

CURRICULUM VITAE



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Education

Ph.D. Mycology	R D University, Jabalpur, M.P., India	NA	1982
M.Sc. Botany (Spl-Microbiol)	R D University, Jabalpur, M.P., India (First rank in University)	69.6%	1978
B.Sc. Biology	Dr H S Gaur University, Sagar, M.P.	72.0%	1976

Visits

- SERC visiting fellow, Jawaharlal Nehru University, New Delhi
Awarded by Department of Science and Technology,
Government of India Oct. -Dec., 1996
- INSA visiting fellow, Jawaharlal Nehru University, New Delhi
Awarded by Indian National Science Academy,
Government of India Jan.-March, 1998
- Visiting scientist, Dipartimento Di Colture Arboree, University of Turin,
Italy provided financial assistance April-June, 1999
- Associateship from Third World Academy of Sciences -
UNESCO May-July, 2003

- Visiting Scientist, Department of Bioenergetics, University of Geneva, Switzerland, May-June, 2004
- Visiting Scientist, Department of Plant Protection, Debrecen University, Hungary (October 2005-January 2006) and also in 2008, Scholarship awarded by Hungarian Scholarship Board, Hungary
- Visited Biological Chemistry Laboratory, State University of Campinas, Under Indo-Brazil collaborative Project sponsored by Department of Science and Technology, Government of India and CNPq, Brazil Government (Three visits :2009, 2011, 2012)
- **Visiting Professor, Department of Microbiology, Nicolaus Copernicus University, Torun Poland (May 20-June 20, 2012)**
- **Visiting Scientist, Biological Chemistry Laboratory, State University of Campinas in January 13, 2013 to January 14, 2014**
- **Visiting Scientist, Nanotechnology Center, VSB Technical University Ostrava, Czech Republic (October 02 to November 02, 2015)**

Research Guidance

- Ph.D. Awarded - 22, Registered -06; Submitted 01
- M.Phil-03; M.Sc. Dissertations- 56

Managing positions

- **Head of the Department of Biotechnology since 2001**
- **Chairman, Board of studies in Biotechnology, SGB Amravati Univ since 2001**
- **Chairman, Board of studies in Bio-diversity, SGB Amravati University 2006-2012**
- Member, Research and Recognition Committee, SGB Amravati University since 2001
- Member, Purchase Committee, Amravati University (2003-2005)
- Member, Board of University Teaching and Research, SGB Amravati University
- Member/Governer Nominee, Selection Committee of different Universities
- Member, National Science Day Committee since 2001
- Co-ordinator, National Science Day Committee, 2006, 2015
- Principal investigator in Major projects
- Member Xth Plan Committee (UGC)
- Member, Academic Council, SGB Amravati University, 2005
- Member, Senate, SGB Amravati University, Amravati since 2006
- Co-ordinator of "Biotech village programme: From lab to Field"
- Group Leader of Biotechnology ("Advantage Amravati"), Govt of India, 2005
- Course director of National level *Two-Week Training Course in Biotechnology*, sponsored by DBT, Govt of India, 2008.
- Co-ordinator, FIST (Funds For Infrastructure in Science and Technology), Department of Science and Technology, Govt of India
- Vice President, Society of Basic and Applied Mycology, Jabalpur (2009-2011)
- Organising secretary 2 seminars of national level in 1994 and 1998; Director of Workshop 1 (2001), In 2003 (2), 2004 (2), 2005 (1), 2007 (1), 2008-11
- Director, Internal Quality Assurance Cell, SGB Amravati University, Amravati 2009-2012

- Member, Academic Council of Jaypee University of Engineering and Technology, Guna, (M.P.)
- Co-ordinator, SAP (Special Assistance Programme), UGC., New Delhi since 2013
- Member Secretary, Institutional Biosafety Committee, SGB Amravati University, Amravati
- Chairman, Institutional Ethic Committee, Department of Biotechnology, SGB Amravati University, Amravati

Foreign Collaboration

- Indo-Argentina: collaboration with Dr Susanna Zaccino of Argentina in the field of Nanoantimicrobials (DST-MINCYT)
- Indo-Swiss: collaboration with Professor Reto J. Strasser in the field of plant vitality in crop plants for sustainable development
- Indo-Italian: collaboration with Professor Massimiliano in the field of nanotechnology.
- Indo-German: collaboration with Dr Clements Posten, Karlsruhe Institute of Technology Germany in the field of nanotechnology
- Indo-Brazil: collaboration with Professor Nelson Duran, Chemical Biology, Institute of Chemistry, University of Campinas, Brazil. in the field of Nanotechnology
- Indo-US: Collaboration with Professor Ravi Pandey, Head and Chair, Michigan Tech, USA, in the field of nanotechnology
- Indo-Poland: Collaboration with Professor Hanna Dahm, Nicolaus Copernicus University, Torun, Poland.
- Indo-Czech Republic: Collaboration with Professor Gabriela Kratosova, Nanotechnology Center, VSB Technical University of Ostrava, Czech Republic

Memberships of Scientific Societies

- Life-member Academy of Environmental Biology, Muzaffarnagar, U.P.
- Life member, Biotechnological Associations of India
- Life-member Indian Science Congress Association, Calcutta.
- Life-member Society of Mushroom Research, Himachal Pradesh.
- Life member Society of Basic and Applied Mycology
- In advisory board of “International Medicinal Mushroom Conference” in Slovenia in 2007 and Croatia 2011
- In advisory board of International Conference on Medicinal Plants in 2006 at Cuba.
- Fellow of Academy of Environmental Biology
- Fellow of Society of Biotechnology and Pharmacy

