

## Dr. Jyotsna Begani

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### **Professional Summary:**

- PhD in Microbiology with **One Year** of experience at Medall Healthcare Pvt Ltd. Bengaluru, as a **Senior Lab technologist (Molecular)**.
  - Worked on Isolating bacteria from Thar Desert producing useful secondary metabolites against MDR strains resulting in **8 publications, 7 presentations and 1 submitted patent**.
  - **CSIR-UGC NET (2017)- AIR 35**
  - Several presentations at National Conferences leading to **one oral award and two best poster awards**.
  - **Conducted** and helped conduct “Foldscope” **workshops** at University and National level.
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### **Professional Experience:**

**at Medall Healthcare Pvt Ltd, Bengaluru**

(Aug 2020-Aug 2021)

- Analysis, reporting and **managing** in **COVID** Lab.
- Experience in working in an NABL accredited lab and also participated during **NABL audit**.
- Ability to plan and conduct laboratory experiments, **interpret data and troubleshoot**.
- Optimize and validate protocols for the isolation of DNA, RNA and mastermix.
- Proficiency in analysis of RTPCR.
- Review/write non-conformance reports, deviations, CAPA's and incident reports as needed in compliance with QMS system and according to NABL.
- Draft standard operating procedure according to the lab requirement.
- Train and oversee junior staff in the team (**reporting manger of 12 employees**).
- Effective working relationship and people management
- Familiar with **good laboratory practice**.

### **Research experience:**

- Ph.D (2014-2019) **“Isolation and Characterization of Thar Desert Actinomycetes Producing Useful Secondary Metabolites”** Department of Microbiology, Maharaja Ganga Singh University Bikaner, Rajasthan.
- Junior Research Fellow (2018-2019) in DBT-USA Foldscope project entitled **“Biodiversity and Spatial Distribution of Microflora and Fauna of the Thar Desert”**
- Dissertation (Masters, 2011-2012) entitled **“Microbial analysis of drinking water supply in Bikaner zone”**.

### **Other experiences:**

- **Theoretical and Practical lectures** for a Post graduate course.
  - Completed four month training on **Advance Genomics** at FRIGE’s Institute of Human Genetics Ahmedabad.
  - Completed a Training course on **“Fermentation Technology”** organized by CSIR-Central salt and Marine Chemical Research Institute, Bhavnagar under ‘CSIR integrated skill initiative program’ from April 4, 2022 to April 7, 2022.
  - Conducted **Foldscope workshops** at University and Trained students in assembling and utilizing foldscope as a research tool in workshops.
  - Participated as Foldscope trainer in **Department of Biotechnology, Government of India** sponsored foldscope workshop for the teachers and students of aspirational districts of Rajasthan organized by Biotech Consortium India Limited (BCIL), New Delhi.
  - Participated on National workshop on Assembly and Application of Foldscope organized by Department of Biogas Research and Microbiology, Faculty of Sciences, Gujrat Vidhyapith, Sadra, Gandhinagar, Gujarat during 5-6 march 2019 by financial support of **Department of Biotechnology, Ministry of Science and Technology, New Delhi**.
  - Participated on One Week Training Program on Water Quality Monitoring and Assessment (WQMA-2016) Organized by Yamuna Basin Organization Central Water Commission Central Water Commission, New Delhi and sponsored by **Ministry of Water Resources, River Development and Ganga Rejuvenation, New Delhi**.
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### **Competencies and Technical Skills:**

- Conducting and Organizing Workshops, Team management.
- Basic laboratory Microbiological techniques. Perform Microbiological analysis and maintain microbial cultures.
- Isolation of bacteria from environmental (air, water, soil, food) sources.
- Polyphasic characterization of bacteria.
- Random Amplification of Polymorphic DNA (RAPD).
- Chromatography Techniques (TLC, Paper, and column), Bio-autography.

- Antimicrobial susceptibility test/MIC.
- Small Scale fermentation.
- DNA extraction from Bacteria, DNA extraction from Blood, PCR amplification, qRT-PCR and analysis, ARMS-PCR, Endpoint PCR, Multiplex PCR, Agarose Gel Electrophoresis.
- G Banding, Karyotyping
- Basic Bioinformatic tools like BLAST, Phylogeny tree analysis.
- Theoretical and Practical classes for PG and Diploma students.

### **Academic Qualifications:**

Course	Year of Completion
PhD (Microbiology)	2019
CSIR-UGC NET	2017 (AIR-35)
Masters (Microbiology)	2012
Bachelors (Chemistry,Botany,Zoology)	2010

### **Publications-Patent-Presentations:**

- **4 Publications, 4 Book chapters –Total 8**  
<https://www.semanticscholar.org/author/Jyotsna-Begani/46173761>
- **1 Patent:** Submitted, Date Filed 07.02.2018, Application: 201811024532
- **7 Presentations (including oral and Poster) and 1 Invited Lecture**

### **Publications**

#### **2022**

Harwani D., **Begani J.**, Barupal S., Lakhani J. 2022. Adaptive laboratory evolution of triggers pathogen-dependent broad-spectrum antimicrobial potency in *Streptomyces*. Journal of Genetic Engineering and Biotechnology, 20(1):1.

