

## Bio-data

Name-Dr. Rishi Kumar Saxena  
Associate Professor and Head  
Bundelkhand University, Jhansi (U P)  
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### Objectives

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High quality research and teaching in interdisciplinary biological sciences

**Area of Research Interest-** Environmental Microbiology and Toxicology

**Present position –** Associate Professor and Head  
Department of Microbiology,  
Bundelkhand University, Jhansi (U P)

Total Research and Teaching Experience – 18 years

Total Teaching experience - 12 years (Including PG and UG classes)

Administrative Experience- 5 years as Head of the Department & 2 years as Coordinator

No of Ph D supervised as Guide 05

No of Ph D supervised as Co-Guide 02

No of M. Phil and M. Sc. Dissertation Completed 06

### Fellowship awarded/Honors Received

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1. **UNESCO –American Society of Microbiology, USA Fellowship**
2. **Balustein Post doc Fellowship , Ben Gurion University , Israel at Albert Cratz Institute of Desert Research**
3. **DST- Young Scientist**-Department of science and Technology , Ministry of Science and Technology , Govt of India under fast track project
4. **Senior Research Fellowship – Council of Scientific and Industrial research (CSIR), Ministry of Human Resource Development, New Delhi**

### Country Visited

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London, Scotland and Israel

## Highest Degree

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**Ph D – Microbiology** from Department of Microbiology, Barkatullah University, Bhopal  
Title – “Physiological and Molecular Characterization of a Cyanobacterium Under Iron Stress”.

## Work experience

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**Aug,2008 to till date**      **Associate Professor**, Department of Microbiology, J C Bose Institute of Life Sciences, Bundelkhand University, Jhansi (U P).

**March, 2005 – Aug, 2008** **Lecturer**, Department of Microbiology, J C Bose Institute of Life Sciences, Bundelkhand University, Jhansi (U P).

**April,04 - March,05**      **Post Doc Fellow** , Department of Microalga Biotechnology, Albert Cratz Institute of Desert Research, Beer Sheva, Bengurion University, Israel under UNESCO –American Society of Microbiology, USA , Balustein Post doc Fellowship

**Principal Investigator (DST)** project involved- Siderophores Iron Mediated Regulations in Different Strains of Cyanobacteria , under fast track young scientist scheme at Department of Biotechnology, Madhav Institute of Technology and Sciences , Gwalior

**Dce,03 – Sep, 02**      **Senior Research Fellow** , Council of Scientific and Industrial research (CSIR), Ministry of Human Resource Development, New Delhi at Department of Biotechnology, Madhav Institute of Technology and Sciences , Gwalior

### **Visiting faculty-**

1. **Department of Microbiology , Rani Laxmi Bai Central Agriculture University, Jhansi (session 2014-15, 2015-16)**
2. **Department of Microbiology, Jiwaji University, Gwalior**
3. **Department of Environmental Microbiology, BBAU Central University, Lucknow**

### **Project/ Consultancy**

Department of Microbiology actively involved in the project entitled **“Hydrological and Isotopic Investigations of Districts Lalitpur and Jhansi of Bundelkhand Region** along with National Institute of Hydrology (Ministry of Water Resources , Govt of India), IIT Campus, Roorkee.

### **Administrative Responsibilities**

1. Head of Department of Microbiology Since 2014
2. Convener Board of Studies (Microbiology), Bundelkhand University, Jhansi
3. Convener Research Development Committee (Microbiology), Bundelkhand University, Jhansi
4. Assistant Nodal Officer ,UGC Cell, Bundelkhand University, Jhansi
5. Member of biosafety committee , Bundelkhand University, Jhansi

### **Principal Investigator (DST fast Track)**

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**“Siderophores Iron Mediated Regulation in Different Strains of cyanobacteria”**sponsored by Department of Science and Technology Govt of India under fast Track Young Scientist Scheme at Department of Biotechnology, Madhav Institute of Technology and Sciences , Gwalior.

