

# Dr. Mihir Dilip Herlekar

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## Profile

Environmental researcher with more than nine years of collective research, academic and professional work experience. Expertise in environmental monitoring and analysis, green synthesis of nanoparticles and its application for wastewater treatment. Skilled in data interpretation, statistical analysis and report writing. Proficient in initiating and executing independent research and can work very well in a team.

## Education

### Ph. D. Botany

University of Mumbai, 2018.

Thesis Title: "In situ Nanoremediation of Lakes using Biologically Synthesized Metal Nanoparticles" under guidance of Dr. S. S. Barve

### M. Sc. Environmental Science

The Institute of Science, University of Mumbai, 1st Class, 2006

Dissertation Title: Toxic Trace Metal Analysis Methods

### PG Diploma in Environmental Pollution Control Technology

Garware Institute of Career Education and Development, University of Mumbai, 1st Class, 2004

Dissertation Title: Phytoremediation: The Green Cure

### B. Sc. Microbiology

MVLU College, University of Mumbai, IInd Class, 2002

## Professional Experience

07/2018 – present

### Assistant Professor

*Department of Environmental Science at The Institute of Science, Dr. Homi Bhabha State University, Mumbai*

- Conducting lectures and practical related to Environmental pollution – Causes, Monitoring and Control; Green chemistry; Green and environmental nanotechnology; Sustainable agricultural practices; Instrumentation techniques for environmental applications; Research methodology, Scientific communication, Green building certification process, Statistics etc.
- Mentoring students for dissertations (Broad topics - Environmental monitoring, Pollution control, Green chemistry, Sustainable waste management, Sustainable agriculture etc.)
- Developing curriculum for M.Sc. course in Environmental Science.
- Member of Board of Studies (BoS) committee for the subject of Environmental Science.
- Organizing and managing departmental programmes and events.

08/2021 – 11/2021	<b>Visiting Faculty</b> <i>School of Sustainability at XIM University, Bhubaneswar</i> <ul style="list-style-type: none"> <li>Conducting practical (online mode) related to Environmental monitoring (Air, Water and Soil) for B. Sc. (Hons.) course in Sustainable Development</li> </ul>
06/2021 – 08/2021	<b>Visiting Faculty</b> <i>ICMR- Regional Medical Research Centre, Bhubaneswar</i> <ul style="list-style-type: none"> <li>Conducting online lectures related to Introduction to Environmental Pollution, Prevention strategies, Solid and liquid waste management in India for Master of Public Health (MPH) course.</li> </ul>
06/2017 – 02/2018	<b>Junior Research Fellow</b> <i>National Institute of Industrial Engineering (NITIE), Mumbai</i> <ul style="list-style-type: none"> <li>Writing research articles on Sewage management in Mumbai city, Evaluation of Decentralized Wastewater Treatment Systems at different locations in Maharashtra from the data collected for the project “Supporting Consolidation, Replication and Up-scaling of Sustainable Wastewater Treatment and Reuse Technologies for India (SARASWATI)”, Funded by DST and European Commission.</li> <li>Writing funding proposals – a. Application of cleaner technologies for industrial pollution control - Submitted to CPCB and DST-SERB Core Research Grant; b. Application of nanoparticles for the removal of water pollutants and LCA of nanoparticles - Submitted to IUSSTF.</li> </ul>
02/2017 – 05/2017	<b>Visiting Faculty</b> <i>SIES-Indian Institute of Environment Management (SIES-IIEM), Nerul, Navi Mumbai</i> <ul style="list-style-type: none"> <li>Courses taught - Industrial Gaseous and Particulate Air Pollution Control, Vehicular Exhaust Pollution Control, Noise and Odour Pollution Control for students pursuing PG Diploma Course in Environmental Pollution Control Technology.</li> </ul>
10/2006 – 11/2010	<b>Project Assistant (Level - II)</b> <i>National Environmental Engineering Research Institute (NEERI), Mumbai Zonal Laboratory</i> <ul style="list-style-type: none"> <li>Environmental monitoring (water, air and soil), analysis of various parameters, statistical analysis and data interpretation.</li> <li>Key member in writing reports of various sponsored projects for sponsoring agencies like Central Pollution Control Board (CPCB), Ministry of Environment, Forest and Climate Change (MoEFCC), Municipal Corporation of Greater Mumbai (MCGM), Mumbai Metropolitan Region Development Authority (MMRDA) and World Bank.</li> <li>Analysis of secondary data for existing water quality surveillance programme and developed training manual for MCGM’s Field staff and Laboratory analysts.</li> </ul>