Awards and Fellowships

- Obtained merit scholarship upto HSSC
- National Scholar for 5-years
- Obtained Junior, Senior and PDF, CSIR, New-Delhi
- Father T.A. Mathias award, 1989 by All India Association for Christian Higher Education, New Delhi.
- Satpuda Award in the field of Environment Conservation by Y.M.C.A., 1992.
- Fellow of Academy of Environmental Biology
- Awarded SERC visiting fellowship by DST, New Delhi, 1996
- Honorary research associateship for 1-year, Sydney, Australia, 1997
- INSA visiting fellowship, 1998
- Visiting scientist award (from April-June, 1999), Turin, Italy
- Medini Award for book on *Herbal Medicines*, by Govt of India, June 5, 2001
- Associateship for 3-years by TWAS, Trieste, Italy to work on AM fungi in Brazil, 2003
- Visiting Scientist, Department of Bioenergetics, University of Geneva, Switzerland, May-June, 2004
- Hungarian Scholarship by Hungarian Scholarship Board, to visit Department of Plant Protection, Debrecen University, Hungary (October 2005-January 2006).
- Awarded by IDVL for yeoman services in Microbiology 2005
- Awarded Austrian Scholarship for 2006
- Hungarian Scholarship by Hungarian Scholarship Board, to visit Department of Plant Protection, Debrecen University, Hungary, 2008
- In advisory board of "International Medicinal Mushroom Conference" held in Croatia in 2011

Research Publications

<http://scholar.google.com/citations?user=8rykdvYAAAAJ&hl=en>

<http://www.amazon.com/Mahendra-Rai/e/B001JP7S5A>

Research papers	- 300
h-index	- 35
Popular articles	- 100
Books	- 35
Patents	- 06 (i) No. 3395/MUM/2010 (ii) No. 1134/MUM/2011 (iii) 1923/MUM/2011 (iv) 1697/MUM/2013 (v) Patent UNICAMP (vi) Patent on nanoinsecticide (applied)

LIST OF PUBLICATIONS (Last five years Impact Factor -205.56)

2015

Rai, M., Avinash P. Ingle, Swapnil Gaikwad, Indarchand Gupta, Aniket Gade and Silvio Silvério da Silva (2015). Nanotechnology based anti-infectives to fight microbial intrusions 'Accepted Article', doi: 10.1111/jam.13010 (IF-2.479)

Bramhanwade, K., S. Shende, S. Bonde, A. Gade and Rai, M. (2015). Fungicidal activity of Cu nanoparticles against *Fusarium* causing crop diseases, *Environ Chem Lett*, DOI 10.1007/s10311-015-0543-1 (IF 2.573)

Rai, M., Ingle, A.P., Gaikwad, S., Padovani, F.H., Alves, M. (2015). The role of nanotechnology in control of human diseases: perspectives in ocular surface diseases, *Crit Rev Biotechnol*, DOI: 10.3109/07388551.2015.1036002 (IF-7.178)

Yadav, Alka, Kateryna Kon, Gabriela Kratosova, Nelson Duran, Avinash P. Ingle & Mahendra Rai (2015). Fungi as an efficient mycosystem for the synthesis of metal nanoparticles: progress and key aspects of research, *Biotechnol Lett*, 37:2099–2120; DOI 10.1007/s10529-015-1901-6 (IF-1.736)

Rai, Mahendra, Jogee, P.S. and Avinash Ingle (2015). Emerging nanotechnology for detection of mycotoxins in food and feed, *Int J Food Sci Nutr*. 66(4):363-70. doi: 10.3109/09637486.2015.1034251 (IF-1.206)

Potara, Monica, Manisha Bawaskar, Timea Simon, Swapnil Gaikwad, Emilia Licarete, Avinash Ingle, Manuela Banciu, Adriana Vulpoi, Simion Astilean and Mahendra Rai (2015). Biosynthesized silver nanoparticles performing as biogenic SERS-nanotags for investigation of C26 colon carcinoma cells, *Colloids and Surfaces B: Biointerfaces*, DOI: <http://dx.doi.org/doi:10.1016/j.colsurfb.2015.06.024> (IF-4.152)

Rai, Mahendra, Avinash P. Ingle, Sonal Birla, Alka Yadav, and Carolina Alves Dos Santos (2015). Strategic role of selected noble metal nanoparticles in medicine, *Crit Rev Microbiol*, Early Online: 1–24, DOI: 10.3109/1040841X.2015.1018131 (IF 6.020)

Golinska P., Magdalena Wypij, Gauravi Agarkar, Dnyaneshwar Rathod, Hanna Dahm and Mahendra Rai (2015). Endophytic actinobacteria of medicinal plants: diversity and bioactivity. *Antonie van Leeuwenhoek*, DOI 10.1007/s10482-015-0502-7 (IF-1.806)

Wioletta Wrótniak-Drzewiecka, Anna Joanna Brzezińska, Hanna Dahm, Avinash P. Ingle and Mahendra Rai (2015). Current trends in myxobacteria research, *Ann Microbiol.*, DOI 10.1007/s13213-015-1104-3 (IF-1.039)

Franci, G., Falanga, A., Galdiero, S., Palomba, L., Rai, M., Morelli, G., and Galdiero, M. (2015). Silver Nanoparticles as Potential Antibacterial Agents. *Molecules*, 20, 8856-8874; doi:10.3390/molecules20058856 (IF 2.095)

Rai M, Agarkar G (2015). Plant-fungal interactions: What triggers the fungi to switch among lifestyles? *Critical Reviews in Microbiology* (in press) **(IF- 6.08)**.