### **3. Conference/seminar/popular talk organized**

#### **Conference /Seminar Organized**

1. National Conference **On RECENT TRENDS IN APPLIED MICROBIOLOGY, HUMAN HEALTH & ENVIRONMENT**, Sponsored by University Grants Commission, New Delhi, March, 27-28,2015 Organized by Department of Microbiology Bundelkhand University, Jhansi

2. National Workshop and Seminar on **Bioinformatics- Discovery of Biology Sciences** Sponsored by University Grants Commission, New Delhi, March, 11-12,,2013 Organized by Department of Microbiology Bundelkhand University, Jhansi
3. Department has organized three days on **Bioinformatics databases and Sequence Analysis** with coloration with Department of Computer and Mathematical Science, 15,16 and 17 , March,2016.

**Department has organized following popular lectures on**

1. ‘Microbes and their Industrial application” by Prof Surendra Singh, Department of Botany, Banaras Hindu University, Varansi on dated 4<sup>th</sup> august,2015
2. Secondary Metabolites and their Industrial Application by Dr Nishtha Kulshretha , Senior Executive, (R&D), Ipca Laboratories, Mumbai, on dated 15 sep,2015
3. Prebiotics and Probiotic by Prof Vijendra Mishra, National Institute of Food Technology, Entrepreneurship and Management, New Dehli, 19, Feb,2016
4. Microbial biodiversity in Bundelkhand Region by Prof P S Bisen, Emirates Professor, Department of Biotechnology, Jiwaji University, Gwalior under celebration of convocation week. On dated 25<sup>th</sup> February,2016.
5. The Natural History Museum , London: Collection, Research and Public engagements by **Dr Allan Warren, Scientist, Department of life Sciences, natural History of Museum , London, UK**

**Trainings /Workshops/winter school Attended**

1. I have successfully completed customized training **on NABL (Internal Auditor),** held Bundelkhand University, Jhansi on 26-29,Sep ,2016 organized by SGS India Private Limited, Mumbai.
2. I have successfully completed the ICAR sponsored winter school on **Integration of Conventional and Biotechnological Approaches for Improvement of Dual Purpose Crops and Grasses** from 28<sup>th</sup> January to 17<sup>th</sup> February, 2016 organized by Indian Grassland and Fodder Research Institute (IGFRI) , Jhansi
3. have successfully completed one week customized training **on Six Sigma Green Belt** held Bundelkhand University, Jhansi on 12<sup>th</sup> to 17<sup>th</sup> ,Oct,2015 organized by SGS India Private Limited, Mumbai.

4. I have completed one week **Faculty Development Program**, Organized by Department of science and technology , at Bundelkhand University, Jhansi
5. Participated as an **expert of the Biotechnology Expert** committee meeting for the preparation of **Biotechnology Terminology Glossary** held at Bundelkhand University, Jhansi from Dec. 6 to 9, 2010 sponsored by the **Commission for Scientific and Technical Terminology, Ministry of Human Resource Development, New Delhi.**
6. Participated as Delegate in the work shop on **Role of Technical Terminology in Indian Languages** held at Vigyan Bhawan, New Delhi from 27-04-2011 to 29-04-2011 organized by the **Commission for Scientific and Technical Terminology, Ministry of Human Resource Development, New Delhi.**

