



Dr. Riyazali Zafarali Sayyed

Professor

Biological Sciences and Chemistry-Biology Section

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Marital Status:

Prof. Riyaz Sayyed is a Professor in the Department of Biological Sciences and Chemistry at the University of Nizwa, Nizwa, Oman. He served as the President of the Indian Chapter of the Asian PGRP Society from 2017 to 2023. He is Associate Editor of Environmental Sustainability (Springer) and Vegetos (Springer), Guest Editor of Sustainability (MDPI), Frontiers in Microbiology, Frontiers in Sustainable Food Systems, and Academic Editor of PeerJ. He has authored over 360 research papers in high-impact international journals and has edited 34 books with prominent publishers such as Springer, Elsevier, Wiley, and CRC Press. Elsevier and Clarivate have consecutively listed him among the Top 2% of highly cited researchers for three years and in the Top 1% of Highly Cited Researchers among 6,886 researchers worldwide, respectively. Prof. Sayyed is a Fellow of the Royal Society of Biology (FRSB), the Indian Phytopathological Society (FIPS), and the Association of Agricultural Technology in South East Asia (FAATSEA). He is a visiting scholar at INTII International University in Malaysia and an Expert consultant at Qassim University in Saudi Arabia. He has trained over 100 graduates, postgraduates, and Ph.D. students under his guidance. Prof. Sayyed has successfully completed 10 R&D Projects and 02 mega projects for building institutional infrastructure and facilities. He has successfully organized seven international conferences in the country and abroad, and has been an invited speaker at numerous international conferences in India, Southeast Asia, and European countries. Prof. Sayyed has received numerous prestigious national and international awards.

[Riyaz Sayyed UoN CV.pdf](#)

Academic Qualifications

Ph.D., North Maharashtra University, Jalgaon, India, 2003, Studies on secondary metabolites of *Alcaligenes faecalis* with reference to Plant Growth Promotion

Master, North Maharashtra University, Jalgaon, India, 1996

Bachelor, North Maharashtra University, Jalgaon, India, 1994

Teaching Activities

Microbiology

Applied Microbiology

Industrial Microbiology

Diagnostic Microbiology

Food Microbiology

Agriculture Microbiology

Applied Microbiology

Medical Microbiology

Immunology

Plant Physiology

Plant Pathology

Research Activities

- *Research Interests*

Plant-Microbe Interaction- PGPR in plant growth promotion, biocontrol, and stress tolerance and bioremediation of heavy metal, salinity, and drought-affected soil.

Development of a protocol for the production of biodegradable polymers We developed the protocol for producing biodegradable plastic from microorganisms using agro-wastes. We have also studied this polymer's biodegradation and found it an eco-friendly alternative to synthetic plastic.

- *Conference Presentations*

Heavy Metal Resistant PGPR for Iron Nutrition of all and for biocontrol of Plant diseases

(Invited Talk), , 4th Asian PGPR Conference, Hanoi, Vietnam, 03/05/2025

Bioplastic from Agro-Wastes: A Greener Approach to Combat Plastic Pollution , International Conference on Sustainable Waste Management, University of Technology and Applied Sciences, Muscat, Oman, 24/02/2025

Crop Microbiome For Food and Agriculture Sustainability, (Keynote speaker), The Global Advances in Health and Life Sciences, , INTI International University, Nilai, Malaysia, 20/08/2024

Rhizomicrobiome: Role Players in Global Food and Nutritional Security (Invited speaker), , Bridging Boundaries: Exploring Synergies Across Research Disciplines-THEVELI 2024 , Maldives National University, Male, Maldives, 19/08/2024

Phytomicrobiomes for Global Food and Nutritional Security (Invited speaker), International Conference on Environmental Design, Material Science, and Engineering Technologies (EFMSET), Dubai , Abu Dhabi University, Dubai, 22/04/2024

Microbial polymers Environmental Sustainability (Invited speaker), Biotechnology applications VI, INTI International University, Nilai, Malaysia, , 30/11/2023

Rhizo-microbiome and Global Food and Environmental Sustainability (Plenary speaker) , 8th Global Summit on Medicinal and Aromatic Plants (GOSMAP-8, Bangkok, Thailand, 08/11/2023

Biopotential of Rhizo-microbiome for the Sustenance of Agriculture (Plenary speaker), 2nd International Conference of Biotechnology Society of Nepal (ICBSN-2022)` Biotechnology for Environmental and Sustainable Technologies (BEST), Kathmandu, Nepal, 17/12/2022

Rhizo-microbiome for the Sustenance of Agro-ecosystem (Invited Talk), , 6th Postgraduate Colloquium for Environmental Research 2022, Langkawi, Malaysia, 09/06/2022