Rai M, Jogee P, Agarkar G, Santo CAD (2015). Anticancer activities of *Withania somnifera*: Current research, formulations and future perspectives. *Pharmaceutical Biology* (in press) **(IF- 1.33)**.

Nagaonkar D, Gaikwad S, Rai M (2015). *Catharanthus roseus* leaf-extract synthesized chitosan nanoparticles for controlled in vitro release of chloramphenicol and ketoconazole. *Colloids and Polymer Science*. DOI 10.1007/s00396-015-3538-3 **(IF- 2.41)**.

Nagaonkar D, Rai M (2015). Sequentially reduced biogenic silver-gold nanoparticles with enhanced antimicrobial potential over silver and gold monometallic nanoparticles. *Adv. Mater. Lett* (in press) **(IF- 1.93)**.

Nagaonkar D, Shende S, Rai M (2015). Biosynthesis of copper nanoparticles and its effect on actively dividing cells of mitosis in *Allium cepa*. *Biotechnology Progress*, doi: 10.1002/btpr.2040 **(IF- 1.88)**.

Shende SS, Ingle AP, Gade A, Rai M (2015). Green synthesis of copper nanoparticles by *Citrus medica* Linn. (Idilimbu) juice and its antimicrobial activity. *World Journal of Microbiology and Biotechnology*, doi: 10.1007/s11274-015-1840-3 **(IF- 1.35)**.

Rai M, Ingle A, Gade A, Teixeira DMC, Duran N (2015). Three-Phoma spp. synthesized novel silver nanoparticles that possess excellent antimicrobial efficacy. *IET Nanobiotechnology*, doi: 10.1049/iet-nbt.2014.0068 **(IF- 1.70)**.

Rai M, Pandit R, Gaikwad S, Yadav A, Gade A (2015). Potential applications of curcumin and curcumin nanoparticles: from traditional therapeutics to modern nanomedicine. *Nanotechnology Reviews*, DOI: 10.1515/hsz-2015-0001 **(IF-1.273)**

Bonde SR, Gade AK and Rai MK (2015). Genetic variations among ten isolates of *Fusarium equiseti* (Corda) Saccardo isolated from fruits and vegetables. *Austin J Biotechnol Bioeng*. 1(5): 5.

Dahm H., Anna Joanna Brzezińska, Wioletta Wrótniak-Drzewiecka, Patrycja Golińska, Henryk Różycki, Mahendra Rai (2015). Myxobacteria as a potential biocontrol agent effective against pathogenic fungi of economically important forest trees, *Dendrobiology* 74:13-14, **IF-0.5**

Bansod S., Manisha Bawaskar and Mahendra Rai (2015). *In vitro* effect of biogenic silver nanoparticles on sterilisation of tobacco leaf explants and for higher yield of protoplasts, *IET Nanobiotechnology*, doi: 10.1049/iet-nbt.2014.0031

Fadeeva, T. V. , I. A. Shurygina, B. G. Sukhov, M. K. Rai, M. G. Shurygin, V. A. Umanets, M. V. Lesnitchaya, T. V. Kon'kova, and D. M. Shurygin (2015). Relationship between the

Structures and Antimicrobial Activities of Argentic Nanocomposites, *Bulletin of the Russian Academy of Sciences. Physics*, 79(2): 273–275.

Mousa A. Alghuthaymi, Hassan Almoammar, Mahendra Rai, Ernest Said-Galiev & Kamel A. Abd-Elsalam (2015): Myconanoparticles: synthesis and their role in phytopathogens management, *Biotechnology & Biotechnological Equipment*, DOI: 10.1080/13102818.2015.1008194 (IF-0.6)

Dar, Mudasir and Mahendra Rai (2015). *Gnomoniopsis smithogilvyi*, a canker causing pathogen on *Castanea sativa*: First report. *Mycosphere* 6 (3): 327–336, Doi 10.5943/mycosphere/6/3/8 (IF-2.556).

Pandit, R. Swapnil Gaikwad, Gauravi Agarkar, Aniket Gade, and Mahendra Rai (2015). Curcumin nanoparticles: physico-chemical fabrication and its *in vitro* efficacy against human pathogens, 3 *Biotech* DOI 10.1007/s13205-015-0302-9

Bawskar, M.S., Deshmukh, S.D., Bansod, S., Gade, A.K. Rai, M.K. (2015). Comparative analysis of biosynthesised and chemosynthesised silver nanoparticles with special reference to their antibacterial activity against pathogens. *IET Nanobiotechnology*, 9(3):107-13. (IF 1.7).

Rane, M., Manisha Bawskar, Dnyaneshwar Rathod, Dipali Nagaonkar and Mahendra Rai (2015). Influence of calcium phosphate nanoparticles, *Piriformospora indica* and *Glomus mosseae* on growth of *Zea mays*, *Adv Nat Sci : Nanosci. Nanotech.* doi:10.1088/2043-6262/6/4/045014

Book Chapters:

Tiwari, V., Mamie Hui and Mahendra Rai (2015). Incidence of Candida Species in Urinary Tract Control by Using Bioactive Compounds Occurring in Medicinal Plants, In: *Medical Mycology: Current Trends and Future Prospects* (Eds: Razzaghi-Abyaneh, Mehdi, Masoomesh Shams-Ghahfarokhi, and Mahendra Rai), CRC Press, Taylor and Francis, USA, pp 79-93.