#### **Publications of Dr. Rishi Kumar Saxena ,**

1. Apurva Gupta , Rishi Kumar Saxena and Surendra Singh (2016) Current status of pharmacological potentials of phycocyanin in World Journal of Pharmaceutical Sciences ISSN (Print): 2321-3310; ISSN (Online): 2321-3086 Published by Atom and Cell Publishers
2. Gyanendra Singh, **Rishi Kumar Saxena** and Nishtha K Singh (2016) Screening of Potential Antimicrobial Activity of Indian Medicinal Plant of Different Solvent Extract *Tinospora cordifolia* and *Hymenocallis littoralis* In International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395 -0056 Volume: 03 Issue: 03 | Mar-2016 www.irjet.net p-ISSN: 2395-0072
3. Bhupinder Kaur, **Rishi Kumar Saxena**, Ranmeet Kaur (2014) Quantitative analysis of mercury burden in waste water released from hospital in Jhansi, U.P. in International Journal of Environmental Monitoring and Analysis 2014; 2(6): 328-332 Published online December (<http://www.sciencepublishinggroup.com/j/ijema>) doi:10.11648/j.ijema.20140206.15 ISSN: 2328-7659 (Print); ISSN: 2328-7667.
4. **Rishi Kumar Saxena, Ravindra K. Yadav and Surendra Singh (2013) Regulation of Iron-Siderophore Uptake in a Diazotrophic Cyanobacterium *Anabaena anabaena* 7120 . Indian journal of Agriculture science (IARI) Accepted.**

5. **Rishi Saxena**, K. P. Singh, Vijay Kumar, Shubhra Singh, Ashish Gupta , Anuradha Rajput (2013) “**(Detection of Metallo  $\beta$ -Lactamase Producing *Pseudomonas aeruginosa* from post-operative Patients)**” **International Journal of Research in BioSciences (IJRBS)**”.Communicated
6. Anuradha Jha, Anil Kumar, **R K Saxena** M Kamalvanshi , Neha Chakravarti (2010) Effect of arbuscular mycorrhizal inoculations on seedling growth and biomass productivity of two species. Indian Journal of Microbiology (**Accepted**). **A copy of acceptance is enclosed.**
7. Vandana Shrivastava, R K Bhatnagar, **Rishi kumar Saxena**, Meenu Singh (2012)Immune Status of NHL patents of Various Group, in Indian Journal of Pathology:Research and Practices 21:112-116.
8. Shweta Singh,S K Mahanta and **Rishi Kumar saxena** (2011) Effect of minerals supplementation on rumen metabolites and enzymes in sheep fed shorgum stover based diets. In Journal of Agriculture science.
9. Anuradha Rajput, **Rishi Saxena**, K. P. Singh, Vijay Kumar, Shubhra Singh, Ashish Gupta , R. K. Singh (2010). Prevalence and Antibiotic Resistance Pattern of Metallo  $\beta$ -Lactamase Producing *Pseudomonas aeruginosa* from Burn Patients- Experience of an Indian Tertiary Care Hospital. In Journal of Burn Care and Research (**Accepted**). **A copy of acceptance is enclosed.**
10. P C Gupta, Vivek Bajpai, V Mishra, **Rishi K Saxena**, Surendra Singh (2009) Effect of gamma irradiation on microbial load, aflatoxins and phytochemicals present in *Trigonella foenum-graecum* World J Microbiol Biotechnol (springer) 11274-009-0133.
11. T Dhewa, S pant, N goyal, V Bajpai, R K Saxena and V Mishra (2009) Antagonistic activity of food and faecal lactobacilli against common enteric pathogens . Federation of Clinical Scientist, India
12. Anuradha Rajput, K.P.Singh, Vijay Kumar, **Rishi Sexena**, R.K.Sing, Antibacterial resistance pattern of aerobic bacteria isolates from burn patients in tertiary care hospital.Biomedical Research 2008; 19 (1)
13. Jha A, Kumar A, **Saxena RK**, Kamalvanshi M, Shukla A (2008) Occurance of arbuscular mycorrhizal fungi in selected agro forestry trees species of Bundelkhand region. Agroforestry Newsletter 22 (2) 5-6.

