

## CURRICULUM VITAE (C.V.)



**Name** : **Dr. Shikha Vikrant Gaikwad**  
**Present Designation** : Assistant Professor,  
Post Graduate, Department of Microbiology  
Yashwantrao Mohite College of Arts, Science  
and Commerce, Bharati Vidhyapeeth Deemed  
University  
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### **Educational Qualifications:**

- **Ph.D. (Microbiology)**, Gurukul Kangri University, Haridwar, Uttarakhand,,“Impact of Rhizobia and Chemical Nutrients Status on Productivity of Non-leguminous Crop, *Brassica campestris* L. var. Local)” 2004.
- **M.Sc. (Microbiology)**, Gurukul Kangri University, Haridwar, Uttarakhand, 2000.
- **B.Sc. (Microbiology)**, Kurushetra University, Kurukshetra, Haryana, 1998.
- **Intermediate** (Physics, Chemistry, Biology), CBSE, 1995.

### **Teaching Experience:**

Position	Place	Subject	Time span
Assistant Professor	Dept. of Microbiology (PG), Yashwantrao Mohite College of Arts, Science and Commerce, Bharati Vidhyapeeth University , Pune	<ul style="list-style-type: none"><li>▪ Microbial Ecology</li><li>▪ Microbial Biotechnology</li><li>▪ Industrial Microbiology</li><li>▪ Microbial Metabolism</li></ul>	August 2013 – till date
Consultant (Microbiology)	Vivira – Process Technologies Pvt Ltd, Pune	<ul style="list-style-type: none"><li>▪ National level Project that highlights importance of ecofriendly way of disinfection of water.</li><li>▪ <b>Job responsibilities:</b><ul style="list-style-type: none"><li>• Optimization and standardization of protocol with model test bacterial organisms.</li><li>• Summary of results and its submission time to time.</li><li>• Exploring its new findings in national and international conferences and reputed journals.</li></ul></li></ul>	Feb.2011 – Till Date
Assistant Professor	Deptt. of Microbiology (PG) Singhad College of Arts, Science and Commerce, Pune	<ul style="list-style-type: none"><li>▪ Microbial Taxonomy and Diversity.</li><li>▪ Ecology, evolution and waste water engineering.</li></ul>	Jan. 2009 – Jan. 2011

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		<ul style="list-style-type: none"><li>▪ Soil and agricultural microbiology.</li><li>▪ Microbial Technology.</li><li>▪ Molecular biology.</li><li>▪ Genetics.</li><li>▪ Food and industrial Microbiology.</li></ul>	
<b>Lecturer</b>	<b>Deptt. of Microbiology (PG)</b> Abeda Inamdar Senior College of Arts, science and Commerce, Pune	<ul style="list-style-type: none"><li>▪ Microbial Taxonomy and Diversity.</li><li>▪ Ecology, evolution and waste water engineering.</li><li>▪ Soil and agricultural microbiology.</li><li>▪ Microbial Technology.</li></ul>	<b>Jan. 2005 – Jan. 2009</b>
<b>Lecturer</b>	<b>Deptt. of Microbiology (PG)</b> Sai Institute of Paramedical Sciences, Dehradun, Uttarakhand	<ul style="list-style-type: none"><li>▪ Ecology, evolution and waste water engineering.</li><li>▪ Soil and agricultural microbiology.</li><li>▪ Microbial Technology.</li></ul>	<b>Apr.2004 – Apr.2005</b>

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- **Under-Graduate Level** : 11 years
- **Post-Graduate Level** : 11 years

#### **Awards and Honors:**

##### **A) Member, Peer Reviewer & Advisory/Editorial Board member of International Journals:**

- Assistant editor in the one of the reputed national level Journal of Microbiology.
- Reviewer for the National and International level reputed Journals.
- Life member in Indian Journal of Microbiology.
- Indian Journal of Pharmacology.

##### **B) As a Research Executive:**

- **Lead, monitor, mentor, train and share knowledge with the team** encouraging development in the research work for various graduate and post graduate students of different colleges of Pune.
- **Deft in planning and organizing that balances work,** team support and managing ad-hoc responsibilities in a timely and professional manner.
- Execute **statistical analysis of data and prepare research data reports** for management records.
- **Proficient in resolving in-depth queries in a methodical manner** independently as well as with internal and external customers to find quality solutions.
- **Strategizing and researching on new techniques** and learning international trends on the same.