Rai, M., Vaibhav V. Tiwari and Evangelos Balis (2015). *Phoma* as Opportunistic Fungal Pathogens in Humans, In: *Molecular Biology of Food and water borne mycotoxigenic and mycotic fungi* (Eds: R. Russell M. Patterson and Nelson Lima), CRC Press-Taylor and Francis group, USA, pp451-462

Rai, M., Irena Maliszewska, Avinash Ingle, Indarchand Gupta and Alka Yadav (2015). Diversity of microbes in synthesis of metal nanoparticles: Progress and limitations, In: *Bio-nanoparticles- Biosynthesis and Sustainable Biotechnological Implications* (Ed: Om V Singh), Wiley Blackwell, New Jersey, pp 1-20

Rai, Mahendra, Sunita Bansod, Manisha Bawaskar, Aniket Gade, Carolina Alves dos Santos, Amedea B. Seabra, and Nelson Duran (2015). Nanoparticles-Based Delivery Systems in Plant Genetic Transformation, In: *Nanotechnologies in Food and Agriculture*, (Eds Mahendra Rai, Caue Ribeiro, Luiz Mattosos and Nelson Duran), Springer, Germany, pp 209-240

Seabra, Amedea B, Mahendra Rai, and Nelson Duran (2015). Emerging Role of Nanocarriers in Delivery of Nitric Oxide for Sustainable Agriculture (Eds Mahendra Rai, Caue Ribeiro, Luiz Mattosos and Nelson Duran), Springer, Germany, pp 183-208.

Rai, Mahendra and Kateryna Kon (2015). Silver Nanoparticles for the Control of Vector-Borne Infections, In: Nanotechnology in diagnosis, treatment and prophylaxis of infectious diseases (Eds Mahendra Rai and Kateryna Kon), Elsevier, Amsterdam, pp 39-46..

Rai, Mahendra, Avinash Ingle, Sunita Bansod and Kateryna Kon (2015). Tackling the Problem of Tuberculosis by Nanotechnology: Disease Diagnosis and Drug Delivery, In: Nanotechnology in diagnosis, treatment and prophylaxis of infectious diseases (Eds Mahendra Rai and Kateryna Kon), Elsevier, Amsterdam, pp 133-145.

Agarkar G., Priti S. Jogee, Priti Paralikar and Mahendra Rai (2016). *Vitex negundo*: Pharmacological activities and its commercial products, In: Therapeutic medicinal plants: From Lab to the market (Eds.Marta C.T. Duarte and Mahendra Rai), pp 392-406

2014

International

Gupta, I.R., Anderson, A.J., Rai, M.K. (2014). Toxicity of fungal-generated silver nanoparticles to soil-inhabiting *Pseudomonas putida* KT2440, a rhizospheric bacterium responsible for plant protection and bioremediation. *Journal of Hazardous Materials* (**IF 4.3**) (In Press)

Dar, Mudasir and Mahendra Rai. (2014). Occurrence of *Cytospora castanae* sp. nov., associated with perennial cankers of *Castanea sativa*. *Mycosphere* 5(6), 747–757, Doi10.5943/mycosphere/5/6/5.

Kanhed, Prachi, Sonal Birla, Swapnil Gaikwad, Aniket Gade, AmedeaSeabra, Olga Rubilar, Nelson Duran and Mahendra Rai (2014). *In vitro* antifungal efficacy of copper nanoparticles against selected crop pathogenic fungi, *Material letters*, 115:13-17. (**IF 2.322**)

Ingle, A., Duran, N and Rai, M. (2014). Bioactivity, mechanism of action and cytotoxicity of copper-based nanoparticles: A Review. *Applied Microbiology and Biotechnology*, 98(30): 1001-1009. (**IF- 3.68**)

Rai, M., Kon, K., Ingle, A., Duran, N., Galdiero, S. and Galdiero, M. (2014). Broad-spectrum bioactivities of silver nanoparticles: The emerging trends and future prospects. *Applied Microbiology and Biotechnology*, 98(5): 1951-1961. (**IF- 3.68**)

Rai M, Deshmukh S, Ingle A, Gupta I, Galdiero S and Galdiero M. (2014). Metal nanoparticles: The protective nanoshield against virus infection. *Crit. Rev. Microbiol.* DOI: 10.3109/1040841X.2013.879849. (**IF- 5.06**)

Rai, M., Birla,S. , Ingle A.P., Gupta, I.C., Aniket Gade , Abd-Elsalam, K., Marcato, P.D. and Duran, D. (2014). Nanosilver: An inorganic nanoparticle with myriad potential applications. *Nanotechnology Reviews*, DOI 10.1515/ntrev-2014-0001 (**IF-1.273**)

Santos, Carolina Alves Dos, Seckler, M.M., Ingle A.P., Gupta, I.C., Galdiero, S., Galdiero, M., Gade, A., and Rai, Mahendra (2014). Silver Nanoparticles: Therapeutical Uses, Toxicity and Safety Issues, *Journal of Pharmaceutical Sciences*, 103:1931–1944; DOI 10.1002/jps.24001 (IF 3.007)

Pokale P., SudhirShende, Aniket Gade and Mahendra Rai (2014). Biofabrication of calcium phosphate nanoparticles using the plant *Mimusopselengi*. *Environ. Chem. Lett.* DOI 10.1007/s10311-014-0460-8 (IF 1.623)

