CURRICULUM VITAE OF DR. SABITA RANI MISHRA

Name: Dr. Sabita Rani Mishra
Designation: Assistant Professor (Stage-III) of Botany
Qualification: MSc., M. Phil., Ph. D.
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EDUCATION:

Ph. D. : Utkal University-2001
Place of work : National Rice Research Institute, Cuttack
Title of Ph. D. Thesis: 'Methane Emission in Rice based cropping system'
Supervisor: Dr. N. Sethunathan, FNA
Co-Supervisor: Dr. Tapan K. Adhya,FNA
M. Phil : Utkal University-1995
Place of work : Ravenshaw College, Cuttack
Title of the Thesis: 'Impact of textile industrial effluent on asymbiotic Nitrogen fixation in rice soil- a case study'
Supervisor: Dr. Padan K. Jena, Prof. of Botany
M. Sc.: Utkal University, 1992
Special Paper: Microbiology

PRESENT STATUS:

Working as Assistant Professor (Stage-III) in Botany at Department of Botany, Rajdhani College, Bhubaneswar, Odisha

PAST EMPLOYMENT:

Govt. College, Angul
Ramadevi Women's College, Bhubaneswar, Odisha

COURSE TAUGHT:

Microbiology, Ecology, Genetics, Biodiversity,Embryology,Biostatistics at UG & PG level.

AWARDS/ SELECTION:

Qualified GATE 92 [89 percentile]

Senior Research Fellow in the ICAR sponsored project on 'Methane emission in rice based cropping system', CRRI, Cuttack in the year 1994 *(Supervisor: Dr. N. Sethunathan)*

Qualified state level Lectureship examination (OES) conducted by Orissa Public Service Commission, 1999

PROFESSIONAL AFFILIATIONS:

Life Member, The Indian Science Congress Association, INDIA. Membership No. L 31972

Life Member, Odisha Bigyan Academy, Bhubaneswar, Odisha. Membership No. 628

Life Member, Society of Biotechnology & Bioinformatics Bhubaneswar, Odisha. Membership No. 75

Life Member, Orissa Botanical Society (OBS), Odisha, INDIA

Life Member, Botanist's Association of Ravenshaw College, Odisha, INDIA.

Life Member, Plant Lover's Association, Bhubaneswar, Odisha, INDIA.
Life Member, Indian Red Cross Society, Bhubaneswar

THRUST AREA OF RESEARCH:

Rice cultivation in different water regimes, soil types and weather conditions of eastern India

Effects of heavy metals on germination and seedling growth of cereals and millets.

Pesticide metabolism and its effects on microbial flora and methane production and oxidation in rice paddy ecosystem.

Study on effects of moisture regimes, rice straw, agrochemicals, green manures etc. on the population of iron reducing and sulphate reducing bacteria

Varietal variation and nitrogen management in rice field in relation with methane emission, production and oxidation from tropical rice soils.

Mitigation options for methane emission from rice fields.

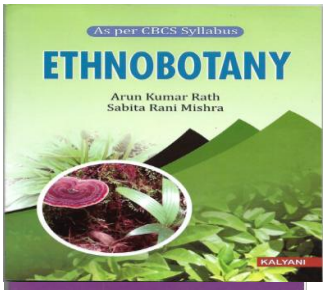
Studies of soil parameters (physical and biological).

Maintenance and handling of different bacterial cultures from agricultural and associated soil systems.

PUBLICATIONS:

BOOKS:

Ethnobotany: Arun Kumar Rath &**Sabita Rani Mishra**, 2017. Kalyani Publishers, New Delhi. ISBN : 978-93-272-8221-4.



