Rouhallah Sharifi PhD

Department of Plant Protection
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Education

PhD in Plant-Microbe Interaction, University of Tehran 2008-2013
Thesis: Mode of action of *Bacillus subtilis* volatile compounds in the induction of systemic resistance against *Botrytis cinerea* in Arabidopsis

M.Sc in Plant Pathology, University of Tehran
Thesis: Influence of siderophore of fluorescent pseudomonads in suppression of common bean damping-off caused by *Rhizoctonia solani* 2005-2008
B.Sc in Plant Protection, Urmia University 2001-2005

Research Experience

Visiting scholar in Korea Research Institute of Bioscience and Biotechnology (KRIBB) 2009-2010 (15 month)
Advisor: Choong-Min Ryu

Leader in the research project 95839814 for Iran national science foundation 2015-2018
Title: Microencapsulation of microbial volatiles for improving plant growth and inducing resistance to plant diseases

Leader in the research project for the petroleum ministry 2019-2021
Title: bioremediation of hydrocarbons by isolated bacteria from contaminated soil of Naft-Shahr, Kermanshah Province and their microbial consortium.

Leader in the research project for Iran Science foundation 2021-2024
Title: Characterization of biosurfactants in some bacterial isolates and their efficiency in improving the degradation of crude oil.

Honors and Awards

Ranked first in the overall entrance exam for M.Sc in Iran (nominated as an elite student) 2005

Top M.Sc thesis at University of Tehran (score: 20/20) 2008

Young Researcher Award, Razi University 2015

Top Researcher Award, Razi University 2023
Top research project, Razi University 2023

Selected Publications

Journal Articles (Corresponding author is underlined)

Shohanipor, T., **Sharifi, R.,** Hosseini, S. 2025. Efficacy Assessment of some copper compounds on the bacterial leaf streak pathogen, *Xanthomonas translucens*. European Journal of Plant Pathology. https://doi.org/10.1007/s10658-025-03099-w. **IF: 2.0, Q2**

Hosseini, S., **Sharifi, R.,** Habibi, A. 2025. Efficient bioremediation of crude oil contaminated soil by a consortium of in-situ biosurfactant producing hydrocarbon-degraders. Scientific Reports 15:19852. **IF: 3.9, Q1**

Rashid, T.S., Awla, H.K., **Sharifi, R.** 2025. Biocontrol potential of metabolites from *Streptomyces* sp., non-toxic *Aspergillus fumigatus*, and their co-cultures against tomato anthracnose. Biochemical Systematics and Ecology. 123: 105067. **IF: 2.0, Q3**

Badri, K., **Sharifi, R.,** Hosseini, S. 2025. Effectiveness of defense-inducing volatile compounds against *Xanthomonas translucens*, bacterial leaf streak pathogen of wheat. Physiological and Molecular Plant Pathology. 139: 102738. **IF: 3.3, Q2**

Hosseini, S., **Sharifi, R.,** Habibi, A., Beheshti-Alagha, A. 2025. Isolation and characterization of thermotolerant hydrocarbon degrading bacteria which sustained the activity at extreme salinity and high osmotic conditions. Molecular Biology Research Communications, 14:37-46. **IF: 1.64, Q4**

Heydari-Rashnoo, F., **Sharifi, R.,** Moarrefzadeh, N., Marefat, A., Hosseini, S. 2024. Characterisation of *Pseudomonas coleopterorum*, a new pathogen causing bacterial leaf spot on common cocklebur (*Xanthium strumarium*) in Iran. Biocontrol Science and Technology. **IF: 1.5, Q3**

Rahimi, Z., Safaie, N., Moradi, S., Abbod, M., **Sharifi, R.,** Mojerlou, S., Mokhtassi-Bidgoli, A., 2024. New binary mixtures of fungicides against *Macrophomina phaseolina*: Machine learning-driven QSAR, read-across prediction, and molecular dynamics simulation. Chemosphere 366(1):143533. **IF: 8.1, Q1**