Golinska P., Magdalena Wypij, Avinash P. Ingle, Indarchand Gupta, Hanna Dahm, and Mahendra Rai (2014). Biogenic synthesis of metal nanoparticles from Actinomycetes: Biomedical applications and cytotoxicity, *Appl Microbiol Biotechnol* 98:8083–8097 (IF- 3.68)

Razzaghi-abyaneh M., Chang P., Shams-ghahfarokhi M. and Rai M.K. (2014). Global health issues of aflatoxins in food and agriculture: Challenges and opportunities. *Front. Microbiol.* 5:420. doi:10.3389/fmicb.2014.00420 (IF- 3.941)

Kuralkar M., Ingle A., Gaikwad S., Gade, A., Mahendra Rai (2014). Gold nanoparticles: novel catalyst for the preparation of direct methanol fuel cell, *IET Nanobiotechnology*, doi: 10.1049/iet-nbt.2014.0004 (IF- 1.833)

Rai, M., Ingle A.P., Gade A., and Nelson Duran (2014). Synthesis of silver nanoparticles by *Phoma gardeniae* and *in vitro* evaluation of their efficacy against human disease-causing bacteria and fungi, *IET Nanobiotechnology*, doi: 10.1049/iet-nbt.2014.0013 (IF- 1.833)

Tidke P.R., Gupta I., Gade, A.K., and Mahendra Rai (2014). Fungus-mediated synthesis of gold nanoparticles and standardization of parameters for its biosynthesis, *IEEE Transactions on Nanobioscience*, DOI 10.1109/TNB.2014.2347803 (IF 1.29)

Rai M., Rathod, D., Agarkar, G., Dar, M., Brestic, M., Pastore, G.M. and Mario Roberto Marostica (Jr). (2014). Fungal growth promotorendophytes: a pragmatic approach towards sustainable food and agriculture, *Symbiosis*, 62:63–79; DOI 10.1007/s13199-014-0273-3 (IF 1.11)

Gade, A.K., Gaikwad, S.C., Duran, N. and Rai. M.K. (2013) Green Synthesis of silver nanoparticles by *Phoma glomerata*, *Micron*. 59: 52-59.

Kedar, A., Rathod, D.P., Yadav, A., Agarkar, G., Rai, M.K. (2014). Endophytic *Phoma* sp. isolated from medicinal plants promote the growth of *Zea mays*. *Nusantara Bioscience*. 6:132-139

Bonde, S.R., Gade, A.K. and Rai, M. K. (2014). Genetic Variations among Ten Isolates of *Fusarium equiseti* (Corda) Saccardo Isolated from Fruits and Vegetables. *Austin Journal of Biotechnology & Bioengineering*. 1(5):1-5.

Wioletta, W., Gaikwad S, Laskowski D, Dahm H, Niedojadło J, Gade, A and Rai M. (2014) Novel Approach towards Synthesis of Silver Nanoparticles from *Myxococcus virescens* and their lethality on pathogenic bacterial cells. *Austin J Biotechnol Bioeng.* 1(1): 7.

Bansod, S., Manisha Bawskar and *Mahendra Rai (2014). The development of shampoos, soap and ointment formulated by green synthesized silver nanoparticles functionalized with antimicrobial plants oils in veterinary dermatology: Treatment and Prevention strategies. *IET Nanobiotechnology*, 10.1049/iet-nbt.2014.0042 (IF -1.733)

Negedu, A., Ameh B. Joseph, Veronica J. Umoh, Sunday E. Atawodi, Mahendra Rai (2014). Biodeterioration of stored castor (*Ricinus communis*) seeds by *Aspergillus tamari*, *Nusanta Bioscience* 6(2):126-131.

Rathod DP, Dar MA, Gade AK and Rai MK. Griseofulvin Producing Endophytic *Nigrospora oryzae* from Indian *Emblca officinalis* Gaertn: a New Report. *Austin J Biotechnol Bioeng.* 2014;1(3): 5.

National

Rai, Mahendra, Vaibhav V. Tiwari, László Irinyi & György János Kövics (2013). Advances in taxonomy of genus *Phoma*: Polyphyletic nature and role of phenotypic traits and molecular systematics, *Indian J. Microbiol.* 54(2):123–128 DOI 10.1007/s12088-013-0442-8 (IF 0.46)

Book chapters

Rai, M., Agarkar, G. and Rathod D. (2014). Multiple applications of endophytic *Colletotrichum* species occurring in medicinal plants, In: *Novel Plant Bioresources: Applications in, Food, Medicine and Cosmetics* (Ed: Ameenah Gurib-Fakim), John Wiley & Sons, Ltd. pp 227-236.

Ingle, A.P., Seabra A.B., Duran N., and Mahendra Rai (2014). Nanoremediation: a new and emerging technology for the removal of toxic contaminant from environment, In: *Microbial biodegradation and Bioremediation* (Ed: Surjit Das), DOI: <http://dx.doi.org/10.1016/B978-0-12-800021-2.00009-1>.

Rai, Mahendra, Ingle, A., Gupta, I., Gaikwad, S., Gade, A., Rubilar, O. and Duran, N. (2014). Cyto-, Geno-, and Ecotoxicity of Copper Nanoparticles, *Nanotoxicology* (Eds Durán, Nelson; Guterres, Silvia S.; Alves, Oswaldo L.), Springer, Germany, pp 325-345.

