
PRAFULLA SHEDE, Ph. D.

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Department of Microbiology,
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EDUCATION

- **Ph. D. in Microbiology**, Pune University, Pune, 2007
- **M. Sc. in Microbiology**, Shivaji University, Kolhapur, 2002
- **B. Sc. in Microbiology**, Bharati Vidyapeeth, Pune, 2000

PROFESSIONAL EXPERIENCE

- **Assistant Professor** (Since September 2010)
(Department of Microbiology, MES' Abasaheb Garware College, Pune)
- **Lecturer** (July 2010 – September 2010)
(Department of Microbiology, DES' Fergusson College, Pune)
- **Post Doctoral Research Fellow** (March 2008 – March 2010)
(Dept. of Chemical & Biological Engineering, Colorado State University, USA)
- **Post Doctoral Research Fellow** (August 2006 – February 2008)
(Microbial Sciences Division, Agharkar Research Institute, Pune)
- **Senior Research Fellow** (March 2006 to August 2006)
Research fellow (July 2002 – February 2006)
(Microbial Sciences Division, Agharkar Research Institute, Pune)

HONORS

- **Indian Cultural Social Award** for the year 2012 from International Human Rights Justice Federation.
- **The Young Scientist Award** for the year 2007 from Rotary Club of India, Pune.
- **The Best Paper Award** for the research paper entitled 'Microbial activities during storage of raw buffalo hide with relevance to leather processing' presented in an oral session of 38th Leather Research Industry Get Together (LERIG), 2004.
- **The Best Poster-Paper Award** for the research paper entitled 'Effect of HIV – replication on the population of WBCs and the reactivity of p – 24 antigen in the infected individual following long term ayurvedic therapy' for the year 1999 during the 40th Annual Conference of Association of Microbiologist of India (AMI), 2000.

PROFESSIONAL MEMBERSHIP

- Association of Microbiologist of India (AMI)
- Indian Science Congress Association (ISCA)
- Biotech Research Society of India (BRSI)

OTHER PROFESSIONAL AFFILIATION

- Secretary, Association of Microbiologists of India, Pune Unit since June 2013

RESEARCH INTEREST

- Microbial diversity
- Bioprospecting
- Waste management
- Renewable energy

FUNDED PROJECT

| Title of the project | Role | Funding agency and duration of project | Funding outlay (INR) | Duration (years) | Major/ Minor |
|--|---------------------------|--|----------------------|------------------|--------------|
| <i>Isolation and characterization of lignin-degrading bacteria from Western Ghat montane rain forest soils with special relevance to bioethanol production</i> | Principal Investigator | University Grants Commission (2014 – 2016) | 4,10,000/- | Two | Minor |
| <i>Screening of commercially important enzymes from available vulture collection</i> | Co-Principal Investigator | Department of Biotechnology (2017 – 2019) | 3,92,07,000/- | Two | Major |

PUBLICATIONS

- **Prafulla Namdeo Shede**, Ashish Vasantrya Polkade, Pradnya Pralhad Kanekar, Prashant Kamalakar Dhakephalkar & Seema Shreepad Sarnaik. (2016). Bioambient preservation of raw hides using plant-based materials—a green technology to reduce tannery waste water pollution. In Jeyabalan sangeetha, Devarajan Thangadurai, Muniswamy David & Mohd Azmuddin Abdullah (Eds.), Environmental biotechnology: biodegradation, bioremediation and bioconversion of xenobiotics for sustainable development (pp. 225 – 256). New Jersey: Apple Academic Press Inc. (Book chapter)
- Pradnya Pralhad Kanekar, Seema Shreepad Sarnaik, Parag Avinash Vaishampayan & **Prafulla Namdeo Shede**. (2016). Phytoremediation of organic chemopollutants. In Jeyabalan sangeetha, Devarajan Thangadurai, Muniswamy David & Mohd Azmuddin Abdullah (Eds.), Environmental biotechnology: biodegradation, bioremediation and bioconversion of

xenobiotics for sustainable development (pp. 257 – 286). New Jersey: Apple Academic Press Inc. (Book chapter)