##### **C) Recognized:**

- **Ph.D Guide** in the subject of Microbiology, **Bharati Vidhyapeeth University, Pune.**
- **Chairman for the P.G. course–Fermentation and Industrial Microbiology and Microbial Ecology.**

- **Examiner for the S.Y. B.Sc. Microbiology by the Board of Studies, Bharati Vidyapeeth University, Pune .**
- **Examiner for the M.Sc I<sup>st</sup> yr by the Board of Studies, Bharati Vidyapeeth University, Pune.**
- **As Post Graduate Faculty by the Board of Studies, University of Pune.**
- **As the Examiner for the S.Y. B.Sc. Microbiology by the Board of Studies, University of Pune.**
- Peer Reviewer of research articles published in national and international journals related to the subject of Microbiology.

### **Research and Development Specialization:**

#### **A) Adroit in the following techniques:**

- Treatment of Waste Water by Cavitation.
- Bioremediation and biodegradation of hydrocarbon by rhizobacteria.
- Biosurfactant production by bacteria.
- Isolation, identification and characterization of Rhizobia and Pseudomonad.
- Identification, characterization of bioactive compounds.
- An eco-friendly approach of developing integrated pest management so as to maintain sustainability.
- Antifungal and antibacterial activities of plant extract.
- Isolation of plasmid, DNA and RNA from bacteria.

#### **B) Well versed with the use of sophisticated tools viz.:**

- Gel-Doc
- Thermocycler (Polymerase Chain reaction–PCR)
- UV-Spectrophotometer
- SDS-PAGE
- Electrophoresis
- Autoanalyser,
- Olympus Microscope
- Scanning Electron Microscope
- Mini Fermenter
- Micro-Centrifuge
- Well versed with **computer competency-proficient in MS-Office and Internet Research.**

#### **C) Research Experience:**

- Domain expertise in **biodegradation, bioremediation** and **biosurfactant** production by bacteria.
- Excellence in **microbiology with proven research credentials** in the analysis of 'Impact of Rhizobia and Chemical Nutrients Status on Productivity of non-leguminous Crop, Brassica campestris L. var. Local', mustard.
- Domain expertise in research on association of **rhizobacteria** with **non-leguminous crop**.
- Actively **participated** in various national level **scientific research programs, workshops, symposiums, seminars and conferences.**

- **Recognized as a leading authority** in the field of “**Effect of Rhizobia on Non-Leguminous crop**” - attended as a researcher and gained valuable insights into relevant field of research; while at the same time shared research inputs with delegates
- **Noted for paper and research** and widely recognized for work on the effect of Rhizobia on non-leguminous crop viz. mustard
- Acknowledged for Impacts of aqueous and non-aqueous based **extracts of plants** on pathogenic microorganisms.

## D) Publications:

### i) Research Papers published: International Journals:

- **Effect Of Orifice Shape On Water Disinfection Efficacy**, Vikrant Gaikwad, Shikha Gaikwad And Vivek Ranade, *Pollution Research*. **35 (4)** : 765-771 (2016).
- **Biosurfactants: Types, detection methods, importance and applications**. Rohit Nikam, Nikhil Shah, Shikha Gaikwad, Vaijayanti Sapre, accepted in *Indian Journal Of Microbial Research* (2016), Volume 3, Issue-1, pp 5-10.
- **Structural and Functional Diversity of Rhizobacterial Strains Isolated from Rhizospheric Zone of Different Plants of Sholapur- Maharashtra Region, India**, Shikha Gaikwad and Vaijayanti Sapre, *International Journal of Current Microbiology and Applied Science*, **International Journal of Current Microbiology and Applied Science**, (2015), ISSN: 2319-7706, Volume 4(9): pp 263-273.
- **Decolonization of pulp paper mill effluent by endophytic strains *Bacillus spp* and *Pseudomonad spp* of *Mimosa pudica* using batch reactor**, in the International Conference on Clean and Green Environment-2009, Indo-Italian Embassy, MIT College of Engineering, 3<sup>rd</sup>-4<sup>th</sup> December 2009. Shikha Chandra and Vikrant Devidas Gaikwad.
- **Integrated Disease Management: An ecofriendly way to control Pathogenicity of phytopathogen *Sclerotinia sclerotiorum*** in the International Conference on Clean and Green Environment-2008, Indo-Italian Embassy, MIT College of Engineering, 20-21 March 2008: Shikha Chandra.
- **Antibacterial activity of medicinal plant *Crateava nurvala* (bark) against bacterial strains causing U.T.I.** at "*Asian Journal of Chemistry*, 2000, Vol. 33 pp 1181-1187.: Shikha Chandra and Chandra Prakash Gupta.
- Isolation and Identification of Biosurfactant Produced by Bacteria, Isolate of Diesel Oil Contaminated Site. (communicated)