## Skills

### Statistical Software Used

*Minitab, SPSS.*

## Certificates

- Qualified State Eligibility Test (SET), 2018 for Assistant Professor (Environmental Science)

## Journal Publications

- 2022 **Noise levels in urban and rural settlements of Bhubaneswar: A Case study**  
G. Ayush, A. J. Elizabeth, V. V. Patil and M. Herlekar. *Nature Environment and Pollution Technology*, Vol 21, No. 1, 231-239.
- 2021 **Comparative Toxicity Study of Chemical Pesticide and Biopesticide by Daphnia Bioassay**  
Amrita Kakka, Mihir Herlekar, Shivani Awale. *Nature Environment and Pollution Technology*, Vol. 20, No. 2, 695-701.
- 2019 **Performance Evaluation of a Decentralized Wastewater Treatment System in India**  
Anju Singh, Megha Sawant, Sheetal Jaisingh Kamble, Mihir Herlekar, Markus Starkl, Enrique Aymerich, Absar Kazmi.
- 2018 **Sewage Management Challenges in Mega Cities in India: A Case Study of Mumbai**  
A. Singh, A. Kazmi, M. Starkl, S. Sayanekar, M. Herlekar. *Desalination and Water Treatment*, Vol. 116, 329-341.
- 2015 **Calcination and Microwave Assisted Biological Synthesis of Iron Oxide Nanoparticles and Comparative Efficiency Studies for Domestic Wastewater Treatment**  
Mihir Herlekar, Siddhivinayak Barve. *International Research Journal of Environmental Sciences*, Vol. 4, No. 6, 28-36.
- 2015 **Optimization of Microwave Assisted Green Synthesis Protocol for Iron Oxide Nanoparticles and its Application for Simultaneous Removal of Multiple Pollutants from Domestic Sewage**  
Mihir Herlekar, Siddhivinayak Barve. *International Journal of Advanced Research*, Vol. 3, No. 4, 331-345.
- 2014 **Plant-Mediated Green Synthesis of Iron Nanoparticles**  
Mihir Herlekar, Siddhivinayak Barve, Rakesh Kumar. *Journal of Nanoparticles*, Article ID 140614, 9 pages.
- 2012 **Chemical Speciation and Source Assignment of Particulate (PM<sub>10</sub>) Phase Molecular Markers in Mumbai**  
Mihir Herlekar, Abba Elizabeth Joseph, Rakesh Kumar and Indrani Gupta. *Aerosol and Air Quality Research*, Vol. 12, 1247-1260 (In Special Issue on "Aerosol and Air Quality Research in Asia")

## Courses

- 07/2020 – 07/2020 **Online National Training on “Sustainability Commitment in Educational Campuses”**  
Organized by School of Sustainable Urbanization and Air Pollution, CSE
- 07/2020 – 07/2020 **Certificate Program for Industry Professionals on “Climate Change and Environmental Sustainability”**  
Organized by Confederation of Indian Industry – Sohrabji Godrej Green Business Centre (CII-GBC)