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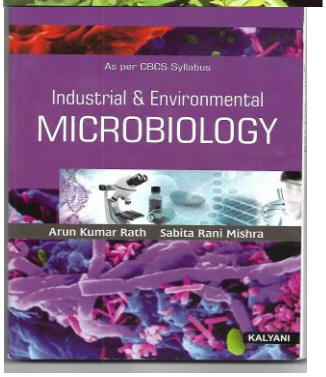
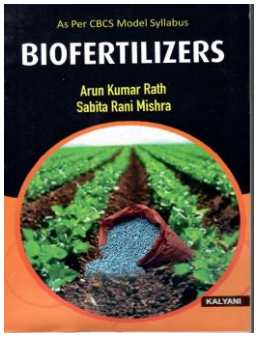
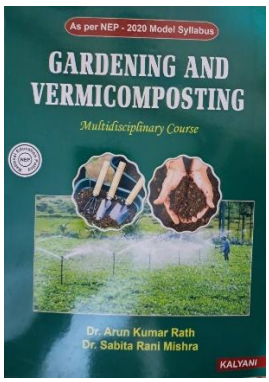


Biofertilizers:Arun Kumar. Rath &**Sabita Rani Mishra**, 2022,Kalyani Publishers,NewDelhi. ISBN: 978-93-5540-082-6.

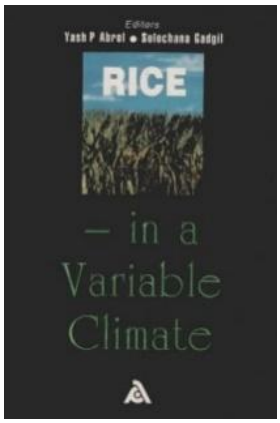


Gardening & Vermi composting: Arun Kumar. Rath &**Sabita Rani Mishra**, 2025,Kalyani Publishers,NewDelhi. ISBN: 978-93-6440-008-4.



BOOK CHAPTER:

Rice- in a variable climate, APC Publication, New Delhi.ISBN-10:9788186580349. ISBN-13: 978-8186580349



RESEARCH PAPERS:

1. Rath, A. K. and **Mishra, S. R.** (2012). Green House gas: Methane emission from rice fields and mitigation management. ***Journal of Kushagra International Management Review*** (India) 2 (1) :63-68.
2. **Mishra, S.R.,** Pattanaik, P., Sethunathan, N. and Adhya, T.K. (2003). Anion mediated salinity affecting methane production in a flooded alluvial soil. **Geomicrobiology J.** (U.S. A..) 20: 579-586.
3. Pattnaik, P., **Mishra, S. R.,** Bharati, K., Mohanty, S. R.,

Sethunathan, N. and Adhya, T. K. (2000) Influence of salinity on methanogenesis and associated microflora in tropical rice soils. ***Microbial Research*** (Germany) 155: 215-220.

4. Adhya, T.K., **Mishra, S. R.**, Rath, A.K., Bharati, K., Mohanty, S.R., Ramakrishnan, B., Rao, V.R. and Sethunathan, N. (2000). Methane efflux from rice-based cropping system under tropical conditions. ***Agric. Ecosyst. Environ.*** (The Netherlands) 79 : 85-90..
5. **Mishra, S. R.,** Bharati, K., Sethunathan, N. and Adhya T, K, (1999) Effects of heavy metals on methane production in tropical rice soils. ***Ecotoxicol. Environ. Safety*** (U.S.A.) 44: 129-136.
6. Rath, A.K., Mohanty, S., **Mishra, S. R.,** Kumaraswamy, S., Ramakrishnan, B. and Sethunathan, N. (1999). Methane production in unamended and rice straw-amended soilat different moisture levels. ***Biol. Fertil. Soils*** (Germany) 28: 145-1.
7. Satpathy, S. N., **Mishra, S. R.,** Adhya, T. K., Ramakrishnan, B., Rao., V. R. and Sethunathan, N. (1998). Cultivar variation in methane efflux from tropical rice. ***Plant Soil*** (The Netherlands) 202 : 223-229
8. Satpathy, S. N., Rath, A. K., **Mishra, S. R.,** Kumaraswamy, S., Ramakrishnan, B., Adhya, T. K. and Sethunathan, N. (1997). Effect of Hexachlorocyclohexane on methane production and emission from rice soil ***Chemosphere*** (Great Britain)34: 2663-2671
9. Kumaraswamy, S., Ramakrishnan, B., Satpathy, S.N., Rath, A.K., **Mishra, S.R.,** Rao, V.R. and Sethunathan, N. (1997). Spatial distribution of methane oxidizing activity in a flooded tropical rice soil. ***Plant Soil*** (The Netherlands) 191: 241-248.
10. **Mishra, S. R.,** Rath, A.K., Adhya, T.K., Rao, V.R. and Sethunathan, N. 1997. Effect of continuous and alternate water regimes on methane efflux from rice under greenhouse conditions. ***Biol. Ferti. Soils*** (Germany) 24: 399-405.

