TANUJA

Research Scholar, Genomics lab, Department of Genetic Engineering, SRM Institute of Science and Technology
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CAREER OBJECTIVE

I am actively seeking research opportunities in **Genomics (NGS), Microbiology, Plant Biology,** and **Molecular Biology** in a reputed organization that provides significant challenges to solve major problems, adding value to organizational operations and my personal growth.

EXPERIENCE

Nov 2023- till now (5 month)	**RESEARCH ASSOCIATE** **Absolute (ECSO Global Private Limited), Gurgaon** **Role:** NGS data analysis

EDUCATION

2019-2024 (Thesis submitted)	**Ph.D. SCHOLAR** **Department of Genetic Engineering** SRM Institute of Science and Technology, Kattankulathur, Tamilnadu
2018-2019	**DIPLOMA** **Advanced PG Diploma in Life Sciences Technologies**, **C.G.P.A: 8.5/10** (Department of Biotechnology Project) SRM Institute of Science and Technology, Kattankulathur, Tamilnadu
2012-2017	**INTEGRATED MASTER OF SCIENCE** **Life Science**, **C.G.P.A: 7.5/10** Central University of Jharkhand, Ranchi, Jharkhand
2010-2012	**HIGHER SECONDARY (HSC-XII)** **Science**, **Marks (%): 79** College of Commerce, Patna, Bihar
2009-2010	**SSC(X)** **Marks (C.G.P.A): 8.40** Krishna-Niketan, Patna, Bihar

AREA OF INTERESTS

- **Genomics**
- **Metagenomics**
- **Next-generation sequencing**
- **Stress Physiology**
- **Metabolic Engineering**
- **Molecular Cloning**

SKILLS

Techniques:

DNA isolation, RNA isolation, Polymerase Chain Reaction (PCR), Gradient Polymerase Chain Reaction, LAMP Polymerase Chain Reaction, RT-PCR, Real-time Polymerase Chain Reaction (qRT-PCR), Digital PCR, allele-specific PCR, Plasmid isolation, Competent cell preparation, Transformation, Cloning, Restriction Digestion, IPTG Induction, SDS-PAGE, Sanger sequencing, NGS library preparation (DNA and RNA), Bioanalyser, Spectrophotometer, Qubit fluorometer.

Bioinformatics :
De-novo Assembly, Gene-expression analysis, Mutation analysis, Chloroplast assembly, Mitochondria assembly, Whole Genome assembly, Metagenomics, Reference-based assembly, Linux, Blast2GO, MEGA, Gene Bank submission, SRA submission, Phylogenetic analysis.

PROJECTS AND TRAINING

January 2019 (Present) **Gene discoveries from the medicinal plant by RNA-Seq analysis of leaf transcriptome** under the supervision of **Dr. M. Parani**
SRM Institute of Science and Technology, Kattankulathur, Tamilnadu

July 2018 –June 2019 ***De-novo* assembly and characterization of *Ocimum gratissimum* leaf transcriptome by using RNA-Seq** under the supervision of **Dr. M. Parani**
SRM Institute of Science and Technology, Kattankulathur, Tamilnadu

July 2015 –June 2017 **Isolation and biochemical characterization of Plant Growth Promoting Rhizobacteria (PGPR)** under the supervision of **Dr. Anil Kumar**
Central University of Jharkhand, Ranchi

June 2016 – June 2016 **advanced biochemical assay and bio instrumentation** under the supervision of **Dr. Arun Kumar**
Mahavir Cancer Sansthan, Patna

ACHIEVEMENTS AND EXTRACURRICULAR ACTIVITIES

- Awarded **silver medals** for the presentation of paper **transcriptome analysis identifies a full-length gene responsible for the biosynthesis of an anti-cancer compound β-caryophyllene from *Ayapana triplinerves*** in Research Day at SRM Institute of Science and Technology, Kattankulathur.

- Conducted **Hands-on Training on shotgun sequencing & complet chloroplast genome assembly** from 28th Nov to 3rd Dec 2022 at SRM Institute of Science and Technology, Kattankulathur.

- Awarded best oral presentation award at the 3rd International Conference on **Applications of Natural Compounds, Nanomaterials, Oncolytics in Cancer Biology and Biotechnology 2022** conducted by the School of Life Sciences, Association of Cancer Education and Research (ACER) BSACIST & Purdue University, USA

- Conducted **Pre-congress workshop on Rice Genome Mapping and Annotation** during the **Indian Plant Science Congress 2019** at SRM Institute of Science and Technology, Kattankulathur.

- Awarded a YUVA scholarship to participate in the International conferences **NextGen Genomics, Biology, Bioinformatics and Technologies (NGBT)- 2019** meeting.

- **Participated** in International Ozone Day 2012 at Central University of Jharkhand, Ranchi.

PRESENTED IN CONFERENCE

- Presented a paper entitled **Whole transcriptome analysis identifies full-length neo-andrographolide biosynthetic genes from *Andrographis alata,* an alternate source for anti-viral compounds** in **DPRC- 2022** held on March 2022 at SRM Institute of Science and Technology, Kattankulathur-603203.