Hosseini, S., **Sharifi, R.,** Habibi, A., Ali, Q. 2024. Molecular identification of rhamnolipids produced by *Pseudomonas oryzihabitans* during biodegradation of crude oil. Frontiers in Microbiology. 15: 1459112. **IF: 4.0, Q1**

Xue, S., Kui, L., **Sharifi, R.,** Chen, J. 2024. The role of microbiome in sustainable agriculture. Frontiers in Microbiology. 15:1388926. **IF: 4.0, Q1**

Abbasi-Karvaneh, Z., Ranjbar, F., Beheshti-Alagha, A., **Sharifi, R.,** Chaghazardi, H. 2024. Improvement of iron chlorosis and nutrient balance in peach and nectarine

trees under the integrated fertilization management using DOP, DRIS, and CND methods. Scientia Horticulturae. 338:113697. **IF: 3.9, Q1**

Hosseini, S., **Sharifi, R.,** Habibi, A., Khezri, S. 2024. *Roseomonas aestuarii*, as a potential *in situ* surfactin producer during hydrocarbon biodegradation. Journal of Basic Microbiology. e2400538. **IF: 3.5, Q3**

Hosseini Badrbani, A., Amini, J., **Sharifi, R.,** Karimi, K. 2024. Arbuscular mycorrhizal fungi, induce resistance in tomato plant against Fusarium wilt through transferring underground warning signal. Physiological and Molecular Plant Pathology. 133:102380. **IF: 2.8, Q2**

Pakdel, S., Beheshti-Alagha, A., **Sharifi, R.,** Habibi, A., Gholami, F. 2024. Diesel-degradation by indigenous bacteria of petroleum-contaminated soils. International Microbiology. 1-11. **IF: 2.3, Q3**

Hosseini, S., **Sharifi, R.,** Habibi, A., 2024. Simultaneous removal of aliphatic and aromatic crude oil hydrocarbons by *Pantoea agglomerans* isolated from petroleum-contaminated soil in the west of Iran. Archives of Microbiology, 206 (3): 98. **IF: 2.3, Q3**

Seif, S., Moarrefzadeh, N., **Sharifi, R.,** Hosseini, S. 2024. Characterization of pectolytic bacteria causing soft rot on sugar beet in the west of Iran. Journal of Phytopathology.172: e13359. **IF: 1.1, Q3**

Jing, Y., Zheng, X., **Sharifi, R.,** Chen, J. 2023. Plant elicitor peptide induces endocytosis of plasma membrane proteins in *Arabidopsis*. Frontiers in Plant Science. 14:1328250. **IF: 4.1, Q1**

Jing, Y., Zhao, F., Lai, K., Sun, F., Sun, C., Zou, X., Xu, M., Fu, A., **Sharifi, R.,** Chen, J. 2024. Plant elicitor Peptides regulate root hair development in *Arabidopsis*. Frontiers in Plant Science. 15:1336129. **IF: 4.1, Q1**

Sharifi, R., Chen, J. Sun, Z. Chen, J. 2023. Conferring resistance to parasitic witchweed by shifting strigolactones biosynthesis. Trends in Parasitology. 39 (7):496-498. **IF: 6.6, Q1**

Bajelani , S., Enayatizamir , N., Beheshti-Alagha, A., **Sharifi, R.,** 2023. Potential of some microbial isolates on diesel hydrocarbons removal, bio surfactant production and biofilm formation. Journal of Environmental Health Science and Engineering. 21(2): 417-428. **IF: 3.0, Q3**

Sharifi, R., & Ryu, C-M. 2022. Belowground plant–microbe communications via volatile compounds. *Journal of Experimental Botany*, 73(2):463-486. **IF: 6.992, Q1**

Naseri, Sh., Beheshti, A., **Sharifi, R**., Bahraminejad, S. 2022. Rhizobacteria modify soil biological indices and induce tolerance to osmotic stress in tomato depending on the salinity level and bacteria species. Brazilian Journal of Microbiology. https://doi.org/10.1007/s42770-022-00781-7. **IF: 2.48, Q4**