SEMINARS AND SYMPOSIA

1. Adhya, T.K., Sethunathan, N., Rao, V.R., Ramakrishnan, B., Satpathy, S.N., Kumaraswamy, S., **Mishra, S.** and Rath, A.K. (1995). Methane emission from rice fields. *In* Proc. of IVth Annual IRRI-EPA-UNDP Planning Meeting and Workshop on Methane emission from rice fields. Nov. 19-25. Chonburi, Thailand.
2. Sethunathan, N., Satpathy, S.N., Rath, A.K., **Mishra, S.,** Kumaraswamy, S., Rao, V.R. and Ramakrishnan, B. (1996). Methane emission from rice fields in India. *In* Proc. JIRCAS-International workshop on paddy fields: Control of greenhouse gas emissions and sustainable agriculture, March 3-9. Tsukuba, Japan.
3. Adhya, T.K., Bharati, K., Mohanty, S.R., **Mishra, S.R.,** Rath,

A.K., Ramakrishnan, B. and Rao, V.R. (1998). Methane emission from tropical Indian rice fields. *In* Proc. of Final workshop of Interregional Research Programme on methane Emissions from Rice Fields, Aug. 10-13. Beijing and Hangzhou, China.

4. **Mishra, S. R.,** Sethunthan, N. and Adhya, T. K. (2000). Anion-mediated salinity affecting methane production in a flooded alluvial soil. *In* Proc. of 40th annual conference of Association of Microbiologists of India, Jan. 22-24, CIFA, Bhubnaeswar, India. Bhubaneswar, Odisha, India. Pp-35

5 Rath, A.K., **Mishra, S. R**., Mohapatra, P. C., Patnaik, A.D. 2007. Water pollution in rivers of Orissa and possible mitigation options. *In* Proc. on Hazards of Industrial waste on the river water of Orissa. February, 7, 2007, Birupa College, Kendrapara, Odisha, India. Pp. 17-25.

6. **Mishra, S. R**., Rath, A. K**.** and Adhya, T. K. 2007**.** Methane emission from rice fields and possible mitigation options. *In* Proc. 32nd Annu. Conf. of Orissa Bot. Soc., December, 21-22. College of Basic Sciences and Humanities, OUAT, Bhubaneswar, Odisha, India. Pp. 21.

7. Panda Saritri, **Mishra, S. R**., Parida R. and Rath, A. K. 2009. Water pollution in Kathajodii river in adjoining regions at Cuttack. *In* Proc. 33rd Annu. Conf. of Orissa Bot. Soc., February, 9-10. North Orissa University, Baripada, Mayurbhanj, Odisha, India. Pp. 34.

8. Rath, A. K. and **Mishra, S. R.** 2011. Climate change, Methane emission from rice fields and mitigation management. *In* Proc. On Impact of climate change on agriculture. Decemeber 15-16. L. N. Mahavidyalaya, Jamsuli, Balasore, Odisha, India.Pp 2-13.

9. Behera, P. K., **Mishra, S. R.** and Rath, A. K. 2015. Medicinal plant used by ethnic people of Thakurmunda Block, Mayurbhanj district of Odisha. *In* Proc. On National conference on Biodiversity Assessment, Monitoring and conservation: Application of Biotechnological tools & 39th Annual conference of Orissa Botanical Society. February 22-23. Regional Plant Resource Centre, Bhubaneswar, Odisha, India. Pp 56.

