GYANESHWAR PRASAD
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EDUCATION

Ph.D, Biochemistry	(1998)	Maharaja Sayajirao University of Baroda-India
M.Sc, Biochemistry	(1990)	Maharaja Sayajirao University of Baroda-India
B.Sc, Biology	(1988)	Osmania University Hyderabad, India

POSITONS HELD

2023-Present	Professor, Biological Sciences, University of Wisconsin Milwaukee
2022-Present	Chair, Biological Sciences, University of Wisconsin Milwaukee.
2013-Present	Associate Professor, University of Wisconsin-Milwaukee.
2007-2012	Assistant Professor, University of Wisconsin-Milwaukee.
2004-2207	Research Associate, University of Minnesota, St Paul.
2003-2004	Associate Specialist, University of California, Berkeley.
2000-2003	Post-Doctoral Fellow, University of California, Berkeley.
1998-2000	Project Scientist, International Rice Research Institute, Philippines.
1993-1997	Lecturer, Maharaja Sayajirao University of Baroda, India.

PUBLICATIONS

Google Scholar Citations: 5308; H-Index: 25
https://scholar.google.com/citations?user=hMJL0fsAAAAJ&hl=en&oi=ao

1. Ketelboeter LM, Mitra S, Gyaneshwar P (2023). A thiamine transporter is required for biofilm formation by *Rhizobium* sp. IRBG74. *FEMS Microbiol Lett* 370: 1-7.

2. Ketelboeter LM, Gordon A, Welmillage SU, Sreevidya VS, Paliy O, Gyaneshwar P (2023). Transcriptomic and physiological responses of *Rhizobium* sp. IRBG74 to *Sesbania cannabina* and rice rhizosphere. *Plant Soil* 483: 515-532.

3. Welmillage SU, Zhang Q, Sreevidya VS, Sadowsky MJ, Gyaneshwar P (2021). Inoculation of *Mimosa pudica* with *Paraburkholderia phymatum* results in changes to rhizoplane microbial community structure*. Microbes Environ* 36 (1)

4. Speck J, James EK, Sugawara M, Sadowsky MJ, Gyaneshwar P (2019). An alkane sulfonate monooxygenase is required for symbiotic nitrogen fixation by *Bradyrhizobium diazoefficiens* (syn. *Bradyrhizobium japonicum*) USDA110^{T}. *Appl. Environ. Microbiol.*85, e01552-19.

5. Das S, Sreevidya VS, Udvadia A, Gyaneshwar P (2019). Dopamine-induced sulfatase and its regulator are required for *Salmonella enterica* serovar Typhimurium pathogenesis. *Microbiol.* 165: 302-310.

6. Zhao CZ, Huang J, Gyaneshwar P, Zhao DD (2018). *Rhizobium* sp. IRBG74 alters Arabidopsis root development by affecting auxin signaling. *Front. Microbiol.* 8,2556.

7. Mitra S, Mukherjee A, Wiley-Kalil A, Das S, Owen H, Reddy PM, Ane J-M, James EK and Gyaneshwar P. (2016). A rhamnose-deficient lipopolysaccharide mutant of *Rhizobium* sp. IRBG74 is defective in root colonization and beneficial interactions with its flooding-tolerant hosts *Sesbania cannabina* and wetland rice. *J. Expt. Bot.* 67: 5869-5884.

8. Crook M, Mitra S, Ane J-M, Sadowsky MJ and Gyaneshwar P. (2013). Complete genome sequence of the *Sesbania* symbiont and rice growth-promoting endophyte *Rhizobium* sp. Strain IRBG74*. Genome Announ*. doi: 10.1128/genomeA.00934-13.

9. Das S, Singh S, Forst S, McClelland M, and Gyaneshwar P. (2013). Characterization of an acid-inducible sulfatase in *Salmonella enterica* serovar Typhimurium. *Appl. Environ. Microbiol*. 79: 2092-2095.