Maleki, S., Ranjbar, F., Beheshti-Alagha, A. **Sharifi, R**. 2022. Release kinetics of carbon, nitrogen, phosphorus, and potassium during co-composting of poultry manure mixed with different ratios of wheat straw and zeolite. Waste Biomass Valor. https://doi.org/10.1007/s12649-022-01852-4. **IF: 3.45, Q3**

Chen, J., **Sharifi, R.,** Khan, M.S.S., Islam, F., Bhat, J.A., Kui, L., and Majeed, M. 2021. Wheat microbiome: structure, dynamics, and role in improving performance under stress environments. *Frontiers in Microbiol*ogy. **IF: 5.64, Q1**

Chen, J., **Sharifi, R**., & Ryu, C. M. 2021. Turning a bacterial gaseous virulence trigger off. *Trends in Plant Science*. **IF: 20.8 Q1**

Kui L., Chen, B., Chen, J., **Sharifi, R**., Dong, Y., Zhang, Z., Miao, J. 2021. A comparative analysis on the structure and function of the *Panax notoginseng* rhizosphere microbiome. *Frontiers in Microbiol*ogy. 12:673512. **IF: 5.64, Q1**

Olfati, A., Kahrizi, D., Balaky, STJ., **Sharifi, R,** Tahir, M., Darvishi, E. 2021. Green synthesis of nanoparticles using *Calendula officinalis* extract from silver sulfate and their antibacterial effects on *Pectobacterium caratovorum*. *Inorganic Chemistry Communications* 125: 108439. **IF: 5.4 Q1**

Montazersaheb, H., Zamani, A. A., **Sharifi, R.,** & Darbemamieh, M. (2021). Effects of plant probiotic bacteria and herbivore-induced plant volatiles on life table parameters of *Tetranychus urticae* (Acari: Tetranychidae) on kidney bean's attached leaves. *International Journal of Acarology*, 47(6), 520-527. **IF: 1.056 Q3**

Khodamoradi, F., Mirzaee-Ghaleh, E., Dalvand, M. J., & **Sharifi, R.** (2021). Classification of basil plant based on the level of consumed nitrogen fertilizer using an olfactory machine. *Food Analytical Methods*, 1-13. **IF: 3.366, Q2**

Sharifi, R., & Ryu, C. M. (2021). Social networking in crop plants: Wired and wireless cross-plant communications. *Plant, Cell & Environment.* 44(4): 1095-1110. **IF: 7.228, Q1**

Borzouei, S., **Sharifi, R.,** & Moarrefzadeh, N. (2019). Induction of systemic resistance in tomato against broomrape (*Phelipanche aegyptiaca*). *Journal of Phytopathology*, 167(10), 567-575. **IF: 1.789, Q3**

Sharifi, R. and Ryu, C.-M. 2018. Sniffing bacterial volatile compounds for healthier plants. *Current Opinion in Plant Biology*, 44: 88-97. **IF: 7.834, Q1**

Sharifi, R. and Ryu, C.-M. 2018. Revisiting bacterial volatile-mediated plant growth promotion: Lessons from the past and objectives for the future. *Annals of Botany*, 122(3): 349-358. **IF: 4.357 Q1**

Sharifi, R., S.M. Lee and Ryu, C.M. 2018. Microbe-induced plant volatiles. *New Phytologist*, 220(3): 684-691. **IF: 10.151 Q1**

Sharifi, R., and Ryu, C.-M. (2018). Biogenic volatile compounds for plant disease diagnosis and health improvement. *The Plant Pathology Journal*, 34(6), 459-469. **IF: 1.795, Q2**

Sohrabi, F., Sheikholeslami, M., Heydari, R., Rezaee, S., & **Sharifi, R.** (2018). Evaluation of four rhizobacteria on tomato growth and suppression of root-knot ematode, *Meloidogyne javanica* under greenhouse conditions, a pilot study. *Egyptian Journal of Biological Pest Control*, 73(2): 293-300. **IF: 1.995, Q1**