10. **Mishra, S. R.** and Rath, A. K. 2015.Empowering urban family through roof top framing- a step towards future food security. *In* Proc. UGC-sponsored National seminar on Empowering families and communities through Home Science Education. March 30-31. P. G. Dept. of Home Science, Ramadevi Women's Autonomous College, Bhubaneswar, Odisha, India. Pp 73.

11. Behera, P. K., **Mishra, S. R.** and Rath, A. K. 2016. Ethnomedicinal plants used by tribal people of Thakurmunda Block, Mayurbhanj district of Odisha. *In* Proc. On National conference on Bioprospecting in Life Sciences Research for

Human Welfare & 41st Annual conference of Orissa Botanical Society. December 24-26. School of Life Sciences, Sambalpur University, Jyotivihar, Sambalpur, Odisha, India. Pp 46.

12. Rath, A. K. and **Mishra, S. R** 2016. Utilization of urban roofs for vegetable production- a step towards future food security. *In* Proc. On National conference on Bioprospecting in Life Sciences Research for Human Welfare & 41stAnnual conference of Orissa Botanical Society. December 24-26. School of Life Sciences, Sambalpur University, Jyotivihar, Sambalpur, Odisha, India. Pp 91-92.

13. Rath, A. K. and **Mishra, S. R** 2017. Climate change,methane emission from rice fields and possible mitigation options. *In* Proc. On National Seminar on Biotechnology for Sustainable Utilization of Bioresources. February 17-19. Department of Biotechnology, North Orissa University, Takatpur, Baripada, Odisha, India. Pp 43-44.

14. Rath, A. K. and **Mishra, S. R** 2017. Glutaraldehyde, an inhibitor of sulphate-reducing bacteria mitigating methane production in rice soils. *In* Proc. On National Seminar on Emerging Trends in Plant Science Research: Challenges and Opportunities. March 22-23. Department of Botany, North Orissa University, Takatpur, Baripada, Odisha, India. Pp 45-46.

15. Rath, A. K. and **Mishra, S. R** 2017. Rice fields are source of methane and possible mitigation options. *In* Proc. On National level seminar on "Environmental protection: Socio-legal issues & challenges" March 25-26. Post Graduate Department of Law, Sambalpur University, Jyotivihar, Sambalpur, Odisha, India.

16. **Mishra S. R.** and Rath, A. K. 2017. Mitigating methane emission from anoxic rice soils by applicaton of charcoal. *In* Proc. On National Seminar on Emerging Trends in Biotechnology and Crop Improvements. November 21-22. Department of Biotechnology, RDWU, Bhubaneswar, Odisha, India. Pp 50.

17. **MIshra S. R**. and Rath, A. K. 2017. Mitigating methane emission from anoxic rice soils by applicaton of charcoal. *In* Proc. On National Seminar on Science and Technology for Environmental Security. November 25-26. KIIT University and Odisha Environmental Society, Bhubaneswar, Odisha, India. Pp 172.

18. Rath, A. K. and **Mishra, S. R** 2017. The influence of carbofuran on methanogenic and methanotrophic activities of rice paddy ecosystem. *In* Proc. On National Seminar on "Reaching the Unreached Through Science & Technology". December 17-18. Indian Science Congress Association, Bhubaneswar Chapter and Kalinga Institute of Industrial Technology (KIIT) Deemed to be University, Bhubaneswar, Odisha, India. Pp 195.

19. Rath, A. K. and **Mishra, S. R** 2018. Effect of organic fertilizer amendment on methane production in rice soils : an option for

mitigating methane emission *In* Proc. On National Conference on "Biotechnological Interventions for Environmental Stress Management in Plants and Microbes & 42nd Annual Conference of Odisha Botanical Society". January 20-21. PG Department of Botany, Utkal University, Vani Vihar,Bhubaneswar, Odisha, India. Pp 99-100.

20. Rath, A. K. and **Mishra, S. R** 2018. Ethnobotany in Modern Medicine and Medico-Ethnobotanical Sources in India. *In* Proc. On State Level Seminar on "Biodiversity & it's Conservation" February, 24-25. PG Department of Botany, Dhenkanal (A) College, Dhenkanal, Odisha, India. Pp 59-64.