10. Gyaneshwar P, Hirsch AM, Moulin, L., Chen WM, Elliott GN, Bontemps C, Estrada-de los Santos P, Gross E, dos Reis Junior FB, Sprent JI, Young JPW, and James EK. (2011). Legume nodulating betaproteobacteria: diversity, host-range and future prospects. *Mol. Plant-Microbe Interact.* 24: 1276-1288.

11. Sugawara M, Shah GR, Sadowsky MJ, Paliy O, Speck J, Vail AW, and Gyaneshwar P. (2011). Expression and functional roles of *Bradyrhizobium japonicum* genes involved in the utilization of inorganic and organic sulfur compounds in free-living and symbiotic conditions. *Mol. Plant-Microbe Interact*. 24: 451-457.

12. Cummings SP, Gyaneshwar P, Andrews M, Huphry D, Elliot GN, Nelson A, Orr C, Pettitt D, Santos S, Krishnan HB, Vinuesa P, Odee D, Young PJ and James EK (2009). *Rhizobium (Agrobacterium) radiobacter* strain IRBG74 can effectively nodulate several species of *Sesbania*. *Environ. Microbiol* 11:2510-25.

13. Loh KD, Gyaneshwar P, Papadimitriou EM, Fong R, Kim KS, Zhou Z, Inwood W and Kustu S (2006). A new pathway for pyrimidine catabolism. *Proc. Natl. Acad. Sci*. USA 103: 5114-5119.

14. Gyaneshwar P, Paliy O, McAuliffe J, Popham DL, Jordan MI and Kustu S (2005). Sulfur and nitrogen limitation in *Escherichia coli* K12: specific homeostatic responses*. J. Bacteriol.* 187: 1074-1090.

15. Gyaneshwar P, Paliy O, McAuliffe J, Jones A, Jordan MI and Kustu S (2005). Lessons from *E.coli* genes similarly regulated in response to sulfur or nitrogen limitation. *Proc. Natl. Acad. Sci*. USA 102: 3453-3458.

16. Goh EB, Bledsoe PJ, Chen LL, Gyaneshwar P, Stewart V, Igo MM (2005). Hierarchical Control of Anaerobic Gene Expression in *Escherichia coli* K-12: the Nitrate-Responsive NarX-NarL Regulatory System Represses Synthesis of the Fumarate-Responsive DcuS-DcuR Regulatory System. *J. Bacteriol*. 187: 4890-4899.

17. Zimmer D, Paliy O, Thomas B, Gyaneshwar P, Kustu S (2004). Genome image programs: visualization and interpretation of *Escherichia coli* microarray experiments. *Genetics* 167: 2111-2119.

18. Loyd L, Jones S, Jovanovic G, Gyaneshwar P, Rolfe M, Thompson A, Buck M (2004). Identification of a new member of the phage shock protein response in *Escherichia coli*, the phage shock protein G (PspG). *J. Biol. Chem.* 279: 55707-55714.

19. Soupene E, vanHeeswijk WC, Plumbridge J, Stewart V, Bertenthal D, Lee H, Gyaneshwar P, Paliy O, Charennoppakul P & Kustu S (2003). Physiological studies of *Escherichia coli* strain MG1655: growth defects and apparent cross-regulation of gene expression. *J. Bacteriol*. 185: 5611-5626.

20. Gyaneshwar P, Naresh Kumar G, Parekh LJ & Poole PS (2002). Role of soil microorganisms in improving P nutrition of plants*. Plant Soil* 245*:* 83-93.

21. Gyaneshwar P, James EK, Reddy PM, & Ladha JK (2002). *Herbaspirillum* colonization increases growth and nitrogen accumulation in aluminium-tolerant rice varieties. *New phytol*.154: 131-146.

22. James EK, Gyaneshwar P, Mathan N, Barraquio WL, Olivares FL & Ladha JK (2002). Infection and colonization of rice seedlings by the plant growth promoting bacterium *Herbaspirillum seropedicae Z67. Mol. Plant Microbe Interact.* 15: 894-906.