Sharifi, R., Ryu, C.M. 2016. Are bacterial volatile compounds poisonous odors to a fungal pathogen *Botrytis cinerea*, alarm signals to *Arabidopsis* seedlings for eliciting induced resistance, or both? *Frontiers in Microbiol*ogy 7:196. **IF: 5.64, Q1**

Khezri, S. Ahmadzadeh, M. **Sharifi, R.** 2016. Characterization of new gene in biofilm formation of *Bacillus subtilis*. Modern Genetics Journal 11(2): 1-10

Farzaneh, M. Kiani, H. **Sharifi, R.** Reisi, M. Hadian, J. 2015. Chemical composition and antifungal effects of three species of Satureja (*S. hortensis*, *S. spicigera*, and *S. khuzistanica*) essential oils on the main pathogens of strawberry fruit. *Postharvest Biology and Technology* 109:145-151. **IF: 5.53, Q1**

Fallahzadeh,V. Ahmadzadeh, M. **Sharifi, R.** 2009. Screening systemic resistance inducing fluorescent pseudomonads for control of bacterial blight of cotton caused by *Xanthomonas campestris* pv. *malvacearum*. *Journal of Plant Pathology*. 91 (3), 663-670. **IF: 1.729, Q2**

Heidari, F.T. Ahmadzade, M. Sharifi-Tehrani, A. **Sharifi, R**. 2011. Evaluation of biocontrol efficiency of *Pseudomonas fluorescens* UTPF61 in different nitrogen sources. *Journal of Plant Pathology*. 93: 195-198. **IF: 1.729, Q2**

BOOK Chapters

Sharifi, R., & Ryu, C. M. (2020). Contribution of Bacterial Volatiles to Chemical Ecology. In Bacterial Volatile Compounds as Mediators of Airborne Interactions (pp. 167-186). *Springer*, Singapore.

Sharifi, R., & Ryu, C. M. (2020). Formulation and Agricultural Application of Bacterial Volatile Compounds. In Bacterial Volatile Compounds as Mediators of Airborne Interactions (pp. 317-336). *Springer*, Singapore.

Sharifi, R., Ryu, C.M. 2016. Chatting with a tiny belowground member of the holobiome: communication between plants and growth-promoting rhizobacteria. In: In G. Becard (Ed.) *Advances in Botanical Research*, 82:135-160. Academic Press. **IF: 2.175**

Reviewer for:

FEMS Microbiology Ecology, Biological Control, Biocontrol Science & Technology, Frontiers in Microbiology, Frontiers in Plant Science, Frontiers in Ecology and Evolution, Microbial Ecology, Microbiological Research, Journal of Plant Growth Regulation, BMC Plant Biology, The Plant Pathology Journal (Korea), Saudi Journal of Biological Sciences, Journal of Agricultural Science and Technology (JAST), Tropical Plant Pathology, Folia Microbiologia, Biologia

Teaching

Lecturers at Razi University 2013-present
Courses: Plant Immunity, Plant-Microbe Interaction, Practical Farming, Molecular Plant Pathology, Microbial Ecology, Statistics
Top teacher of department for three semester

Lecturer at University of Tehran 2008-2009
Courses: Practical Plant Pathology, Biological control of plant diseases

Supervisor and **Advisor** for five PhD thesis and 15 MSc thesis

Jobs

Head of Department of Plant Protection 2018-2020
Head of Department of Plant Protection 2020-2022
Head of University agricultural fields, orchards and animal farm (300 ha) 20222-2025
The Mayor of Razi University 2025-present

Referees

- Dr. Choong-Min Ryu, Principal Investigator, Korea Research Institute of Bioscience and Biotechnology (KRIBB), Daejeon 305-806 S. Korea Email: cmryu@kribb.re.kr Phone: 82-42-879-8229

- Dr. Masoud Ahmadzade, Department of Plant Protection, University of Tehran, Tehran, Iran. Email:Ahmadz@ut.ac.ir Phone: 98-912-260-9100

- Dr. Keivan Behboudi, Department of Plant Protection, University of Tehran, Tehran, Iran. Email: behbodi@ut.ac.ir Phone: 98-912-307-8387