21. Rath, A. K. and **Mishra, S. R.** 2018. Studies on Environmental Resilience and soil-microbial Interaction of Local Green gram of Nayagarh district, Odisha. *In* Proc. On Nationa Level Seminar on "Science for Society" November, 17-18. NISER, Bhuabnaeswar and Orissa Environmental Society, Bhubaneswar, Odisha, India. Pp 20.

22. Rath, A. K. and **Mishra, S. R 2019**. Nayagarh Local Green Gram: An Environmental Resilience Crop for Sustainable Development. *In* Proc. On National Seminar on "Plants for sustainable Development and clean Environment & 43rd Annual Conference of Odisha Botanical Society". January 23-24. Department of Botany, School of Applied Sciences, Centurion University of Technology and Management, Bhubaneswar, Odisha, India. Pp 128-129.

23. Rath, A. K. and **Mishra, S. R** 2019. Sources in India. *In* Proc. On International Conference on "Biodiversity and Sustainable Development: Strategies for Future" January, 29-30. Department of Botany, Narasingha Choudhury Autonomous College, Jajpur, Odisha, India. Pp 59.

24. **Mishra, Sabita Rani**, Senapati Ch. Prakash and Rath, A. K. 2019.A case study on ethnobotanical diversity in rice-based cropping systems: an oppertunities for income generation to small and marginal farmers. *In* Proc. On National Seminar on "Future India: Science & Technology". February 01-02. Indian Science Congress Association, Bhubaneswar Chapter and Kalinga Institute of Industrial Technology (KIIT) Deemed to be University, Bhubaneswar, Odisha, India. Pp 70-71.

25. **Mishra, Sabita Rani,** Senapati Ch. Prakash and Rath, A. K. 2019. Roof Top Utilization for Vegetable Production: A Strategy Towards Future Food Security. *In* Proc. On National Seminar on "Recent Advances in Plant Sciences: Strategies and Application". February, 23. Department of Botany and Biotechnology, Ravenshaw University, Cuttack, Odisha, India. Pp 70-71.

26. **Mishra, S. R,** and Rath, A. K. 2019. Cultivation of Selected Green Leafy Vegetables as Roof top Farming: A Step Towards Future Organic Food Security. *In* Proc. On National Seminar on "Harnessing Science & Technology for a Better Future"

November, 23-24. ITER, SOA University, Bhubaneswar and Orissa Environmental Society, Bhubaneswar, Odisha, India. Pp 88.

27. **Mishra, S. R,**Paikaray D. and Rath, A. K. 2019. Study on weeds of ethnobotanical importance in rice-based cropping system : An opportunity for income generation to rural farmers.. *In* Proc. On National Seminar on "Science and Technology: Rural Development". December, 13-14. Indian Science Congress Association, Bhubaneswar Chapter and Kalinga Institute of Industrial Technology (KIIT) Deemed to be University, Bhubaneswar, Odisha, India. Pp 95.

28 Rath, A. K., Paikaray D. and **Mishra, S. R.** 2020. Growing of green leafy vegetables on the roof top- a step towards eco-friendly green technology and future food security. *In* Proc. On National conference on "Green technology for environment management & 44th Annual Conference of Odisha Botanical Society". January 22-23. Department of Botany, North Orissa University, Takatpur, Baripada, Odisha, India. Pp 27-28.

29 Rath, A. K. and **Mishra, S. R. 2020**. Kitchen waste management: A new strategy towards roof top farming. In Proc on International Webinar on "Waste management & sustainability" organised by SKSHAM Society, Jaipur, Rajsthan, India, Stamford University, Bangladesh and N. C. Autonomous College, Jajpur, Odisha, India, 29-31st May, Pp. 30.

30. **Mishra, S. R.,** Mishra, Richa, Mallik Tarulata and Rath, A. K.. 2020. Wild leafy vegetables consumed by tribal people of Mayurbhanj district of Odisha: A case study In Proc. On International Webinar on "Ecosystem conservation-strategies for sustainable future" 2020 organised by N. C. Autonomous College, Jajpur, Odisha, India and SKSHAM Society, Jaipur, Rajsthan, India, 06-08th June, Pp-46-47.