23. Peng S, Biswas JC, Ladha JK, Gyaneshwar P & Chen Y (2002). Influence of rhizobial inoculation on photosynthesis and grain yield of rice. *Agron. J*. 94: 925-929.

24. Gyaneshwar P, James EK, Mathan N, Reddy PM, Reinhold-Hurek B & Ladha JK (2001). Endophytic colonization of rice by a diazotrophic strain of *Serratia marcescens*. *J. Bacteriol*. 183: 2634-2645.

25. Tan Z, Hurek T, Gyaneshwar P, Ladha JK & Reinhold-Hurek B (2001). Novel endophytes of rice form a taxonomically distinct subgroup of *Serratia marcescens*. *Syst. Appl. Microbiol.* 24: 245-251.

26. Gyaneshwar P, Reddy PM & Ladha JK (2000). Nutrient amendments affect colonization of rice by endophytic strains of *Serratia marcescens* IRBG500 and *Herbaspirillum seropedicae Z67*. *J. Microbiol. Biotechnol.* 10: 694-699.

27. Saxena SS, Ladha JK, Gyaneshwar P, Reinhold-Hurek B, Hernandez RJ & Biswas JC (2000). Evaluation of *lacZ* and *gus A* markers to study rhizobial colonization in rice roots. *Indian J. Microbiol*. 40: 15-20.

28. Gyaneshwar P, Parekh LJ, Archana G, Poole PS, Hutson RA, Collins MA & Naresh Kumar G (1999). Involvement of phosphate starvation induced glucose dehydrogenase in soil P solubilization by *Enterobacter asburiae. FEMS Microbiol. Lett.* 171: 223-229.

29. Gyaneshwar P, Naresh Kumar G & Parekh LJ (1998). Effect of buffering on the P solubilizing abilities of microorganisms. *World J. Microbiol. Biotechnol*. 14: 669-673.

30. Gyaneshwar P, Naresh Kumar G & Parekh LJ (1998). Cloning of mineral phosphate solubilizing genes from *Synechocystis* PCC 6803. *Curr. Sci.* 74: 1097-1099.

Research Funding

Wisconsin Sea Grant. 2022-2024. Mechanisms and management of *E. coli* accumulation in beach sand. (Co-PI) US$10,000.
Discovery and Innovation Grant, UW Milwaukee. 2022-2023. Characterizing Nod factor independent symbiosis between *Mimosa pudica* and beta-rhizobia. (Sole PI). US$116,898.
Research Growth Initiative, UW Milwaukee. 2017-2019. Understanding the mechanism of rice colonization by *Rhizobium* sp. IRBG74 and enhancing its potential for rice growth promotion. (Co-PI Dave Zhao). US$135,000.
National Science Foundation. 2015-2019. Elucidating rhizobial interactions and the possibility of symbiotic nitrogen in the non-nodulating legume *Gleditsia triacanthos* L. (sole PI) US$ 292,133.
National Science Foundation. 2013-2016. Understanding and utilizing a unique association between rhizobia and rice. (Co-PI: Jean-Michel Ane). US$360,740.
Research Growth Initiative, UW Milwaukee. 2009-2010. Functional and ecological genomics of sulfonate utilization by soybean nodulating *Bradyrhizobium japonicum*. (Co-PI: Michael Sadowsky). US$98,400.

Courses Taught

BIOSCI 101:	General Survey of Microorganisms
BIOSCI 383:	General Microbiology
BIOSCI 540/740:	Microbial Diversity and Physiology
BIOSCI 925:	Graduate Seminar in Microbiology

Synergistic Activities

1. Member of editorial board of Symbosis (2016-present); *Biol. Fert. Soil* (2010-2016), Ad-Hoc reviewer for *Mol. Plant-Microbe Interact, Plant Soil*, *PLOS One, Environ Micro*
2. Review panel National Science Foundation (2012), Ad-Hoc reviewer NSF (2015-2016).