2013

International

Olga, R., Rai, M., Gonzalo Tortella, Maria Cristina Diez, Amedea B. Seabra, Nelson Durán (2013). Biogenic nanoparticles: copper, copper oxides, copper sulphides, complex copper nanostructures and their applications, *Biotech Letters*, 05/2013; DOI:10.1007/s10529-013-1239 (IF-1.683)

Dar M, Ingle A and Rai M. (2013). Enhanced antimicrobial activity of silver nanoparticles synthesized by *Cryphonectria* sp. evaluated singly and in combination with antibiotics *Nanomedicine* 9:105–110 (IF 6.693)

Giannossa, L.C., Daniela Longano , Nicoletta Ditaranto , Maria Angela Nitti, Federica Paladini , Mauro Pollini, Mahendra Rai , Alessandro Sannino, Antonio Valentini and Nicola Cioffi (2013). *Nanotechnol Rev* 2(3): 307–331 (IF 1.273)

Kövics, G.J., Sándor, E., Rai, M. and Irinyi, L. (2013). *Phoma*-like fungi on soybeans. *Critical Reviews in Microbiology* (doi:10.3109/1040841X.2012.755948) (IF 6.27)

Amedea, S., Mahendra Rai, Nelson Durán (2013). Nano carriers for nitric oxide delivery and its potential applications in plant physiological process: A mini review, *Journal of Plant Biochemistry and Biotechnology, J. Plant Biochem. Biotechnol.*, DOI 10.1007/s13562-013-0204-z (IF-0.523)

Meshram, S., Shital R. Bonde, Indarchand R. Gupta, Aniket K. Gade, Mahendra Rai (2013) Green synthesis of silver nanoparticles using white sugar, *IET Nanobiotechnology* 7(1):28-32. (IF-1.833)

Rai, Mahendra and Alka Yadav (2013). Plants as potential synthesiser of precious metal nanoparticles: progress and prospects. *IET Nanobiotechnology* (Special issue) pp1-8. (IF-1.833)

Rai, Mahendra, Avinash P. Ingle, Indarchand R. Gupta, Sonal S. Birla, Alka P. Yadav and Kamel A. Abd-Elsalam (2013). Potential Role of Biological Systems in Formation of Nanoparticles: Mechanism of Synthesis and Biomedical Applications *Current Nanoscience*, 9(6) Pp: 576-587 (IF-1.78).

Joshi, P.A., S. R. Bonde, S. C. Gaikwad, A. K. Gade, K. Abd-Elsalam, and M. K. Rai (2013). Comparative studies on synthesis of Silver Nanoparticles by *Fusarium oxysporum* and *Macrophomina phaseolina* and its efficacy against bacteria and *Malassezia furfur* *J. Bionanosci.* 7: 378-385

Bansod, S, Bonde S, Tiwari V, Bawaskar M, Deshmukh SD, Gaikwad S, Gade A, Rai MK. (2013). Bioconjugation of gold and silver nanoparticles synthesized by *Fusarium oxysporum* and their use in rapid identification of *Candida* Species by using: Bioconjugate-Nano-PCR. *Journal of Biomedical Nanotechnology.* 9(20):1-10. (IF 5.256)

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Rai, M.K. (2001). Current Advances in Mycorrhization in Micropropagation. *In Vitro Cell Dev. Biol. Plant*, 37:158-167. **(Impact factor-1.145; Citation index-76)**

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BOOKS PUBLISHED

- 1) Herbal Medicines Biodiversity, and Conservation Strategies, International Book Distributors, Dehra Dun, U.P., India, 1996
- 2) The genus *Phoma*: Identity and Taxonomy, International Book Distributors, Dehra Dun, U.P., India, 1998.
- 3) Advut Jadibootiyan (Herbal Medicines) Bishen Singh, Mahendra Pal Singh, Dehra Dun, U.P., India, Awarded **Medini** Award by *Department of Environment, Govt of India*, 2001
- 4) Integrated Management of Plant Resources, Scientific Publisher, Jodhpur, Rajasthan, India, 2000
- 5) Plant Derived Antimycotics: Current trends and future prospects, Haworth Press, USA, 2003.
- 6) Recent Trends in Biotechnology, Scientific Publisher, Rajasthan, 2003.
- 7) Bio-Diversity of Fungi - Their Role in Human Life, Science Publisher, USA, 2003
- 8) Fungi: Diversity & Biotechnology, Scientific Publisher, Rajasthan, 2005.
- 9) Handbook of Microbial Biofertilizer Haworth Press, USA, 2005.
- 10) Naturally occurring bioactive compounds: a new and safe alternative for control of pests and microbial diseases, Elsevier Publication, 2006.
- 11) Mycotechnology: The present status and future prospects, I K International, New Delhi, India, 2007.
- 12) Novel Therapeutic Agents from of Natural Origin: Progress and Future Perspectives, Science Publisher, USA, 2007.
- 13) Handbook of Techniques in Microbiology, Scientific Publisher, Jodhpur, 2008.
- 14) Current Advances in Molecular Mycology, Nova Science Publisher, New York, 2009.
- 15) Applied Mycology, CABI International, UK, 2009.
- 16) Advances in Fungal Biotechnology, I K International New Delhi, 2009
- 17) Mycotoxini n Food, Feed and Bio-weapons, Springer, Germany, 2009.
- 18) Progress in Mycology, Scientific Publisher, Jodhpur, 2010.
- 19) Geomicrobiology, Science Publisher, CRC Press, USA, 2010.
- 20) Diversity and Biotechnology of Ectomycorrhizae, Springer, 2010
- 21) Ethnomedicinal Plants: Revitalizing of Traditional Knowledge of Herbs, Taylor and Francis, 2011
- 22) Metal nanoparticles in Microbiology, Springer, 2011