- Anuja Patil, Rutuja Gangakhedkar, Gauri Khare, Umera Patwekar, Ashish Polkade, Bhalchandra Bhole and **Prafulla Shede**. (2014) Designing prodigetic bacterial formulations to process municipal solid waste. *Environment Observer – Proceeding of International Conference on Environmental Conservation by Adopting New Technologies*. 18, 92.
- Priyanka Navghare, Vishal Kamble, **Prafulla Shede**, Vishal Landge and Niranjana Patil. (2014) Assessment of bacterial isolates for Reactive Yellow 145 dye decolorization capabilities. *Environment Observer – Proceeding of International Conference on Environmental Conservation by Adopting New Technologies*. 18, 93.
- Niranjana Patil, Yogesh Kenge, Vishal Landge and **Prafulla Shede**. (2014) Screening and characterization of plant growth promoting *Rhizobacteria* from *Oryza sativa* L rhizosphere. *Environment Observer – Proceeding of International Conference on Environmental Conservation by Adopting New Technologies*. 18, 105 – 106.
- A. Polkade, **P. Shede**, P. Kanekar, P. Dhakephalkar and S. Sarnaik. (2013). Designing and evaluation of skin extract agar for isolation of microflora from raw buffalo hide. *IIOAB Letters*.3, 8 – 13.
- **P. N. Shede**, P. P. Kanekar, A. V. Polkade, S. S. Sarnaik, P. K. Dhakephalkar, S. A. Chiplonkar and S. S. Nilegaonkar. (2009). Effect of microbial activities on stored raw buffalo hide. *Journal of Environmental Biology*. 30 (6), 983 – 988.
- P. P. Kanekar, S. S. Sarnaik, N. P. Gujarathi, S. P. Kanekar, V. V. Phalke, **P. N. Shede**, M. R. Kedargol, K. F. Reardon, T. Soman and V. D. Raut. (2009). Bioremediation of high nitrate containing nitro-explosive wastewater using yeast culture. Proceedings of ETWMT-09: Indo-Italian Conference on Emerging Trends in Waste Management Technologies, 83 – 86.
- S. P. Kanekar, P. P. Kanekar, S. S. Sarnaik, N. P. Gujrathi, **P. N. Shede**, M. R. Kedargol and K. F. Reardon. (2009). Bioremediation of nitroexplosive wastewater by an yeast isolate *Pichia sydowiorum* MCM Y-3 in fixed film bioreactor. *Journal of Industrial Microbiology and Biotechnology*. 36, 253 – 260.
- **P. N. Shede**, P. P. Kanekar, A. V. Polkade, P. K. Dhakephalkar and S. S. Sarnaik. (2008). Bacterial succession on raw buffalo hide and their degradative activities during ambient storage. *International Biodeterioration Biodegradation*. 62, 65 – 74.
- P. P. Kanekar, S. S. Sarnaik, S. Roy, **P. N. Shede** and M. R. Kedargol. (2008). Phytoremediation of high nitrate containing wastewater using aquatic plants. Proceedings of Indo-Italian International Conference on “Green and Clean Environment;” Pune, 2008.

PROFESSIONAL PRESENTATIONS

- **Prafulla Shede**. (2017) Integrating Electrochemical Reduction, Bioremediation and Phytoremediation of Chemopollutants for Effective Waste Management. (Oral) 3rd International South Asian Biotechnology Conference 2017 (SABC 2017), Kathmandu, Nepal.