Role of Endophytic Rhizobacteria in Inducing Systemic Resistance and Bio-Control of Fungal Pathogens of Medicinal Plants (Invited Talk and Session Chair). , 7th International Mediterranean Symposium on Medicinal and Aromatic Plant Sciences, Izmir, Turkey, 18/11/2021

, 3rd International Congress on Biotechnology of Medicinal Plants and Mushrooms (Presentation), Janzan University, Iran, 17/05/2021

The dynamism of endophytic fluorescent Pseudomonas for inducing systemic resistance and bio-control of fungal pathogens of medicinal plants, , 6th Asian PGPR Conference, , Tashkent, Uzbekistan, 18/08/2019

Agro and Biocompatibility of hydrolytic enzyme producing PGPR (Invited talk and Session Chair), 5th Asian PGPR Conference, Bogor, Indonesia, 16/07/2017

Bioactive compounds of rhizobacteria for plant iron nutrition and biocontrol (Poster), , 12th International Conference on Bio-resources and Bio-refineries (RRB-12), Ghent, Belgium , 28/05/2016

Heavy Metal Resistant PGPR As Green Solution to Pesticide and Heavy Metal Pollution 9(Invited Talk), International Conference Agriculture & Food, Sofia, Bulgaria, 05/06/2014

Role of PGPR in bioremediation of heavy metal ions and plant growth-promotion of wheat and peanut grown in heavy metal contaminated soil, , 3rd Asian PGPR Conference, Manila, Philippines, 21/04/2013

Search for potent bacteria for PHB production: An eco-friendly biopolymer, 3rd International Biotechnology & Biodiversity Conference, Johor, Malaysia, 09/06/2012

Heavy Metal Resistant PGPR For Biocontrol of Phytopathogens And Bioremediation of Heavy Metal Contaminated Soil, , 1st World Biotechnology Conference, Dubai, 14/02/2012

Siderophore producing PGPR as eco-friendly Bio-control agent, 3rd World congress of Industrial Biotechnology, , Dalian, China, 25/07/2010

Biotechnological potential of Siderophore producing microbes for sustainable Agriculture, 2nd World Congress on Industrial Biotechnology, Seoul South Korea, 05/04/2009

- Conference Attendance

Conference on Organic Agriculture for Biodiversity and Sustainable Development, Asian productivity organization (Japan), Colombo, Sri Lanka, 09/12/2024

- Publications

Article:

1. 2025 Assessing the Synergistic Effects of Biochar, Hydrogel, and Biofertilizer on Growth and Physiological traits of Wheat in Saline Environments. , Functional Plant Biology. 52, FP24277 <https://doi.org/10.1071/FP24277>
2. 2025 Enhancing soil health and crop productivity: The role of zinc-solubilizing bacteria in sustainable agriculture. , Plant Growth Regulation, <https://doi.org/10.1007/s10725-025-01294-7>
3. 2025 Entrapment of cellulase of snail gut *Bacillus amyloliquefaciens* for converting sugarcane bagasse to bioethanol using *Saccharomyces cerevisiae*. , Waste and Biomass Valorization. 2025. <https://doi.org/10.1007/s12649-025-02964-3>
4. 2025 Applying microbial biostimulants and drought-tolerant genotypes to enhance barley growth and yield under drought stress. , Frontiers in Plant Sciences. 2025,

15:1494987.

5. 2025 Biofilmed PGPR: A next-generation bioinoculant for plant growth promotion in rice (*Oryza sativa* L.) under changing climate. , Rice Science. 2025(32):
<https://doi.org/10.1016/j.rsci.2024.08.008>.

6. 2025 Tri-Trophic Interactions for Enhanced Black Gram Growth and Root Rot Resilience. , J of Basic Microbiology. 2025, 65(3), e2400569. <https://doi.org/10.1002/jobm.202400569>

7. 2024 Changes in soil chemical properties and bacterial community composition of jujube orchard due to oil cake fertilization. , J of Microbiology and Biotechnology. 2024. 34(12):2542-49. <https://doi.org/10.4014/jmb.2406.06037>

8. 2024 Deciphering the biocontrol potential of *Trichoderma asperellum* (Tv1) against *Fusarium*-nematode wilt complex in Tomato. , J of Basic Microbiology. e2400595 1-13
<https://doi.org/10.1002/jobm.202400595>

9. 2024 Microalgae-based solutions for palm oil mill effluent management: Integrating phycoremediation, biomass, and biodiesel production for a greener future. , Biomass and Bioenergy. 191, 2024, 07445, <https://doi.org/10.1016/j.biombioe.2024.107445>