- 23) Natural antimicrobials for Food Safety and Quality, CABI International, UK, 2011
- 24) Nanoantimicrobials: Progress and Prospects, Springer, 2012
- 25) Medicinal plants: Biodiversity and Drugs, CRC/Taylor and Francis, 2012
- 26) Statistics for Microbiologists: Methods and Applications, Himalaya Publishing House, Nagpur pp 210, 2013
- 27) Natural Antioxidants and Biocides from Wild Medicinal Plants, CABI, UK, 2013
- 28) Fighting multidrug resistance with herbal extracts, essential oils and their components, USA, pp 271, 2013
- 29) Fungal Enzymes, CRC press, USA, pp 464, 2013
- 30) Antifungal metabolites from plants, Springer, pp 469, 2013
- 31) Green Biosynthesis of Nanoparticles, CABI, England, 2014
- 32) Microbiology for Surgical Infections: Diagnosis, Prognosis and Treatment, Elsevier, 2014
- 33) Nanotechnology in Diagnosis, Treatment and Prophylaxis of Infectious Diseases. Elsevier, USA, 2015
- 34) Nanotechnologies in Food and Agriculture. Springer, 2015
- 35) Medical Mycology: Current Trends and Future Prospects, CRC Press, Taylor and Francis, USA, 2015
- 36) Therapeutic Medicinal Plants: From Lab to the Market - CRC Press, Taylor and Francis, USA, 2016

PARTICIPATION IN IMPORTANT CONFERENCES

- Participated in 5th International Conference in Goteborg, June 26- 30, 1995
- Participated in two day seminar on infectious diseases at Campinas, Brazil, 2003
- Participated in one day seminar on May 28, “40 years of Molecular Biology”, University of Geneva, 2004.
- Delivered plenary lecture on “Biotechnological research in India: Where we are and where we should go? delivered in Plant Protection Symposium, Oct. 19-20, Debrecen, Hungary
- Invited to deliver keynote address in “International Conference on Biotechnology and Climate Change (July 23-24, 2010), Solo, Indonesia.
- Invited to deliver keynote address in “1st Symposium on Mycotoxins in Nuts and Dry Fruits”, organized by Islamic Azad University Damghan Branch (Iran), during 10-12 September, 2011.
- Deliver a talk in “6th International Medicinal Mushroom Conference” organized by Dr Myko San – Health from Mushrooms Co. Zagreb, Croatia during 25-29 September 2011.
- Delivered invited lecture in international conference on “Topical Infectious Diseases: The Clinic, The Diagnosis, Treatment” organized by The Main Military Medical Clinical Centre, Kiev, Ukraine during 23 to 24 November, 2011.
- Delivered lecture in 46th International Scientific Conference: Microbiology in the health care and environment protection, organized by the Scientific Assoc. of Bydgoszcz and Micro, Department of J.J. Sniadecki University of Technology & Life Sci in Bydgoszcz, Poland, 03-06 June, 2012

- Delivered invited talk in “Workshop on Nanobioss”- Green Nanobiotechnology: Biosynthesis and Nanoantimicrobials”, 27 March, 2013, organized by institute of Chemistry, University of Campinas, SP, Brazil.
- Delivered two invited talks at Faculdade de Farmacia, USP, Ribeirao Preto on *Fruit preservation using Nanotechnology*, April 11, 2012 and visited Departamento de Biologia
- Delivered invited talk in Institute of Chemistry, Universidade Federal do Rio de Janeiro, Escola de Quimica, Departamento de Processos organicos, Biogenic Synthesis of Metal nanoparticles and their application as nanoantimicrobials, 29 April, 2013.
- Delivered invited lecture in 27th Congress of Society of Brazilian Microbiologists, held at Natal from September 29 to October 03, 2013.
- Delivered invited lecture on 26 October 2013 at faculty of medicine at Ribeirao Preto, University of Sao Paulo, title- Microbiol systems in nanobiotechnology: mycosynthesis, mechanism and applications.
- Delivered invited lecture on 05 November, 2011 in SLACA (Symposio Latin Americano de Ciencia de Alimentos) at University of Campinas, Campinas, title Emerging Green Nanobiotechnology for fruits Safety and Quality : Progress and Pitfalls, organized by Latin American Food Science Society from 03-06 November, 2013
- Delivered invited lecture in 27th congress organized by Brazilian Society of Microbiology, at Natal, September 29-October 03, 2013.
- Delivered invited lecture in II SIAN Symposium, organized by Anatomy Department, Universidade Federal Uberlandia, Brazil, held at Uberlandia from November 21 - 23, 2013. Topic: General aspects of Nanobiotechnology: Progress and Applications.
- Delivered plenary lecture in 7th International Symposium on Plant protection, organized by Debrecen Agriculture University, Debrecen, Hungary on 21-22 October, 2015
- Delivered two invited lectures in “*Workshop on Bionanotechnology*”, On 26 October, 2015. organized by Nanotechnology Center, VSB Technical University, Ostrava, Czech Republic.

