**Dr. Tahsin Bennur**

**Education:**

**Ph.D. in Biotechnology** (2019)
Institute of Bioinformatics and Biotechnology, Savitribai Phule Pune University, Pune
Title: **Synthesis of gold nanoparticles from non-*Streptomyces* actinomycetes and their biomedical applications**
Supervisor: **Prof. Smita Zinjarde**
**M.Sc. Biotechnology** (2008) from Govt. Institute of Science, Aurangabad (68.75%)
**B.Sc. Microbiology, Chemistry, Zoology** (2006) from Dr. B. A. M. University (73.35%)

**Publications:**

1. **Bennur T**, Javdekar V, Tomar GB, Zinjarde S (2020). Gold nanoparticles biosynthesized by *Nocardiopsis dassonvillei* NCIM 5124 enhance osteogenesis in gingival mesenchymal stem cells. Applied Microbiology and Biotechnology, Doi:10.1007/s00253-020-10508-z
2. **Bennur T**, Tagad C, Aiyer R, Kulkarni A, Zinjarde S (2019). A sensitive and selective optical detection of $Ni^{2+}$ based on gold nanoparticles synthesized using *Nocardiopsis*. Optical Materials, Doi: 10.1016/j.optmat.2019.109447
3. **Bennur T**, Khan Z, Kshirsagar R, Javdekar V and Zinjarde S (2016). Biogenic gold nanoparticles from the Actinomycete *Gordonia amarae*: Application in rapid sensing of copper ions. Sensors and Actuators B: Chemical, Doi: 10.1016/j.snb.2016.04.022
4. **Bennur T**, Kumar AR, Zinjarde S and Javdekar V (2016). *Nocardiopsis* species: a potential source of bioactive compounds. Journal of Applied Microbiology, Doi: 10.1111/jam.12950
5. **Bennur T**, Kumar AR, Zinjarde S and Javdekar V (2015). *Nocardiopsis* species: Incidence, ecological roles and adaptations. Microbiological Research, Doi: 10.1016/j.micres.2015.03.010
6. **Bennur T**, Kumar AR, Zinjarde S and Javdekar V (2014). *Nocardiopsis* species as potential sources of diverse and novel extracellular enzymes. Applied Microbiology and Biotechnology, Doi: 10.1007/s00253-014-6111-y

**Teaching experience:**

Actively participated in teaching courses at graduate and post graduate level in Institute of Bioinformatics and Biotechnology, SPPU, Pune during my PhD research years. I have also supervised in house and outside project students both at graduate and post graduate level. The role included helping in designing and execution of the experiments and evaluation of their dissertation reports.

**Research experience:**

1. Worked as a JRF on **'Protein synthesis regulation during radiation induced oxidative stress'** sanctioned by BRNS (DAE) under the supervision of **Prof. J. K. Pal**, Head, Dept. of Biotechnology, Savitribai Phule Pune University, Pune (2010)

2. Worked as JRF on **'Biosynthesis of nanoparticles from Actinomycetes'** under the supervision of **Prof. Smita Zinjarde** in the Institute of Bioinformatics and Biotechnology, Savitribai Phule Pune University, Pune (2011-12)
3. Worked as **CSIR-JRF** at Institute of Bioinformatics and Biotechnology, Savitribai Phule Pune University, Pune from 2012-14
4. Worked as **CSIR-SRF** at Institute of Bioinformatics and Biotechnology, Savitribai Phule Pune University, Pune from 2014-2017

**Industrial experience:**

Worked as a trainee in **Natural Remedies Pvt. Ltd.**, Bangalore; through Biotech Consortium India Limited (BCIL) - Biotech Industrial Training Programme (BITP) in 2008-09. The research project being: **Jamun tree extracts and their use in diabetic cure strategies**

**Skills and Techniques:**

**Animal Cell Culture:** Handling of human cell lines (HeLa, MCF 7, HEK 293) Isolation and culture of human gingival stem cells, differentiation of stem cells to osteogenic, adipogenic and chondrogenic lineages, cell-based assays, flow cytometry

**Animal Handling:** Worked on Osteoporotic disease model in rats by ovariectomy and delivery of gold nanoparticles, body weight analysis, dissection and micro CT of bones

**Nanoparticle Characterization**: Transmission electron microscopy, Scanning electron microscopy, X Ray diffractometer, Dynamic Light Scattering, Fourier Transform Infrared analysis

**Molecular biology:** PCR, RT-PCR

**Tools for data analysis**: Microsoft Windows applications, SigmaPlot 11, OriginPro 8.5, ImageJ, Mega 6, Chemdraw, Adobe Photoshop

**Role as a Ph.D. aspirant:**

- **Screened** various actinomycetes for gold nanoparticle (AuNPs) biosynthesis and optimized different parameters for synthesis
- **Established animal cell culture lab** at the institute and maintained several cell lines (HeLa, HEK 293, MCF 7)
- **Isolated** gingival stem cells from human dental tissue samples
- **Surface marker studies** of human gingival stem cells using flow cytometer
- Performed i*n vitro* **cytotoxicity assessments** on normal and cancer cell lines using biogenic gold nanoparticles synthesized from two actinomycetes
- Studied effect of N-AuNPs (from *Nocardiopsis dassonvillei*) on **osteogenesis** in gingival stem cells and obtained enhanced potential in its presence
- **Developed nickel sensor** by fabricating optical fiber based system using N-AuNPs
- Used G-AuNPs (from *Gordonia amarae*) for selective **detection of copper** ions (its imbalance causes Wilson's disease) in aqueous and serum samples

**Dr. Tahsin Bennur**

**Special Achievements:**

1 Successfully completed and obtained **FIRST RANK** in 3rd Certificate Course on Laboratory Animal Science program based on FELASA Cat. "C" conducted at CSIR-IGIB, Delhi, India (5th-16th Dec, 2016)

2 Qualified **NET-JRF** with **All India Rank of 60** in CSIR/UGC-NET examination (Dec 2011)

3 Qualified **NET-LS** in CSIR/UGC-NET examination (Dec 2009)

4 Qualified **GATE** with percentile of **91.58** (2009)

**List of conferences/workshops attended:**

**Oral presentation**

- **Bennur T**, Dewle A, Zinjarde S, Tomar G. **Biosynthesis of gold nanoparticles as potential materials to enhance efficiency of MSCs**, at 6th International Conference on Stem Cells & Cancer Proliferation, Differentiation & Apoptosis (ICSCC-2015), Pune, 2-5 October 2015

**Poster presentation**

- **Bennur T**, Dewle A, Zinjarde S, Tomar G. **Biosynthesized gold nanoparticles as mineralization enhancers in gingival tissue derived MSCs**, at 3rd International Conference on Nanotechnology for Biological and Biomedical Applications (Nano-Bio-Med 2015), IIT Mumbai, 1-4 December 2015

**Attended**

1. National Symposium on 'Biomedicine: Unfolding the Secrets from Nature', organised by Institute of Bioinformatics and Biotechnology (IBB), Pune, 10-11January, 2014
2. Workshop on 'Metals in Health and Diseases', organised by Agharkar Research Institute (ARI), Pune, 8 January 2013

**Personal Information:**

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| Name | : Ms. Tahsin Yusuf Bennur |
| Current address | : Flat no. 1104, Mantra Senses, Nyati Estate Road, Autade-Handewadi, Pune-412308 |
| Date of Birth | : 31st May, 1985 |
| Marital status | : Married |