Shrigouri Patil

she/her

Research Scientist
M.Sc –Biomedical Genetics

Personal info

+49-1522-6525334
pgouri29@gmail.com
Stuttgart, Germany
in/shrigouri-patil-70452773
scholar.google.com

Skills

- DNA/RNA extraction, Restriction digestion and ligation cloning, cDNA cloning, Site Directed Mutagenesis, Gibson assembly cloning, Overlap extension PCR cloning, qRT-PCR
- Cell culture and maintenance of HEK293 and C636 cell lines, Cell transfection, SDS-PAGE electrophoresis, Western Blott FPLC, Cellullar localization study , Polysome isolation
- Confocal laser scanning microscope
- Animal studies: Rearing and maintenance of *Drosophila melanogaster*, performing genetic crosses, microdissection
- R programming, Python (beginner), Snapgene, ClustalW, Geneious, ImageJ

Profile

Shrigouri is a researcher with expertise in molecular biology, possessing over five years of experience in wide range of topics, including molecular cloning, protein studies, gene editing and developing diagnostic kit. She is dedicated, hard working and open to learn and contribute to new technologies.

Diagnostic assay development | CRISPR technology | Ion channel purification | FPLC | Confocal microscopy

Work Experience

CrisprBits Pvt Ltd

Full-time, Research Scientist — Bengaluru, India

May 2023 – August 2024

- Responsible for development of point of care detection kit for antimicrobial resistance infection using CRISPR technology.
- Established molecular cloning services, encompassing the molecular aspects of gene editing.
- Actively collaborating with clinicians and researchers to develop the diagnostic kit.

Fly Facility, National Center for Biological Sciences

Full-time, Facility Assistant — Bengaluru, India

2022 – 2023

- Led molecular team at the Fly Facility.
- Formulated strategies to create transgenic flies through the application of genome editing technologies like CRISPR-Cas9.
- Generated challenging molecular constructs in the facility, which were elusive for extended period.

Tata Institute of Genetics and Society

Full-time, Research Assistant — Bengaluru, India

2019 – 2021

- Studied the structural basis of insecticide resistance seen in mosquitoes.
- Generated intricate clones for expressing ion channels.
- Successfully expressed ion channels in mammalian cells and optimized protein purification methods to obtain stable ion channels.

Prof. Gaiti Hasan's lab, NCBS

Junior Research Fellow — Bengaluru, India

2018 – 2019

- Continued masters thesis work focusing on understanding the molecular basis behind the observed defects in 'Early life starved' adults, by carrying out qRT-PCR on curated neuropeptides and neuropeptide receptors.

Education

Master of Science in Biomedical genetics, Vellore Institute of Technology

Vellore, India — July 2016 – May 2018

CGPA: 8.49/10

Courses: Human molecular genetics, Cancer genetics, Tissue engineering and regenerative medicine, Stem cell biology

Thesis subject: "Effects of early life protein deprivation on adult behavior and metabolism: Studies in *Drosophila melanogaster*" We found that balanced nutrition is essential during development if deprived they have long lasting irreversible impact on locomotory and other physiological abilities.

Bachelor of Science, NMKRV college for Women

Bengaluru, India June 2013 – April 2016

Grade: 79.9%

Key courses: Chemistry, Zoology, Biotechnology

Publications

PathCrisp: An Innovative Molecular Diagnostic Tool for Early Detection of NDM-Resistant Infections

MedRxiv Under review

Developed a rapid, accurate molecular detection system to detect the New Delhi metallo-beta-lactamase gene in carbapenem-resistant Enterobacteriaceae clinical samples

[DOI: 10.1101/2024.07.09.24310126]

Distinctive impact of polystyrene nano-spherules as an emergent pollutant toward the environment

Journal of Environmental Science and Pollution Research 2019

Cultured lymphocytes and performed hemolytic, cytotoxic, and genotoxic experiments, concluding that higher concentration of nanopraticles is indeed harmful to human blood cells

[DOI: 10.1007/s11356-018-3698-z]

Impact of late larval nutritional stress on adult metabolic, gut and locomotor phenotypes in *Drosophila melanogaster*

bioRxiv Under Review

Our study aimed to understand if *Drosophila melanogaster* can be used as a model organism to assess the importance of a balanced diet during development.

[DOI: 10.1101/2022.06.30.498321]

Talks/Presentations

Delta opioid receptor (DOR)-mediated cell survival against ROS induced cytotoxic insult in SHSY5Y cell lines

Vellore Institute of Technology, India 2017

Presented our small project on effect of activation of DOR on cell toxicity at Annual SET conference and won *Best Paper Presentation Award*.

Effects of early life nutritional stress on adult behaviour and metabolism: *Drosophila melanogaster* as a model to uncover molecular correlates of childhood malnutrition

IIT Kanpur, India 2018

Presented Poster on the Master's thesis research at Indian Society of Developmental Biologists (InSDB) -2018 Biennial meet, receiving both appreciation for the work and valuable feedback.

PathCrisp: Revolutionizing Early Detection of Antimicrobial Resistance Infections with Molecular Diagnostics

SRM university-AP 2023

Presented poster on our innovative Point of Care diagnostic kit for infections at the International Conclave on Antimicrobial Resistance (ICAFA-2023) hosted by SRM University-AP in collaboration with several global organizations. Had the chance to engage with prominent figures in AMR field, receiving valuable insights on how to improve our kit.

Shrigouri Patil

M.Sc -Biomedical Genetics

Languages

- Kannada (Mothertounge)
- English (Fluent)
- German (Beginner)

References

Reety Arora
Principal Scientist, Head R&D
CRISPRBITS Pvt. Ltd.
Bengauluru, India
reety@crisprbits.com

Baskar Bakthavachalu
Assistant Professor
Indian Institute of Technology, Mandi, India
baskar@iitmandi.ac.in

Dr Megha
Assistant Professor
University of Trans-Disciplinary Health Sciences and Technology
Bengauluru, India
megha@tdu.edu.in

Hobbies

- Gardening
- Handicraft
- Reading