14. **Saxena, R K**, Ruchika Raghuvanshi , S Singh and P S Bisen (2007) Iron mediated metabolic regulations in *Anabaena cylindrica*. *Physio Mol Biol Plants* (2007) 13 2
15. **Saxena, R K**, Ruchika Raghuvanshi , S Singh and P S Bisen (2006) Iron induced metabolic changes in the Diazotrophic cyanobacterium *Anabaena* 7120 *IJEB* Vol 44:849-851.
16. Santosh Bhargava, **Saxena, R K**, P K Pandey and P S Bisen (2003) Mutational Engineering of the cyanobacterium *Nostoc muscorum* for resistance to growth inhibitory action of LiCl and NaCl . *Curr Microbiol* (Springer – Vertage , New York Inc) 47:5-11.
17. **Saxena, R K**, P K pandy and P S Bisen (2002) Physiological and Biochemical alterations in *Anabaena* 7120 under iron stress . *IJEB* 40:594-599.
18. P K pandy, **Saxena, R K**, and P S Bisen (2002) Immobilization results in susutainbale calcium transport in *Nostoc calcicola* *Curr Microbiol* (Springer – Vertage , New York Inc) 44:173-177
19. Surendra singh, P K pandy, R. K. Gaur , V S Chauhan, Bhanumati Singh **Saxena, R K**, and P S Bisen (2002) Nitrogen Metabolism in cyanobacteria –Phycology edited by A S Ahulwalia 112-125.
20. **R K Saxena** (1998) Role of Educational Institute in Protection and Improvement of Environment. Published in Tri-monthly bulletin of PSSCIVE, NCERT.

## Publications in National and International Seminar/ Workshops

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1. Delivered a **Invited talk** on Spirulina: A potential applications as Nutraceutical and threapeutic supplements in Health benefits March 18<sup>th</sup> -19<sup>th</sup>, December2016, in National Conference in Life Sciences and Environment organized by Vijayaraje Institute of Science nad Technology, Gwalior.
2. Delivered a **talk** on Diabetes ;Present Scenario in Seminar On Prevention and Control of Diabetes organized by Regional Ayurvedic research Institute, Jhansi
3. Delivered a **popular talk** on Toxicity Testing in Waste Water Treatments Plants Using Microorganisms in two weeks NCTE sponsored Short Term Course on Environment Engineering and Protection, March 8<sup>th</sup> -18<sup>th</sup>,2016, organized by Department of Civil Engineering, MITS, Gwalior.
4. Presented **presentation** (Oral) on Biotransformation of Xenobiotics and Metal in waste water treatment plants in 6<sup>th</sup> International conference on Technology innovation and management For Sustainable Development Feb,11-13,2016 organized by ITM, University, Gwalior.
5. Delivered a **invited talk** on Cyanobacteria and its Industrial application in Botany Department on dated 18.3.2016 at Shrimant Madhavrao Scindia , Govt model Science College, Gwalior.
6. Delivered a **invited talk** on Conservation and Management of cyanobacteial diversity role in environment management in National Seminar on Biodiversity Conservation: Current Status and Future Strategies on dated 30<sup>th</sup> March, 2016 organized by IQAC Cell, Shrimant Madhavrao Scindia , Govt model Science College, Gwalior.
7. Attended and Presented concept note of research project in **Brain Storming Session on An Integration Study for Exploration of The Natural Resources to The Advancement and Growth of Under Privileged Region of Bundelkhand Region** Under NDMRS Scheme of DST , March, 10-11,2016 organized by Department of Geology, Bundelkhand University, Jhansi. Delivered **key note** address on Ion Acquisition an Mediated Regulations of Diazotrophic in a Cyanobacterium Anabaena 7120 in Technical Session on Eco-hydrology and Environment management in



Symposium on Hydrology organized by Indian Association of Hydrology, Roorkee on dated 22-23, Dec,2015