- **Prafulla Shede**, Bela Dhamangaonkar and Shraddha Maitra. (2016) Characterization of lignin degrading bacteria isolated from Western Ghat. (Poster) 57th International Annual Conference of the Association of Microbiologists of India International Symposium on 'Microbes and Biosphere: what's new what's next?' Guwahati, India.
- Aishwarya Patankar, Radhika Mohandasan, Nachiket Marathe, Yogesh Shouche, **Prafulla Shede** (2015) Study of Co-existence of Heavy Metal and Antibiotic Resistance in the Bacterial Isolates from Mutha River. (Poster) 56th Annual Conference of the Association of Microbiologists of India (AMI 2015) & International Symposium on 'Emerging discoveries in microbiology' New Delhi, India.
- Shaunak Kelkar and **Prafulla Shede**. (2014) A semi-quantitative approach for understanding role of quorum sensing in bacterial growth. (Poster) 55th Annual Conference of Association of Microbiologists of India National Conference on Empowering Mankind with Microbial Technologies (AMI-EMMT 2014), Coimbatore, India.
- Anuja Patil, Rutuja Gangakhedkar, Gauri Khare, Umera Patwekar, Ashish Polkade, Bhalchandra Bhole and **Prafulla Shede**. (2014) Designing prodigetic bacterial formulations to process municipal solid waste. (Poster) International Conference on Environmental Conservation by Adopting New Technologies (ICECANT 2014), Pune, India.
- Priyanka Navghare, Vishal Kamble, **Prafulla Shede**, Vishal Landge and Niranjana Patil. (2014) Assessment of bacterial isolates for Reactive Yellow 145 dye decolorization capabilities. (Poster) International Conference on Environmental Conservation by Adopting New Technologies (ICECANT 2014), Pune, India.
- Niranjana Patil, Yogesh Kenge, Vishal Landge and **Prafulla Shede**. (2014) Screening and characterization of plant growth promoting *Rhizobacteria* from *Oryza sativa* L rhizosphere. (Poster) International Conference on Environmental Conservation by Adopting New Technologies (ICECANT 2014), Pune, India.
- R. Pillay, M. Gole, S. Phadtare, T. Wagh, M. G. Bodhankar, V. R. Sapre, B. B. Ballal and **Prafulla Shede**. (2011) Determination of potability of bore well water available in Pune city. (Poster) XVII Maharashtra chapter Conference of Indian association of Medical Microbiologists (MICROCON 2011), Pune, India.
- S. Ranawade, T. Dharap, S. Mazumdar, M. Waikar, M. Surave, S. Pandita, N. Bhegade, V. R. Sapre, B. B. Ballal and **Prafulla Shede**. (2011) Study of potential pathogens in processes & unprocessed milk sample from Pune region. (Poster) XVII Maharashtra chapter Conference of Indian association of Medical Microbiologists (MICROCON 2011), Pune, India.
- S. Supekar, A. salve, S. Mulani, K. Bhujbal, P. Mathwad, V. R. Sapre, B. B. Ballal and **Prafulla Shede**. (2011) Checking abundance of *Salmonella* and *Shigella* on vegetables sold in Pune region. (Poster) XVII Maharashtra chapter Conference of Indian association of Medical Microbiologists (MICROCON 2011), Pune, India.
- **Prafulla Shede**, Bharat Ballal, Chandrani Kundu, and Mukund Bodhankar (2011). Probiotics to alleviate Irritable Bowel Syndrome symptoms – A case study. (Oral) International Conference on Biotechnology for Better Tomorrow (BTBT), Aurangabad, India.

