologist, PhD

Information

Female
Jul 20, 1992
Indian

Contact Details

E:
dishasharma35@gmail.com;
dishas@Stanford.edu

Technical Skills

R

Python

Shell

HTML&CSS

MySQL

JavaScript

MS-Office

(*-***** = basic to expert)

References

Dr. Vinod Scaria
Scientist
CSIR-IGIB, New
Delhi, India
vinods@igib.in

Objective

Create innovative solutions in interest of public healthcare.

Professional Summary

Post Doctoral Fellow at Stanford University with more than 7 years of research experience as computational biologist.

Work Experience

03-2020 to 08.2020 **Analysis of COVID-19 Sequencing datasets from Illumina and Nanopore sequencing to perform viral assembly and variant calling.**
Working as core team member in analysis of COVID-19 sequencing data

09-2019 to 08.2020 **INTEL-INDIA FELLOW**
working in collaboration with INTEL to **Accelerate Clinical Analysis and Interpretation of Genomics Data through advanced tools/libraries**

04-2019 to Present **IndiGen: 1000 Genome Project for Indian Population.**
Working as a part of core team for bioinformatics analysis of 1000 whole genome sequencing data and post-processing

12.2018 to Present **Genomics for understanding rare diseases. Identification of disease causing variants, copy number variation and repeat expansion in exome and genome sequenced patients.**
GUARDIAN Consortium

07.2014 to 12.2019 **Understanding the biology of circular RNAs using Zebrafish as model organism.**
Ph.D. Thesis Project

07.2014 to 12.2019 **Creating resources for circular RNA community to use it for the purpose of clinical, translational and basic biology.**
PhD. Thesis Project

08.2014 to Present **Study of salivary oral metagenome in prospective of Sjogren's syndrome.**
At CSIR-IGIB, in collaboration with CMC Vellore.

11.2012 to
08.2014

Understand the role of non-coding RNAs (miRNAs and lncRNAs) in diverse biological datasets.

Project Fellow, CSIR-IGIB with different collaborations.

- 1. Organellar transcriptome sequencing reveals mitochondrial localization of nuclear encoded transcripts.**
- 2. Autologous NeoHep Derived from Chronic Hepatitis B Virus Patients' Blood Monocytes by Upregulation of c-MET Signaling.**
- 3. Understanding the role of non-coding RNAs in Malaria.**

11.2012 to
08.2014

- 4. Role of miRNAs in diabetes using small RNA sequencing**

01.2012 to
06.2012

In vitro shoot regeneration and fidelity testing using RAPD markers approach in *Cyamopsis tetragonoloba* L. i.e. Cluster bean

Master's Dissertation, IIT Roorkee with Prof. G.S. Randhawa

05.2011 to
08.2011

Screening, Evaluation and Mechanism Detection using modified anticancer drugs and effect on estrogen receptors on breast cancer lines

Summer Project, IIT Roorkee with Dr. Partha Roy

Workshops

15.12.2018

One Day Workshop: Data Science using R

IIIT-Delhi, India

22.12.2018 to
24.12.2018

Fundamentals of Systems Biology

University of Delhi, India

Conferences and Meetings

02.10.2017 to
04.10.2017

2017 NextGen Genomics, Biology, Bioinformatics and Technologies (NGBT) Conference [Full Scholarship]

Bhubaneswar, Odisha, India

11.01.2018 to
12.01.2018

SYNCON 2017-18 Bridging the Gap: Basic and Clinical Research from Bench to Bedside