8. Delivered a **popular talk** on Protection of Ozone layer in international Conference on Innovative Trends in Engineering and Basic Sciences, organized Department of Applied Sciences, Nagaji Institute of Technology and Management , Gwalior dated 24-25, Feb,2015
9. Presented paper (oral) on Prevalence and antibiotic sensitivity patterns of bacteria isolated from hospital acquired infectants among patients of surgical ward (2014) in International Conference on Emerging Challenges in Biotechnology, Human Health and Environment. Organized by Devi ahilya University, Indore.
10. Presented paper (oral) on Pharmaceutical, nutraceutical and Bioactive compounds from cyanobacteria (2014) in National conference on Ethnopharmacology and Biotechnology in Drug Development :Prospects and Challenges.
11. Presented paper (oral) on Biological Hazards :Prevention and Control (2014) 3<sup>rd</sup> National Conference on Recent Advances in Chemical and Environmental Science on occupation Health organized by Department of Environmental science, ITM University, Gwalior.
12. Presented paper (oral) on iron Toxicity in cyanobacterial Blooms (2014) in 4<sup>th</sup> International Conference on Climate Change and Suitable Management of natural Resources organized by School of Life Sciences, ITM University, Gwalior.
13. Presented paper (oral) (2014) in Inter National conference on Environmental Technology and Sustainable Development :Challenges and Remedies.
- 14.
15. Delivered popular talk on Global warming; Impact and Consequences (2013) in Lecture Series (under IQAC program) organized by Govt P G autonomous College dataia
16. Delivered a Expert lecture in short term training program on Utilization of waste in Construction and Energy Sector, organized by Madhav Institute of Technology and science, Gwalior on dated 23/10/2013.

17. Delivered a Expert lecture in short term training program on Utilization of waste in Construction and Energy Sector, organized by Madhav Institute of Technology and science, Gwalior on dated 24/10/2013.
18. Rishi Kumar saxena and Sameer Bhagyawant (2012) presented a research paper on **Cyanobacterial siderophores and their Biotechnology Applications** in **International Conference on Biotechnology: Emerging Trend** organized by Department of Biotechnology, Choudhary Devi Lal University, Sirsa , September 18-20, 2012.
19. Rishi Kumar saxena (2012) presented a research paper on **Studies on siderophore production in cyanobacterium *Anabaena* 7120** in **International Conference on Microbial , Plants and Animal Research** organized by Modi Institute of Technology and Science, Lakshman Garh, Sikar , Rajshtan, 29-31, March, 2012.
20. Rishi Kumar Saxena (2012) attended a National Symposium on Frontiers In Biochemistry and Biotechnology organized by School of studies in Biochemistry and Biotechnology, Jiwaji University, Gwalior , 16-17,2012 .
21. Rishi Kumar saxena (2012) presented a research paper on **Iron Induced Metabolic changes and siderophores production in cyanobacterium *Anabaena* 7120** in **International Conference on Climate Changes and Sustainable Management of Natural Resources** organized by School of Life Sciences, ITM University, Gwalior India from 5-7, Feb, 2012.
22. Chaired a session and Presented Paper in National Conference on Recent Development in Biotechnology and Allied Applications (sponsored by UGC, New Delhi) organized by Saifia College, Bhopal , March,15-16,2012.
23. Delivered invited talk on Biofuels :Environment Conservation and Protections in 2<sup>nd</sup> National Conference on Emerging Trends in Basic Sciences , 29-30, Dec,2012, Organized by Nagaji Institute of Technology and Management , Gwalior.
24. **Rishi Kumar Saxena** (2011) participated and delivered a keynote address on **Chromatography in** the National workshop on “Chromatography and Enzymology” organized by Guru roopal Sewa sansthan Mahavidyalaya (affiliated to Bundelkhand University , Jhansi 24<sup>th</sup>, September, 2011.
25. Rishi Kumar Saxena (2011) delivered a expert lecture on Global Warming : Concerns and Challenges in National Seminar on Recent Approaches in Environmental Sciences

organized by Department of Engg Chemistry, Gwalior Engineering College, Gwalior , 5<sup>th</sup>, June, 2011.

