Dr. Uttara V. Oak

Experience Summary:

- **13 years of Post graduate and undergraduate level teaching**
- **Guided PG student projects** related to antimicrobial drug resistance, biofilm inhibition using Nanoparticles, textile wastewater treatment, use of PGPR in crop stress management.
- **Approved teacher of Savitribai Phule Pune University**
- **8 years Industrial Research experience**
- Involved in antimicrobial drug discovery from natural products from actinomycetes and fungi at research centre of a multinational company. The work comprised of isolation, screening of microbes and evaluating antimicrobial potential and partial purification of active compound.
- A **US and EU patent** for Antimicrobial Drug with novel chemical structure and process for its production
- **Ph.D. in Microbiology** - topic entitled "Studies on Degradation of Triphenyl Methane and Azo Textile Dyes by Halophilic and Alkaliphilic Bacteria". Isolated a novel alkaliphilic bacterium degrading industrially used azo dye.
- Eight publications: Highest **IF – 8.943**

Education:

May 1990

B.Sc. (Microbiology) from University of Mumbai.

May 1992

M.Sc. (Microbiology) from University of Mumbai.

April 2002

B.Ed. from K.J. Somaiya Comprehensive College of Research and Education, Mumbai.

January 2018

Ph. D. in Microbiology from Dept. of Microbiology, Abasaheb Garware College, Savitribai Phule Pune University, Pune.

Work Experience:

Industrial experience:

November 1993- June 2001

- Worked at Microbiology Dept. (Natural Products), Quest Institute of Life Sciences, **Nicholas Piramal Ind. Ltd. Mumbai** (Formerly **Hoechst Research centre, Mumbai**).
- Worked as part of Drug discovery group (Natural products) involving anti-infective compounds and have a **US and EU patent** to my credit.

Teaching experience:

June 2004- April 2005

Taught Biology at St. Rock's Jr. College, Mumbai.

June 2006-April 2007

Taught Biology in the Junior college wing at H.V. Desai College, Pune

December 2007- April 2014 and July 2017 – Till date

Dept. of Biotechnology, PE Society's Modern College, Ganeshkhind, Pune.

- Approved teacher of Savitribai Phule Pune University, Pune.
- Taught theory and practical courses in Bacteriology and Virology, Immunology, Environmental Biotechnology, Fermentation Technology and Bioprocess Engineering and Fungal Biotechnology at post graduate level.
- Taught theory and practical courses in Microbiology, Immunology, Microbial Biotechnology and Large-Scale Manufacturing Processes at undergraduate level.
- Guided PG students in their research projects
- Member of Project Investigation Group of DST-FIST (second cycle) and DBT-BUILDER schemes implemented in the college

Examination Experience:

- Worked as paper setter, examiner and moderator in practical and theory examination of Savitribai Phule Pune University, Pune.

Administrative Experience:

- **In-charge of Criterion III**, for NAAC assessment (4^{th} Cycle)- Modern College, Ganeshkhind, Pune - 411016.
- Worked in many internal college committees (**NIRF**, **Swarmadhuri** - A classical music competition, **Vividha**- an entrepreneurship development event for students) for organization of events in the college
- Established contacts to facilitate student for placement and summer training

Other interests:

- Trained in Indian classical music
- Interested in trekking and other outdoor activities

Other Achievements:

Patents:

- **US 20020183267 A1 and EP 1129208 A1 (text from WO2000028064A1) -** Vancoresmycin, a process for its production and its use as a pharmaceutical

Publications:

- Shaikh, A., Jamla, M., Joshi, S., Patil, S., **Oak, U.,** & Kumar, V. (2024). Microbial nanotechnology for producing stress smart crops. Plant Nano Biology, 7, 100063. https://doi.org/10.1016/J.PLANA.2024.100063
- **Oak, U.,** Khare, T. (2022). Nanoparticle Functionalization:Approaches and Applications. In Nanostrategies for adressing antimicrobial resistance- Nano-Diagnostics, Nano-Carriers, andNano-Antimicrobials (pp. 157-181). Springer Nature Switzerland AG. https://doi.org/10.1007/978-3-031-10220-2_4
- Kaur, K., Reddy, S., Barathe, P., **Oak, U.,** Shriram, V., Kharat, S. S., Govarthanan, M., & Kumar, V. (2022). Microplastic-associated pathogens and antimicrobial resistance in environment. *Chemosphere*, *291*, 133005. https://doi.org/10.1016/J.CHEMOSPHERE.2021.133005
- Hasani, S., Khare, T., & **Oak, U.** (2021). Antibiofilm activity of selenium nanorods against multidrug-resistant staphylococcus aureus. *MGM Journal of Medical Sciences*, *8* (4), 415. https://doi.org/10.4103/mgmj.mgmj_35_21
- **Oak, U.**, Srivastav, A., & Kumar, V. (2019). Perspectives of Plant Growth-Promoting Rhizobacteria in Conferring Salinity Tolerance in Crops. In *Microbial Interventions in Agriculture and Environment* (pp. 299–313). Springer Singapore. https://doi.org/10.1007/978-981-32-9084-6_14
- Khare, T., **Oak, U.**, Shriram, V., Verma, S. K., & Kumar, V. (2019). Biologically synthesized nanomaterials and their antimicrobial potentials. In *Comprehensive Analytical Chemistry* (Vol. 87, pp. 263–289). Elsevier B.V. https://doi.org/10.1016/bs.coac.2019.09.002
- **Oak, U**., Ghattargi, V., Pawar, S., & Bhole, B. (2016). Degradation of Drimarene Red, a reactive textile dye by an extremophilic Bacillus sp . isolated from fresh water. *International Journal of Applied and Pure Science and Agriculture (IJAPSA)*, *2*(3), 105–113.
- **Oak, U**., & Bhole, B. (2014). Decolourization of Congo Red by *Pseudomonas* stutzeri SL6. in: Environment Observer. Presented at the International Conference on Environmental Conservation by Adopting New Technologies, ENVIRONMENT OBSERVER, P.E. Society's Modern College of Arts, Science and Commerce, Shivaji Nagar, Pune -5, Maharashtra, pp. 64-68. (2nd Prize winner)

Dr. Uttara Vinayak Oak

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FOLLOW

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Verified email at moderncollegegk.org

Microbiology Textile waste water treatment dye degradation fermentation technology

TITLE	CITED BY	YEAR
Microplastic-associated pathogens and antimicrobial resistance in environment K Kaur, S Reddy, P Barathe, U Oak, V Shriram, SS Kharat, ... Chemosphere 291, 133005	96	2022
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Perspectives of Plant Growth-Promoting Rhizobacteria in Conferring Salinity Tolerance in Crops U Oak, A Srivastav, V Kumar Microbial Interventions in Agriculture and Environment: Volume 3: Soil and ...		2019

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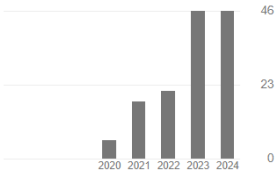

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