- Presented a paper entitled **Whole transcriptome analysis identifies full-length neo-andrographolide biosynthetic genes from *Andrographis alata* by RNA- Seq analysis** in **DPRC- 2021** held on March 2021 at SRM Institute of Science and Technology, Kattankulathur-603203.

- Presented a paper entitled ***De novo* assembly and functional annotation of the leaf transcriptome of *Ocimum gratissimum* using RNA-Seq** in **Plant Genetics and Genomics Conference 2020** held on 23th-24th January 2020 at SRM Institute of Science and Technology, Kattankulathur-603203.

- Presented a paper entitled ***De novo* assembly and characterization of *Ocimum gratissimum* leaf transcriptome using RNA-Seq** during International conferences **NextGen Genomics, Biology, Bioinformatics and Technologies (NGBT)- 2019**.

- Presented a paper entitled **Isolation and biochemical characterization of Plant Growth Promoting Rhizobacteria (PGPR)** during the Internation conference **Indian Plant Science Congress (PSC)- 2019** conducted on 23th-26th January 2019 by SRM Institute of Science and Technology, Kattankulathur.

RESEARCH PUBLICATIONS

- **Tanuja.,** Madasamy, Parani. (2022) Whole transcriptome analysis identifies full-length genes for neoandrographolide biosynthesis from *Andrographis alata*, an alternate source for antiviral compounds. Gene, 851(2023), 1-11

- **Tanuja**., Parasar, N. R., Kumar, R., Natarajan, P., & Parani, M. (2021). De novo assembly, annotation, and molecular marker identification from the leaf transcriptome of *Ocimum gratissimum* L. *Plant Genetic Resources*, *19*(6), 469-476.

- Natarajan, P., Murugesan, A. K., Govindan, G., Gopalakrishnan, A., Kumar, R., Duraisamy, P., Balaji, R., **Tanuja,** Shyamli,P,S., Parida, A, K., & Parani, M. (2021). A reference-grade

genome identifies salt-tolerance genes from the salt-secreting mangrove species *Avicennia marina*. *Communications Biology*, *4*(1), 1-10.

- Balaji, R., Ravichandiran, K., **Tanuja,** & Parani, M. (2021). The complete chloroplast genome of *Ocimum gratissimum* from India–a medicinal plant in the Lamiaceae. *Mitochondrial DNA Part B*, *6*(3), 948-950.

- Kavya, N. M., Balaji, R., **Tanuja,** Parani, M., & Senthilkumar, P. (2021). The complete chloroplast genome of *Ocimum tenuiflorum* L. subtype Krishna Tulsi and its phylogenetic analysis. *Mitochondrial DNA Part B*, *6*(8), 2358-2360.

- Yesuthason Renald, S., Balaji, R., **Tanuja**, & Parani, M. (2021). The complete chloroplast genome and phylogenetic analysis of *Ocimum kilimandscharicum* Gurke (Camphor Basil) from India. *Mitochondrial DNA Part B*, *6*(8), 2164-2165.

- Vineesh, S., Balaji, R., **Tanuja** and Parani, M., "The complete chloroplast genome of *Ocimum americanum* Linnaeus 1755 and phylogenetic analysis among the Lamiaceae family.," Mitochondrial DNA Part B., 8(10), pp.1077-1081, 2023.

- Sharmishtha, R., **Tanuja,** T., Balaji, R. and Parani, M., "The complete chloroplast genome of *Phyla nodiflora* (Linnaeus) Greene (1899) from the Verbenaceae family and its phylogenetic analysis.," Mitochondrial DNA Part B, 8(10), pp.1097-1101, 2023.

- Kirankumar, S.I., Balaji, R., **Tanuja** and Parani, M., "The complete chloroplast genome of *Ocimum basilicum* L. var. basilicum (Lamiaceae) and its phylogenetic analysis.," Mitochondrial DNA Part B., 8(11), pp.1169-1173, 2023.

- Venkatesan, A., Balaji, R., **Tanuja** and Parani, M., "Chloroplast genome of *Ocimum basilicum* var. purpurascens Bentham 1830 (Lamiaceae).," Mitochondrial DNA Part B., 9(2), pp.252-256, 2024.

PERSONAL VITAE

- **Languages**: English, Hindi (Mother tongue).
- **Computer**: MS-excel, word, PowerPoint, Linux, Biorender
- **Hobbies**: Listening to music, Reading, Arts, and crafts.

REFERENCES

1) **Dr. M. Parani**, **Ph.D.**
   Professor,
   Department of Genetic Engineering**,**
   SRM Institute of Science and Technology, kattankulathur.
   Email: mparani@gmail.com

2) **Dr. Anil Kumar, Ph.D.**
   Assistant professor,
   Department of Life Science
   Central University of Jharkhand, Ranchi

Email: anil.kumar@cuj.ac.in

3) **Dr. Vikram Pal Gandhi, Ph.D.**
Scientist- B, VRDL
Department of Microbiology
AIIMS, Patna
Email: Vikramk2991@gmail.com