### ii) Prepared independent laboratory Journal for -

- M.Sc First year, II semester –Bharati Vidhyapeeth Deemed Univeristy, Pune.
- M.Sc first year, I semester-Microbial Taxonomy and Diversity course (University of Pune).
- M.Sc first year, II semester-Evolution, Ecology and Waste water engineering course (University of Pune).
- B.E first year students-Food Technology course, MIT, Lonikalboor, Pune (Agricultural Universty, Rahori).

### iii) Organized:

- Workshop on restructuring the **syllabus of Post graduate course M.Sc. II year, Microbiology**, Abeda Inamdar Senior college of Science, Pune in 2009.

- Workshop on **Molecular Biology and Fermentation Technology**, Department of Biotechnology and Microbiology, Sinhgad College of Science, Pune in 2010.

## E) PROJECTS :

### I) MINOR PROJECTS

#### Received grants from Oil Natural Gas and Company (ONGC) for the following projects:

- **Project Title:** "Bioremediation of hydrocarbon contaminated soil site by bacterial isolate.  
**Role:** Co-Principal investigator  
**Sponsor:** ONGC.

### II) MAJOR PROJECTS

#### Received grants from Board of College and University Development (BCUD), Pune University for following projects:

- **Project Title:** "Impact of Inorganic nutrients and rhizobacteria on the overall productivity of oil seed crop Rapeseed-Mustard".  
**Role:** Principal investigator  
**Sponsor:** Board of College and University Development (BCUD), University of Pune.
- **Project Title:** "Selection of a potential plant microorganism's pair: An eco-friendly tool for enhancing rhizostimulation of petroleum hydrocarbon polluted site/sites".  
**Role:** Co-investigator  
**Sponsor:** Board of College and University Development (BCUD), University of Pune.

## F) The Workshops/ Conferences/ Seminars and Refresher/ Orientation courses attended/ participated:

### i) National level Conferences: Submission of abstracts / full length papers:

- Green surfactants: Their efficiency and potentiality in production of biosurfactants under extreme conditions, **Shikha Gaikwad**, Vikrant Gaikwad and Vijayanti Sapre for the 68<sup>th</sup> Annual Session of the Indian Institute of Chemical Engineers (**CHEMCON 2015**) as '**Chemical Engineering: From Laboratory to Industry**' to be held at the Indian Institute of Technology (IIT) Guwahati, Assam during **27<sup>th</sup>-30<sup>th</sup> December, 2015**.
- Biosurfactants: a sustainable replacement for chemical surfactants? for the **11<sup>th</sup> Annual Session of Students Chemical Engineering Congress (SCHEMCON-2015)**, to be held on **12<sup>th</sup> and 13<sup>th</sup> September, 2015** at MIT Academy of Engineering, Alandi (D), **Pune**, Maharashtra, India.
- Bioremediation: an environmental friendly approach to maintain sustainability for the **11<sup>th</sup> Annual Session of Students Chemical Engineering Congress (SCHEMCON-2015)**, to be held on **12<sup>th</sup> and 13<sup>th</sup> September, 2015** at MIT Academy of Engineering, Alandi (D), **Pune**, Maharashtra, India.
- Screening of Antibacterial activity of **Brassica campestris** on urinary tract organisms in the "New Frontiers in herbal and synthetic drug studies, at Abeda Inamdar Senior College, **Pune** on **14-16<sup>th</sup> Jan. 2010**.
- Screening of Antibacterial activity of Sugarcane for **E.coli and Salmonella sp** in the "New Frontiers in herbal and synthetic drug studies, at Abeda Inamdar Senior College, **Pune** on **14-16<sup>th</sup> Jan. 2010**.