10. 2024 Harnessing plant growth-promoting and wilt-controlling biopotential of a consortium of actinomycetes and mycorrhizae in pigeon pea. , J of Phytopathology. 2024;172:e13399 <https://doi.org/10.1111/jph.13399>

11. 2024 Rhizosphere Engineering of Biocontrol Agents Enriches Soil Microbial Diversity and Effectively Controls Root-Knot Nematode. , Microbial Ecology. 87, 120 (2024).
<https://doi.org/10.1007/s00248-024-02435-7>

12. 2024 Hibiscus sabdariffa L. Petal Biomass: A Green Source of Nanoparticles of Multifarious Potential , Open Agriculture. e 2024; 9: 20220332
<https://doi.org/10.1515/opag-2022-0332>

13. 2024 In silico analysis of LPMO inhibition by ethylene precursor ACCA to combat potato late blight , J of King Saud University Science, 36(2024)103436.
<https://doi.org/10.1016/j.jksus.2024.103436>

14. 2024 Comprehensive Analysis of Microbiome Biodiversity in Popular Date Palm (*Phoenix dactylifera* L.) Fruit Varieties. , Scientific Reports. 2024, 13:7378
<https://doi.org/10.1038/s41598-023-34359-6>

15. 2024 Optimization of fermentation conditions of *Cordyceps militaris* and in-silico analysis of antifungal property of cordycepin against plant pathogens. , J of Basic Microbiology. 2024; e2400409 1-18 <https://doi.org/10.1002/jobm.202400409>

16. 2024 *Neoscytalidium dimidiatum* associated with *Albizia lebbeck* disease in Saudi

Arabia: symptomatology, pathogenicity, and molecular identification , Forest Pathology. 2024;54:e12884. <https://doi.org/10.1111/efp.12884>

17. 2024 Wheat growth and yield response are regulated by mycorrhizae application and supplemental irrigation. , Chemosphere. 364 (2024) 143068
<https://doi.org/10.1016/j.chemosphere.2024.143068>

18. 2024 Molecular Characterization and Biodiversity Analysis of *Botrytis cinerea*, a Grey Mould of Tomato, and its Antagonism Using Local *Bacillus subtilis*. , Physiological and Molecular Plant Pathology. 133 (2024) 102376.
<https://doi.org/10.1016/j.pmpp.2024.102376>

19. 2024 Evaluation of destruction of bacterial membrane structure associated with anti-quorum sensing and ant-diabetic activity of *Cyperus esculentus*. Extracts. , Heliyon. 2024. E34128. <https://doi.org/10.1016/j.heliyon.2024.e34128>

20. 2024 Effect of macrophyte biomass-based vermicompost and vermicompost tea on plant growth, productivity, and biocontrol of *Fusarium* wilt disease in tomato. , Biocatalysis and Agricultural Biotechnology. 2024, 60:103320.
<https://doi.org/10.1016/j.bcab.2024.103320>

21. 2024 Advanced multivariate approaches for Selecting Moroccan drought-tolerant barley (*Hordeum vulgare* L.) cultivars. Ecological Frontiers. , 2024, 44, 4: 820-828, <https://doi.org/10.1016/j.ecofro.2024.02.010>

22. 2024 Evaluation of suitability and biodegradability of the organophosphate insecticides to mitigate insecticide pollution in onion farming. , Heliyon. 10 (2024)e32580.
<https://doi.org/10.1016/j.heliyon.2024.e32580>

23. 2024 Biopotential of rhizobacteria to improve growth and phytochemical content in Javanese ginseng (*Talinum paniculatum*) herbal plant. , Frontiers in Sustainable Food Systems. 8:1384700. <https://doi.org/10.3389/fsufs.2024.1384700>

24. 2024 Molecular characterization reveals biodiversity and biopotential of rhizobacterial isolates of *Bacillus* spp. , Microbial Ecology. 87, 83 (2024).
<https://doi.org/10.1007/s00248-024-02397-w>

25. 2024 Hybrid method of gibberellic acid applications: A sustainable and reliable way for improving jerusalem cherry. , Biocatalysis and Agricultural Biotechnology. 59(2024)103253.
<https://doi.org/10.1016/j.bcab.2024.103253>

26. 2024 31. Babarabi M, Sardoei AS, Dhanalakshmi K, Malathi G, Sayyed RZ, Sunita K, Ghasemi H, & Fazeli-Nasab B (2024). Triacantanol: The Role Player in *Polianthes tuberosa* var. Pearl Response Under Natural Conditions. , Biocatalysis and Agricultural Biotechnology. 58(2024)103228. <https://doi.org/10.1016/j.bcab.2024.103228>