31. **Mishra, S. R.,** Senapati, Prakash, C. and Rath, A. K.2020. Studies on effect of organics on yield and oil content of an ethnomedicinal plant –*Bacopa monnoeri* L.". In Proc. On International virtual conference on "Ethnomedicine challenges and opportunities in Global Health care Scenario" 2020 organised by N. C. Autonomous College, Jajpur, Odisha, India in association with Federal Technical University, Nigeria, and Ecovillage Bhrugu Arayna, Poland 25-26th July, Pp. 45

32. **Mishra, Sabita Rani,** and Rath, A. K.2020. Studies on application of kitchen waste compost and vermicompost on production of selective leafy vegetables on roof top. In Proc. On International virtual conference on "Vermicomposting and Organic Farming" organised by Department of Botany and Zoology, N. C. Autonomous College, Jajpur, Odisha, India in association with Department of Environment Sciences, Trichnadra College, Tribhuvan University, Kathmandu, Nepal 29-30th August, Pp. 43. ISSN-9789354161506.

33. **Mishra, Sabita Rani** and Rath, A. K.2023. Organic farming: A Trend towards Sustainability of Biodiversity-A case study. *In* Proc. On National Seminar on "The Current Trends in Plant Science". February, 25-26. Department of Botany, Kendrapara Autonomous College, Kendrapara, Odisha, India. Pp 5-6.

34. **Mishra, Sabita Rani,** and Rath, A. K**.** 2023. Application of Kitchen waste compost and Vermicompost on production of Selective Leafy vegetables on Roof-Top for Sustainable Livelihood. *In* Proc. On National Conference on "Science & Technology for Sustainable World". March 14-15, Indian Science Congress Association, Bhubaneswar Chapter and KIIT Deemed to be University & KISS, Deemed to be University, Bhubaneswar, Odisha, India. Pp 29.

35. **Mishra, S. R** and Rath, A. K., 2023. Ethnobotanical study in rice-based cropping system: An opportunity for income generation to small and marginal farmers. *In* Proc. On National conference on "Medicinal & Aromatic Plant: Traditional Knowledge & Current Research" 46th Annual Conference of Odisha Botanical Society". December 17-18. P. G. Department of Botany, Dhenkanal Auto. College, Dhenkanal, Odisha, India. Pp 113-114.

36. **Mishra, S. R** and Rath, A. K., 2023. A Case Study on Organic Farming for Sustainability in Challenging Environment. *In* Proc. On 24th Odisha Bigyan 'O' Paribesh Congress and National Conference on "Environmental challenges: Role of Science & Technology" December 18-19. Orissa Environmental Society, Bhubaneswar, and Berhampur University, Odisha, India. Pp 243.

37. **Mishra, S. R** and Rath, A. K.,. 2024. Ethnobotanical diversity study in rice-based cropping system: An Income Generation Opportunity for Small and Marginal Farmers. *In* Proc. On International Conference on "Recent Advances of Biodiversity and Agriculture for a Sustainable Future" April 19-20, School of Biodiversity & Conservation of Natural Resources, Central University, Koraput, Odisha, India, Pp. 41-42.

38. **Mishra, S. R** and Rath, A. K.,. 2025. Restoration of microbial flora and sustainability of plant biodiversity through Organic farming-A case study. *In* Proc. On National Conference on "Fostering Plant Science for sustainable development" March 10-11, P G. Dept. of Botany, Maharaja Sriram Chandra Deo University, Baripada Odisha, India, Pp.15.

39. **Mishra, S. R** and Rath, A. K.2025. Roof-top cultivation of Phaseolus vulgaris L., by the application of kitchen waste compost,oil-cakes & vermicompost for sustainable livelihood *In* Proc. On National Seminar on "Plants and microbes for sustainable Environment" March 26-27, P G. Dept. of Botany, Utkal University, Vani Vihar, Bhubaneswar, Odisha, India, Pp.56.