- Ability of gram plant rhizobacteria in colonizing the spermospheric zone of oil seed crop, *Brassica campestris*: in special regards towards toxicity tolerance of glucosinolates in the state level seminars on Exploring Horizons in Microbial Technology-08, **Shahada, 16<sup>th</sup> Feb. 2008.**
- Isolation, Identification and Characterization of Aminocyclopropane-1-carboxylic acid (ACC) Deaminase Producing Rhizobacteria. 49<sup>th</sup> National Conference of Indian Association of Microbiologist on Biofactories of the future, Department of Biotechnology, **Delhi, 18-21<sup>st</sup> Nov. 2008.**
- Impact of Root Exudate of *Brassica campestris* on Siderophore producing Bacterial Organisms in the 48<sup>th</sup> National Conference of Indian Association of Microbiologist on Biofactories of the future, Department of Biotechnology, **Chennai, 18-21<sup>st</sup> Dec. 2007.**
- Isolation of phosphate solubilizing and Indole acetic acid producing organisms from hydrocarbon contaminated soil samples in the 48<sup>th</sup> National Conference of Indian Association of Microbiologist on Biofactories of the future, Department of Biotechnology, **Chennai, 18-21<sup>st</sup> Dec. 2007.**
- Isolation of rhizobacteria and elucidating its effect on the *Sclerotium rolsfii* phytopathogen pathogen of oil seed crop *Brassica campestris* in the 48<sup>th</sup> National Conference of Indian Association of Microbiologist on Biofactories of the future, Department of Biotechnology, **Chennai, 18-21<sup>st</sup> Dec. 2007.**
- Antagonistic effect of rhizobacteria(s) against phytopathogen (*Sclerotium rolsfii*) of oil seed crop *Brassica campestris* mustard in the in the innovation -2007, at BCUD, University of Pune, **Pune 19-20<sup>th</sup> Nov. 2007.**
- Isolation, identification and characterization of midgut flora of *Apis cerana* (honey bee)", in the 47<sup>th</sup> National Conference of Indian Association of Microbiologist on Microbes and Challenges Ahead, at Barkatullah University, **Bhopal, Madhya Pradesh, 6-9<sup>th</sup> Dec. 2006.**
- Impact of root exudates on the Indole Acetic Producing Organisms", in the 47<sup>th</sup> National Conference of Indian Association of Microbiologist on Microbes and Challenges Ahead, at Barkatullah University, Bhopal, Madhya Pradesh, **6-9<sup>th</sup> Dec. 2006.**
- Decolorization of distillery spent wash by bacterial organisms" in the 47<sup>th</sup> National Conference of Indian Association of Microbiologist (AMI) on Microbes and Challenges Ahead, at Barkatullah University, Bhopal, Madhya Pradesh, **6-9<sup>th</sup> Dec. 2006.**
- Impact of combined application of rhizobia and inorganic fertilizers on the overall productivity of *Brassica campestris* var L. (Mustard) in a sclerotia infested soil " in "National Conference on Microbial technology for sustainable Agriculture at DBF., Dayanand College of Arts and Science, **Sholapur, Maharashtra 23-24<sup>th</sup> January 2006.**
- Integrated management of increasing the productivity of nonlegume crop *Brassica campestris* by combination of rhizobia with fertilizers" On Sovenier and abstract of "National Symposium on bioscience: advance, impact and relevance at Jamia Hamdard University, **New- Dehli 29-31<sup>st</sup> December 2003.**
- Effect of chemical fertilizer on growth, biomass and EPS production of rhizobia isolated from nodules of *Mimosa pudica*" On Souvier and abstract of "National Symposium on bioscience: Advance, impact and relevance at Rohilkhand University, **Bareilly, and 27-29<sup>th</sup> October 2002.**