26. Rishi Kumar Saxena (2011) delivered a expert lecture on Environmental Pollution : Concerns and Challenges in National Seminar on Environmental Problems organized Govt P G (Autonomous) College, Datia M P 27-28, March, 2011.
27. Rishi Kumar saxena and Surendra Singh (2011) submitted a research paper **Studies on siderophore production in cyanobacterium *Anabaena* 7120** in **International Conference on Microorganism in Environmental Management and Biotechnology** organized by Department of Biotechnology, Barkatullah University, Bhopal India from 1-3, July, 2011.
28. Pankaj Umesh, Rishi Kumar saxena and Surendra Singh (2011) submitted a research paper on **Isolation and Characterization of Microbes Habitating on roots of *Eichhornia crassipes* from Laxmital Jhansi, Bundelkhand region.** in **International Conference on Microorganism in Environmental Management and Biotechnology** organized by Department of Biotechnology, Barkatullah University, Bhopal India from 1-3, July, 2011.
29. Rishi Kumar Saxena (2011) presented a paper on Role of Microbiology in Forensic Investigation in national seminar on **Role of Forensic science in criminal justice system** dated 4-5, March, 2011 organized by Department of Forensic Science, Bundelkhand University, Jhansi.
30. Ruchika Raghuvanshi, **Rishi Saxena** and Surendra Singh (2010) Presented a paper and delivered lecture on Regulation of Iron Uptake in Diazotrophic cyanobacterium *Anababena Cylindrica* in **International Symposium on Phycological Research organized by Centre of Advanced Study in Botany, Banaras Hindu University dated February 25-27.**
31. **Rishi Saxena (2009)** Presented a paper and delivered lecture on Growth parameters of *Nostoc Muscorum* under mercury stress in National Symposium on Biodiversity Conservation and Environmental Biotechnology organized by Shobhasaria Engineering College, Siker. Dated nov,27-28, Participated as delegate **International Conference on Climate change and Sustainable Management of Natural Resources** organized by Institute of Allied sciences and computer applications, ITM Gwalior Nov 10-12, 2009.

32. Participated as Delegate in **International Symposium on Prognostic and Predictive factors in Cancer Management** held at department of Radiotherapy, CSM medical University, Lucknow from 15-16, December, 2008.
33. **R K Saxena (2007) Cyanobacterial Siderophores : Role in Iron Transport** in National Seminar on Environment Microbiology and Sustainable Developments organized by Department of Microbiology , Shivaji Shatrapati Shivaji University, Kanpur.
34. **R K Saxena (2006) Siderophores : Structure and Function of Microbial Transport compounds in KEPLER** organized by J C Bose Institute of Life Science , Bundelkhand University, Jhansi.
35. **R K Saxena (2005) Siderophores : Cyanobacteria interaction with iron in KEPLER** organized by J C Bose Institute of Life Science , Bundelkhand University, Jhansi.
36. **Saxena, R K, Ruchika Raghuvanshi , S Singh and P S Bisen (2003) Iron induced metabolic changes in Nitrogen Fixation and Photosynthesis the Diazotrophic cyanobacterium *Anabaena* 7120** organized by Department of Microbiology, Jiwaji University, Gwalior. (**Received First Prize in Poster Presentation**)
37. **Saxena, R K, Santosh Bhargava,, P K Pandey and P S Bisen (2001) Iron effects of iron on growth and nitrogen fixation in the cyanobacterium *anababena* 7120 .** In National Seminar on Present Status of Microbiology and Challenges for Sustainable development . Organized by Department of Microbiology, Dr. H S Gaur University, Sagar.
38. **Saxena, R K (2001) Iron Acquisition and Iron Mediated Regulation of Diazotrophic in a cyanobacterium *Anabaena* 7120.** In 16<sup>th</sup> M P Young Scientist Congress Sponsored by M P council of Science and Technology , Bhopal. Organized by Devi Ahilya Vishvidhalya , Indore.
39. **Saxena, R K (1999) Role of Microorganism in Metal Removal in Waste Water Treatment Plants .** In National Seminar on Ecology and Environment . Sponsored by UGC organized by Sarojini Naidu Govt College, Bhopal.

**Personal Information**

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Date of Birth – 15 Sep, 1972

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Marital Status –Married

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**(Rishi K Saxena )**