06/2020 – 07/2020	<b>Induction Training Programme for Faculty in Universities/Colleges/Institutes of Higher Learning</b> <i>Teaching Learning Centre &amp; Research Development and Services Cell, Ramanujan College, University of Delhi under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNTT), MHRD</i>
06/2020 – 06/2020	<b>Online Training Programme on “Principles &amp; Methods on the Laboratory Analysis of Septage &amp; Wastewater”</b> <i>Environment Monitoring Laboratory, Anil Agarwal Environment Training Institute (AAETI), Centre for Science and Environment (CSE)</i>
06/2020 – 06/2020	<b>Online Training Programme on “Basics of Decentralized Wastewater Treatment and Local Reuse”</b> <i>Conducted by School of Water &amp; Waste, AAETI, CSE</i>
05/2020 – 06/2020	<b>Faculty Development Programme on “Managing Online Classes and Co-creating MOOCS 2.0”</b> <i>Teaching Learning Centre &amp; Research Development and Services Cell, Ramanujan College, University of Delhi under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNTT), MHRD</i>
05/2020 – 05/2020	<b>“IGBC Online Advanced Training Programme on Green Homes”</b> <i>Organized by CII-GBC</i>
11/2016 – 11/2016	<b>Training programme on “Nutrient Recovery and Reuse of Human Waste for food production”</b> <i>Organized by CDD Society in collaboration with BORDA and RGRHCL at Centre for Advanced Sanitation Solutions (CASS) in Kengeri, Bangalore</i>
10/2016 – 11/2016	<b>Online course on “Planning &amp; Design of Sanitation Systems and Technologies”</b> <i>Created by EAWAG- Aquatic Research &amp; École Polytechnique Fédérale de Lausanne (EPFL)</i>
04/2016 – 07/2016	<b>Online course on “Faecal Sludge Management”</b> <i>Jointly delivered by CSE, India and UNESCO-IHE</i>

### Other Activities

02/2022 – 12/2022	<b>The Indira Gandhi National Open University’s (IGNOU) study center at K. J. Somaiya College of Education, Mumbai</b> <i>Academic counselor</i> As an academic counselor, I will be conducting few offline and online practical for the enrolled students and also help them to solve their doubts for theory portion.
11/2019 – 11/2019	<b>Indian Institute of Tropical Meteorology (IITM), Pune</b> <i>Resource Person</i> As a resource person, I delivered lectures on stack monitoring, different mechanical devices for particulate matter control from industries and odour control for “Air Pollution Monitoring” Course under Green Skill Development Programme (GSDP).

02/2019 – 03/2019

## **ENVIS, Environment Department, Government of Maharashtra**

### *Resource Person*

As a resource person, I delivered lectures on basics of air and water pollution, pollution sources, impacts of pollution, monitoring of pollution for Certificate Course in Air and Water Pollution Monitoring.

## **Various Universities in India**

### *External Examiner, Paper Setter, BoS Member*

- External examiner for M. Sc. Environmental Science, Practical Examination - For University of Mumbai and Somaiya Vidyavihar University.
- Paper setter for – a) Dr. Homi Bhabha State University (for the subject of Environmental Science); b) University Examination of B. Sc. (Honours): Semester V for the subject of Environmental Chemistry at P. P. Savani University, Surat for the Academic year 2019-2020.
- BoS member for revising syllabus for F.Y.B. Com and F.Y.BFM course in Environmental Studies at Ramanand Arya D.A.V. College (Autonomous), University of Mumbai.

## **Funding Agencies and Peer Reviewed Journals**

### *Reviewer*

- Funding proposals for Biotechnology Ignition Grant (BIG) Scheme by Department of Biotechnology (DBT) and Biotechnology Industry Research Assistance Council since 2018.
- Journals - Journal of Saudi Chemical Society (Elsevier), Emergent Materials (Springerlink), Egyptian Journal of Chemistry (Scopus indexed).
- Reviewer of papers submitted to International Water Association's (IWA) World Water Congress & Exhibition for the year 2018 (Held in Tokyo) and 18th to 23rd October 2020 at Copenhagen, Denmark.

## **Languages**

- English, Marathi, Hindi

## **References**

**Dr. Siddhivinayak Barve**, *Deputy Director*, KET's Scientific Research Centre, Mumbai.  
drssbarve@gmail.com, 9821096008

**Dr. Elizabeth Abba**, *Associate Professor*, Xavier School of Sustainability, Xavier University, Odisha.  
elizabeth@xim.edu.in, 9969601630

**Dr. Anju Singh**, *Professor*,  
Environmental Engineering & Management, National Institute of Industrial Engineering (NITIE), Mumbai.  
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