## ii) Conference/Workshops/Seminar/development programs attended:

### ❖ National Conference

- National conference “New Frontiers in herbal and synthetic drug studies, at Abeda Inamdar Senior College, Pune on **14-16<sup>th</sup> Jan. 2010**.
- Regional Conference, Innovation 2008-09, for Pune university teachers, Baramati, **12-13<sup>th</sup> Nov. 2008**.
- National Conference, Two days 48<sup>th</sup> of Indian Association of Microbiologist on Biofactories of the future, Department of Biotechnology, Chennai, **18-21<sup>st</sup> Dec. 2007**.
- Regional conference, Two days on “Innovation 2007-08” at Pune university on, **19-20<sup>th</sup> Nov. 2007**.
- National conference on “Microbes and Challenges Ahead”, at Barkatullah University, Bhopal, Madhya Pradesh, **6 - 9<sup>th</sup> Dec.2006**
- National conference on “Microbial technology for sustainable Agriculture” at D.B.F, Dayanand College of Arts and Science, Sholapur, Maharashtra, **23<sup>rd</sup> - 24<sup>th</sup> January 2006**.

### ❖ Inter National Conference

- International Conference on Clean and Green Environment-09, Indo-Italian Embassy, MIT College of Engineering, Pune on **3<sup>rd</sup> - 04<sup>th</sup> December 2009**.

### ❖ Workshop

- One day Workshop on “Insights in Biology 2025” at CSIR-National Chemical Laboratory, Pune on **29<sup>th</sup> October 2015**.
- One day Workshop on “AMI-ASM Art of Science Communication” at Department of Microbiology, PES Modern College of ASC, Shivajinagar, Pune on **22<sup>nd</sup> January 2014**.
- One day workshop on “PCR application and approach” at Bioera,s R and D centre and Training facility, Tathwade, Pune on **7<sup>th</sup> December 2013**.
- One day Workshop on “Research Methodology and Scientific Communication” jointly organized by association of Microbiologist of India, Pune Unit and Department of Microbiology, and PES Modern College of ASC, Shivajinagar, Pune on **3<sup>rd</sup> October 2013**.
- One day workshop on “Analytical Chemistry” at Department of Chemistry,Yashwantrao Mohite College, Bharati Vidhyapeeth University, **17<sup>th</sup> September 2013**.
- One day workshop on “Research Methodology and Scientific Communication” at Modern College Ganeshkhind, Pune on **3<sup>rd</sup> October 2013**.
- Two days workshop on “Molecular biology” at Lachoo Memorial College of Science and Technology, Jodhpur on **18-19<sup>th</sup> February 2011**.
- One day workshop on “Bioinformatics” at Department of Biotechnology, Sinhgad College of Engineering, Pune on **11-13<sup>th</sup> March 2010**.
- One day workshop on “How to write a Research paper”, Sinhgad College of Pharmacy on **27<sup>th</sup> February 2010**.

- Three days workshop on “Molecular biology and Fermentation Technology” at Sinhgad College of Science, **Pune 19-21<sup>st</sup> Jan. 2010.**
- One day workshop on Mathematics for biologist sponsored by BCUD, Pune University, Mahatma Phule Mahavidhalya, Pune on **5<sup>th</sup> Jan. 2010.**
- One day workshop on “Recent trends in Biotechnology” at Sinhgad College of Science, Pune on **13<sup>th</sup> Feb 2009.**
- Discussion on restructuring of the syllabus of M.Sc–II Microbiology, Abeda Inamdar Senior College of Girls, Pune, **9-10<sup>th</sup> January 2009.**
- One day workshop on “Biodiversity: conservation and management”, National Chemical Laboratory, Pune on **23<sup>rd</sup> October 2008.**

#### ❖ Seminar

- One day UGC sponsored national seminar on “Application of Mathematics and Statistics in Life Science” at Department of Mathematics and Statistics, Yashwantrao Mohite College, Bharati Vidhyapeeth University, **7th March 2013.**

#### ❖ Symposium

- National symposium on “Bioscience: Advance, impact and relevance” at Rohilkhand University, Bareilly, **27<sup>th</sup> - 29<sup>th</sup> October 2002.**

#### ❖ Faculty Development Program

- One day faculty development programme “We Can Win”, Sinhgad college of Science, Pune on **28<sup>th</sup> Dec 2009.**
- Faculty Development Program, One day organized on “Right to Information Act” at Rangoonwala Dental College. Azam campus, Pune on Saturday **4<sup>th</sup> February 2006.**