SHORT COURSES ORGANIZED IN BRAZIL

- A short course was organized in nanotechnology from June 17-21, 2013 at Universidade Federal de São Paulo - Campus Diadema, Departamento de Ciências Exatas e da Terra. Delivered series of lectures
- A short course was organized in nanotechnology On 23 October , 2013 at Universidade Federal de São Paulo – Sao Jose dos Campos S.P., Departamento de Ciências Exatas e da Terra. Delivered series of lectures
- A short course was organized in nanotechnology from November 11-14, 2013 at State University of Campinas, S.P., Brazil

REVIEWER OF INTERNATIONAL JOURNALS

- Bioprocess and Biosystems Engineering, Springer IF 1.83
- Journal of Plant Nutrition and Soil Science, Wiley IF 1.595
- Archives of Agronomy and Soil Science, UK, IF 1.532

- Persoonia, Netherland, IF 0.8
- Open Mycology Journal, Bentham Science Publishers, UK
- Nanomedicine (Future Sci group, UK), IF 5.44
- Bioresource Technology, IF 4.742
- Process Biochemistry, Elsevier IF 3.344
- Journal of Medicinal Plants Research, Africa IF 0.60
- Biological Diversity Journal, Indonesia, IF 2.00
- Expert Review of Medical Devices, UK, IF 1.725
- Brazilian Journal of Microbiology, Brazil, IF0.947
- International Journal of Integrative Biology
- Free Radical Research, Taylor and Francis, IF 2.22
- Natural Products Communications, USA, IF 0.745
- Current Nano-Science, Bentham science, IF 1.5
- Current Trends in Biotechnology and Pharmacy
- Journal of Nanoparticle Research, Springer, IF 3.25.
- Journal of Experimental Nanoscience, Taylor and Francis, IF 0.95
- International Journal of Antimicrobial Agents
- Journal of Applied Phycology, Springer, IF 1.79
- African Journal of Microbiology 0.553
- 3 Biotech, Springer
- Indian J of Biotechnology, IF0.38
- Journal of Cluster Science, Springer, IF 0.96
- Journal of Hazardous Materials, Elsevier, IF 3.997
- Journal of the Science for Food and Agriculture, Wiley publisher, IF 1.36
- Journal of Agricultural Biotechnology and Sustainable Development, Africa IF 0.68

ORGANIZATION OF CONFERENCES/WORKSHOPS/PROGRAMME

I was patron and Coordinator for the following activities:

1. Biotech beyond-2000 (Sept 6-7, 2002), sponsored by Alumni and research students of Department of Biotechnology (Patron)
2. One day workshop on medicinal plants: cultivation and conservation (2003) in association with Forestry Research and Human Resource Development Center, Chindwara.(MP) (Coordinator)
3. One day workshop for “Biotech from lab to field” organized at Wadgaon - Mahure in January, 2003 (Coordinator)
4. One Day Training on “*Preparation of Biopesticides*” held at Wadgaon Mahure, March 12, 2004 (Coordinator)
5. One Day Training on “*Biotechnology for Sustainable Development*” held at Wadgaon Mahure, March 26, 2004 (Coordinator)
6. Application of Biotechnology for Sustainable Development of Villages, Wadgaon, March 01, 2006,
7. Director, *National seminar on trends in Nanobiotechnology*, held at Department of Biotechnology Sant Gadge Baba Amravati University, Amravati held on 2013, January 4.

8. Director, Current Advances in Biotechnology and Annual Meeting of Society for Biotechnologist, November 25-26, 2013

PARTICIPATION IN SCIENTIFIC TEAMS, PROGRAMME AND SCIENTIFIC PROJECTS NATIONAL AND INTERNATIONAL

ONGOING PROJECTS : 01 (Indo-Argentina Project)

MAJOR PROJECTS COMPLETED: 13 (DST, UGC, MOEF, DBT, DRDO, RGSTC, Mumbai); Indo-Brazil Project Completer (01)

MINOR PROJECTS COMPLETED: 04 (UGC, AIACHE)

MENTOR IN THE PROJECT/FELLOWSHIP: 02 (UGC, DST)

SCIENTIFIC BOARDS AND SOCIETIES

- Member of international advisory committee of International Medicinal Mushroom Conference, 2007
- Member of advisory committee of International conference organized by BLACPMA, scheduled to be held at Cuba, 2006
- Patron, National symposium on *Biotechnology Beyond 2000*. Sep 6-7
- Organising secretary 2 seminars of national level in 1994 and 1998 ; Director of Workshop 1 (2001), In 2003 (2), 2004 (2), 2005 (1), 2007 (1)
- Member of advisory committee of International conference organized by BLACPMA, held at Cuba, 2006
- Adviser of International Conference on Antimicrobial Research (ICAR2010), Valladolid (Spain), 3-5 November 2010

EDITOR-IN-CHIEF/EDITORIAL BOARD MEMBER

Editorial board member of Journal of Agriculture, Slovakia

Editorial board member of Frontiers in Food Microbiology

Editorial board member of The Scientific World Journal, Hidawi Publication

Editorial board member of Journal of Nanomaterials

Editorial board member of Current Nano Science Journal

Editor-In-Chief, *Amravati University Research Journal*, Amravati, India.

Editorial board member of *Journal of Basic and Applied Mycology*, Jabalpur, India.

Editorial board member of *BLACPMA*, Santiago, Chile.

Editorial board member of *Current Trends in Biotechnology and Pharmacy*, Guntur, India.

Editor-in-Chief, Open Mycology Journal, Bentham Sci. Publisher, UK

Biodiversita (Journal of Biodiversity), Indonesia

Editorial board member of Journal of Pharmaceutical Education & Research, India

Editorial board member of IET Nanobiotechnology, UK

Guest Associate editor, Frontiers in Food Microbiology, 2014