AIIMS, Delhi, India

03.10.2016
to
05.10.2016

2016 NextGen Genomics, Biology, Bioinformatics and Technologies (NGBT) Conference [Partial Scholarship]

Cochin, Kerala, India

Selective Publications

- 1. Does the buck stop with the bugs?: an overview of microbial dysbiosis in rheumatoid arthritis.**
Sandhya P, Danda D, Sharma D, Scaria V.
Int J Rheum Dis. 2016 Jan;19(1):8-20. doi: 10.1111/1756-185X.12728. Epub 2015 Sep 19.
Review.
PMID:26385261
- 2. Autologous NeoHep Derived from Chronic Hepatitis B Virus Patients' Blood Monocytes by Upregulation of c-MET Signaling.**
Bhattacharjee J, Das B, Sharma D, Sahay P, Jain K, Mishra A, Iyer S, Nagpal P, Scaria V, Nagarajan P, Khanduri P, Mukhopadhyay A, Upadhyay P.
Stem Cells Transl Med. 2017 Jan;6(1):174-186. doi: 10.5966/sctm.2015-0308. Epub 2016 Jul 28.
PMID:28170202
- 3. Organellar transcriptome sequencing reveals mitochondrial localization of nuclear encoded transcripts.**
Sabharwal A, Sharma D, Vellarikkal SK, Jayarajan R, Verma A, Senthivel V, Scaria V, Sivasubbu S.
Mitochondrion. 2018 Feb 24. pii: S1567-7249(17)30106-X. doi: 10.1016/j.mito.2018.02.007.
PMID:29486245
- 4. Methods for annotation and validation of circular RNAs from RNAseq data
Methods in Molecular Biology, Chapter 3, 2018.**
Disha Sharma, Paras Sehgal, Judith Hariprakash, Sridhar Sivasubbu, Vinod Scaria
- 5. A genome-wide map of circular RNAs in adult zebrafish**
Disha Sharma, Paras Sehgal, Samatha Mathew, Shamsudheen Karuthedath Vellarikkal, Angom Ramcharan Singh, Shruti Kapoor, Rijith Jayarajan, Vinod Scaria & Sridhar Sivasubbu
Sci Rep. 2019 Mar 5;9(1):3432. doi: 10.1038/s41598-019-39977-7.
PMID:30837568
- 6. Circad: A comprehensive manually curated resource of circular RNAs associated with diseases.**
Rophina M, Sharma D, Poojary M, Scaria V. Database (Oxford). 2020 Jan 1;2020:baaa019. doi: 10.1093/database/baaa019. PMID: 32219412

7. Saliva microbiome in primary Sjogren's syndrome reveals a distinct set of microbes associated with the disease

Sharma D, Sandhya P, Vellarikkal SK, Surin AK, Jayarajan R, Verma A, Kumar A, Ravi R, Danda D, Sivasubbu S, Scaria V. Oral Dis. 2020 Mar;26(2):295-301. doi: 10.1111/odi.13191. Epub 2020 Jan 10. PMID: 31514257

Technical Experience

- P C R (including Reverse transcriptase PCR and Real-time PCR).
- DNA and RNA isolation from tissues and cell lines.
- Ligand binding assays.
- Southern, Northern and Western hybridization.
- GFP cloning.
- Chromatographic techniques (Ion-exchange, Affinity, Gel filtration and thin layer)
- UV-visible, Fluorescence Spectroscopy
- All basic Molecular, Biochemical and Microbial techniques.
- Histological and histochemical staining.
- **Cell culture techniques:** Sub culturing, Maintenance of cell lines, cell counting, freezing, thawing and revival of cells, transfection and generation of stable cell lines, cell viability assay – Trypan Blue Exclusion assay
- **Cell lines handled:** Primary cultures-tumor cell lines, CHO and HEK cultures.

Achievements

- CSIR-NET Qualified with UGC Rank 56.
- All India Rank 51th in JAM and Selected in Indian Institute of Technology Roorkee (IIT Roorkee)
- All India Ranked 15th for genetics taken by national level university Banaras Hindu University
- Ranked 40th in plant biotechnology in Banaras Hindu University Entrance,2010
- Two years Department of Biotechnology scholarship.
- Qualified GATE 2012 98.8 percentile.

Education

CSIR-Institute of Genomics and Integrated
Biology, New Delhi, India
PhD, 2014-2020

Indian Institute of Technology, Roorkee, India
M.Sc. Biotechnology; 2012
Overall Grades: 7.56 out of 10.

Banasthali University, Jaipur, India
B.Sc. Biotechnology; 2010
Percentage: 77%

Certificate Courses

- Advance Language course in English; 2008
- Certificate Course in German Language; 2007
- Certificate Course in Music instrument Sitar;2007

Extra-Curricular Participations

- First in Table Tennis (Doubles) at AAROHAN held at CSIR-IGIB, New Delhi, India in 2017.
- First runner up in Table Tennis (Doubles) at AAROHAN held at CSIR-IGIB, New Delhi, India in 2017.
- 3rd in State level science Exhibition: Water Borne diseases
- District level science quiz and exhibition, got first prize.
- Co-Convener (PG) in Cognizance 2012 Biotechnology Department core team
- Co-coordinator in event SCIENTIFIC –OZ organized by IIT ,Roorkee
- Cleared national level talent hunt exam for Biotechnology, 2011
- Certificate course in German language
- Actively participated in National Social Service team in school
- Participated in annual tech fest for Biotechnology named JANUS 2010 in Banasthali University.
- Among top 10% students in national level test for physics association.

Skills

Fluent in English

Team work spirit

Leadership

Creative

Problem solving skills

Bound to deadlines