27. 2024 Osmolyte-producing microbial biostimulants regulate the growth of *Arachis hypogaea* L. under drought stress. , *BMC Microbiology*. 4,165 (2024).
<https://doi.org/10.1186/s12866-024-03320-6>
28. 2024 Seed coating with minerals and plant growth-promoting bacteria enhances drought tolerance in fennel (*Foeniculum vulgare* L.). , *Biocatalysis and Agricultural Biotechnology*. 58(2024)103202. <https://doi.org/10.1016/j.bcab.2024.103202>
29. 2024 Investigating potential protease activity of psychrotrophic bacteria from a municipal landfill for solid waste management. , *Biomass Conversion and Biorefinery*.
<https://doi.org/10.1007/s13399-024-05621-2>
30. 2024 Purification and characterization of desferrioxamine B of *Pseudomonas fluorescens* and its application to improve oil content, nutrient uptake, and plant growth in peanuts. , *Microbial Ecology*. 87:60 <https://doi.org/10.1007/s00248-024-02377-0>
31. 2024 A network pharmacology approach with experimental validation to discover the protective mechanism of poly herbal extract on diabetes mellitus. , *J of King Saud University Science*. 36,4, 2024, 103138. <https://doi.org/10.1016/j.jksus.2024.103138>
32. 2024 Antidiabetic activity of methanolic extract of *Hibiscus sabdariffa* Linn. fruit in alloxan-induced Swiss albino diabetic mice. , *Open Agriculture*, 2024, 9:20220243.
<https://doi.org/10.1515/opag-2022-0243>
33. 2024 Bioinformatic investigation of the effect of volatile and non-volatile compounds of rhizobacteria in inhibiting late Embryogenesis Abundant (LEA) protein that induces drought tolerance. , *Open Agriculture*, 9:20220252 <https://doi.org/10.1515/opag-2022-0252>
34. 2024 Assessing Organophosphate Insecticide Retention in Muscle Tissues of Juvenile Common Carp Fish Under Acute Toxicity Tests. , *Toxicology Report*, 12 (2024):253-259.
<https://doi.org/10.1016/j.toxrep.2024.02.002>
35. 2024 Harnessing Abiotic Elicitors to Bolster Plant's Resistance against Bacterial Pathogens. , *Plant Stress*, 2024, 11, 2024:100371,
<https://doi.org/10.1016/j.stress.2024.100371>.
36. 2024 Molecular Characterization of Candidatus phytoplasma phoenicium' infecting almond (*Prunus dulcis*) and Evaluation of Biochemical Defenses Produced in Plant. , *J of Phytopathology*, 2024;00:e13260 <https://doi.org/10.1111/jph.13260>
37. 2024 Solid lipid nanoparticles of *Platycladus orientalis* L. possessing 5- α reductase inhibiting activity for treating hair loss and hirsutism. , *Journal of Medicinal Plants and By-products*. 2024, 1: 233-246 <https://doi.org/10.22034/jmpb.2023.364389.1634>
38. 2022 An invitro phytotoxicity assessment of UV-enhanced biodegradation of plastics for

spinach cultivation. , Frontiers of Env Sci and Engg, 19(2): 17
<https://doi.org/10.1007/s11783-025-1937-3>

Faculty Administrative Experience

2024 - Present: Chairman - Risk Management Committee - University of Nizwa

2024 - Present: Chairman - Student Skill Development Committee - University of Nizwa

2024 - Present: Member- Promotion Committee, Member - University of Nizwa

2015 - 2022: Head, Department of Microbiology - PSGVP Mandal`s ASC College, SHAHADA 425409

2015 - 2022: Head, Department of Biotechnology - PSGVP Mandal`s ASC College, SHAHADA 425409

2011 - 2013: Co-Ordinator - Remedial Coaching - PSGVP Mandal`s ASC College, SHAHADA 425409

2010 - 2015: Head, Department of Biotechnology - PSGVP Mandal`s ASC College, SHAHADA 425409

2007 - 2024: Member, Internal Quality Assurance Cell (IQAC) committee - PSGVP Mandal`s ASC College, SHAHADA 425409

2007 - 2022: Member, National Assessment & Accreditation Council (NAAC) Steering Committee - PSGVP Mandal`s ASC College, SHAHADA 425409

Membership in Professional Bodies

2025-2026: Royal Society of Biology, London

2024-Present: Asian Phytopathological Society

2010-Present: Asian PGPR Society, for Sustainable Agriculture

2008-Present: Indian Phytopathological Society

2008-Present: Microbiologists Society of India

2006-Present: Biotech Research Society of India

2005-Present: Association of Microbiologists of India

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