- P. P. Kanekar*, S. S. Sarnaik, S. Roy, **P. N. Shede** and M. R. Kedargol. (2008). Phytoremediation of high nitrate containing wastewater using aquatic plants. (Oral) Indo-Italian International Conference on Green and Clean Environment, Pune, India.
- P. P. Kanekar, M. R. Kedargol, **P. N. Shede**, S. S. Sarnaik, R. Choudhary, S. P. Kanekar*, N. P. Gujarathi and K. F. Reardon. (2008). Bioremediation of high nitrate containing nitroexplosive wastewater by *Pichia* sp. in Sequencing Batch Reactor. (Poster) 50th Annual Conference of Association of Microbiologists of India (AMI), New Delhi, India.
- **P. N. Shede**, A. V. Polkade*, P. P. Kanekar, P. K. Dhakephalkar, S. S. Sarnaik. (2007). Formulation and evaluation of salt-free biopreservative for raw buffalo hide - A paradigm shift in leather processing. (Poster) International Conference on New Horizons in Biotechnology (NHBT), Trivandrum, India.
- P. P. Kanekar, S. S. Sarnaik, **P. N. Shede***, N. P. Gujrathi, A. R. Nikam, N. S. Pawar, M. R. Kedargol, E. Pilon-Smits, K. F. Reardon, T. Soman and V. D. Raut. (2007). Phytoremediation of high nitrate-containing Nitroexplosive wastewater. (Poster) International Conference on New Horizons in Biotechnology (NHBT), Trivandrum, India.
- Kanekar P. P., Sarnaik S. S., Gujrathi N. P., Kanekar S. P., Phalke V. V., **Shede P. N.**, Kedargol M. R.*, Reardon K. F., Pilon – Smits E., Soman T and Raut V. D. (2007). Horizontal packed bed biofilm reactor (HPBBR) for Bioremediation of Nitroexplosive Wastewater. (Poster) International Conference on New Horizons in Biotechnology (NHBT), Trivandrum, India
- **P. N. Shede***, P. P. Kanekar, P. K. Dhakephalkar, S. S. Sarnaik, S. S. Nilegaonkar and A. V. Polkade. (2006). Matrix metalloproteinase (MMP) inhibitors from natural resources. (Poster) 3rd Indo-Australian Conference on Biotechnology – Vaccine for Cancer, Infectious Diseases, Lifestyle & degenerative Diseases, Hyderabad, India.
- **P. N. Shede***, A. V. Polkade, P. P. Kanekar, S. S. Sarnaik and P. K. Dhakephalkar. (2004). Microbial activities during storage of raw buffalo hide with relevance to leather processing. (Oral) 38th Leather Research Industry Get Together (LERIG), Chennai, India.
- A. V. Polkade*, **P. N. Shede**, P. P. Kanekar, P. K. Dhakephalkar, S. S. Sarnaik and P. S. Dautpure. (2004). Effect of neem extract on native flora of buffalo hide. (Oral) 38th Leather Research Industry Get Together (LERIG), Chennai, India.
- P. P. Kanekar, S. K. Singh, P. K. Dhakephalkar, S. S. Sarnaik, S. S. Nilegaonkar, P. Vyas, V. P. Zambare, A. V. Polkade and **P. N. Shede***. (2003). (Oral) National Symposium on Prospecting of Fungal Diversity and Emerging Technologies and 29th Annual Meeting of Mycological Society of India, Pune, India.
- B. B. Ballal, **P. N. Shede*** and Meenakshi Tiwari. Effect of HIV – replication on the population of WBCs and the reactivity of p – 24 antigen in the infected individual following long term ayurvedic therapy. (2000). (Poster), 40th Annual Conference of Association of Microbiologists of India (AMI), Bhubaneswar, India.

INVITED TALKS (Conference/ Seminar/ Workshop)

- National seminar on 'Advances in Sustainable Biotechnology' organized by Department of Biotechnology, St. Xavier's College, Mapusa Goa. (2017)

INVITED TALKS (College/ Institute)

- DAV College of Science and Humanities, Lalitpur, Kathmandu, Nepal (2017)
- Golden Gate International College, Battisputali, Kathmandu, Nepal (2017)
- Kantipur College of Medical Science, Sitapaila, Kathmandu, Nepal (2017)
- Kathmandu Institute of Science & Technology, Kamalpokhari, Kathmandu, Nepal (2017)
- National College, Khusibu, Kathmandu, Nepal (2017)
- St. Xavier's College, Maitighar, Kathmandu, Nepal (2017)
- Abeda Inamdar Senior College of Arts, Science and Commerce, Pune (2015 & 2016)
- New Arts, Commerce and Science College, Ahmednagar (2014)

PROJECT GUIDED (Post Graduate)

| <i>Project title</i> | <i>Year</i> |
|---|-------------|
| • Study of lignin degradation potential of bacteria isolated from Western Ghat | 2016 – 2017 |
| • Isolation and characterization of microorganisms involved in degradation of various complex polymeric solid waste components | 2016 – 2017 |
| • Evaluation and optimization of existing tools and databases for microbial community analysis of 16S rRNA gene sequences | 2016 – 2017 |
| • Enzymatic characterization of microorganisms isolated from snake venom and deciphering their possible role in tissue necrosis | 2016 – 2017 |
| • Influence of ions on ethanol tolerance of yeast | 2015 – 2016 |
| • Evaluating the effect of salts on ethanol tolerance by yeast | 2014 – 2015 |
| • Isolation and screening of lignin degrading bacteria from Western Ghat, India | 2014 – 2015 |
| • Determination of heavy metal resistance in bacteria isolated from Mutha river | 2013 – 2014 |
| • A semi-quantitative approach for understanding role of quorum sensing in bacterial growth | 2013 – 2014 |