#### **2019**

Harwani D., **Begani J.**, Barupal S., Lakhani J. 2019. Foldscope view of floral and faunal diversity in the Thar desert of Rajasthan. In Arun Dev Sharma (eds) Foldscope and its Application. National press associates, New Delhi pp 32-38.

**Begani J.**, Lakhani J., Harwani D. 2019. Sand Dune *Streptomyces* JB66 Native to the Great Indian Thar Desert Inhibits Multidrug-Resistant Pathogens. International Journal of Pharmaceutical Sciences and Drug Research, 11(6): 289-298.

**Begani J.,** Lakhani J., Harwani D. 2019. A broad-spectrum antimicrobial activity of thermophilic *Nocardiopsis* sp. producing multiple extracellular enzymes of industrial and therapeutic use. *Asian Journal of Pharmacy and Pharmacology*, 5:525-534.

### **2018**

**Begani J.,** Lakhani J., Harwani D. 2018. Current strategies to induce secondary metabolites from microbial biosynthetic cryptic gene clusters. *Annals of Microbiology*, 68:419-432.

Harwani D., **Begani J.,** Lakhani J. 2018. Genes to Metabolites and Metabolites to Genes Approaches to Predict Biosynthetic Pathways in Microbes for Natural Product Discovery. In: Choudhary D., Kumar M., Prasad R., Kumar V. (eds) *In Silico Approach for Sustainable Agriculture*. Springer, Singapore pp 1-16.

### **2017**

In Genetic Construction of Stable Rhizobial Genotypes for Improved Symbiotic Nitrogen Fixation. Harwani D., **Begani J.,** Lakhani J. A. Hansen, D. Choudhary, P. Agrawal, A. Varma (eds) *Rhizobium Biology and Biotechnology*. Soil Biology, vol 50. Springer, 165-184.

In Fungi and their Role in Sustainable Development: Current Perspectives. Co-cultivation strategies to induce de-novo synthesis of novel chemical scaffolds from cryptic secondary metabolite gene clusters. Harwani D., **Begani J.,** Lakhani J. Praveen Gehlot and Joginder Singh (eds.). Springer, 617-631.

### **2016**

In Natural Resource Management in Arid and Semi-Arid Ecosystem for Climate Resilient Agriculture. Bio-prospecting for Natural and Novel Metabolites from Rare Thermophilic Actinomycetes from underexplored Arid Thar Desert Regions of Rajasthan, India. **Begani J.** and Harwani D. N.K. Pareek and Sanjay Arora (eds.). Soil Conservation Society of India, New Delhi, pp. 1-8.

**Patents: Submitted, Date Filed 07.02.2018, Application: 201811024532**

**Presentations (2 best poster, 1 best oral and 1 consolation prize)**

### **Oral Presentation**

### **2019**

Delivered a lecture on Biodiversity and Spatial Distribution of Microflora and Fauna of the Thar Desert at National workshop on assembly and application of foldscope (Funded by DBT, New Delhi) on 5-6 March 2019, Gujrat Vidyapeeth, Sadra, Gandhinagar, Gujrat.

### **2017(Consolation prize)**

Polyphasic Characterization of a novel rare actinomycete strain isolated using unconventional approaches from a sand dune soil of Thar Desert in Rajasthan producing anti-leukemic enzyme L-asparaginase. **Begani J** and Harwani D National language Scientific Conference 29-30 October, 2017, Desert Medicine Research Centre, Jodhpur, Rajasthan.

## **2016**

Exploring the Underexplored Thar: Biodiversity and Utilization of Thermophilic Actinomycetes for Novel Natural Products of therapeutic use. **Begani J** and Harwani D. National Seminar on “Agriculture Resource Management for Sustainability and Eco-Restoration”. March 11-13, 2016, ICAR-Central Institute for Arid Horticulture, Bikaner, Rajasthan, p. 5.

## **Best Poster Award**

## **2016**

Unconventional Methods to Characterize Thermophilic Actinomycetes Producing Novel Metabolites from underexplored Thar Desert. Harwani D and **Begani J**. National Conference on Biotechnology for Sustainable Development, 23-24 December 2016, MD College, Sri Ganganagar, Rajasthan India.

Bio-prospecting for Natural and Novel Metabolites from Rare Thermophilic Actinomycetes from underexplored Arid Thar Desert Regions of Rajasthan, India. **Begani J** and Harwani D. 25th National Conference on “Natural Resource Management in Arid and Semi-Arid Ecosystem for Climate Resilient Agriculture and Rural Development”, 17-19 February, 2016, Swami Keshwanand Rajasthan Agricultural University, Bikaner, Rajasthan

## **2015 (First Prize- Oral and Poster)**

Anveshan: National Student Research Convention, West Zone..Bio-prospecting for Novel Metabolites from Rare Thermophilic Actinomycetes from Underexplored Bikaner Region of Thar Desert. MGSU, Bikaner, India.

## **Personal Details:**

Date of Birth	22/03/1990
Language Known	English, Hindi, & Marwari
Marital Status	Married
Gender	Female
Nationality	Indian