**CURRICULUM VITAE**



**Dr. Mahendra Rai**

Basic Science Research Faculty Fellow (UGC)

Sant Gadge Baba Amravati University

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**Personal**

Present Address **(Office)** : Department of Biotechnology

SGB Amravati University, Amravati

**PIN** -444602, Maharashtra, India

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pmkrai@hotmail.com

**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 69.6% 1978

(First rank in University)

B.Sc. Biology Dr H S Gaur University, Sagar, M.P. 72.0% 1976

**National and International Visits**

* SERC visiting fellow, Jawaharlal Nehru University, New Delhi Oct. -Dec., 1996

Awarded by Department of Science and Technology,

Government of India

* INSA visiting fellow, Jawaharlal Nehru University, New Delhi Jan.-March, 1998

Awarded by Indian National Science Academy,

Government of India

* 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)**
* **Visited Department of Pharmacognosy, University of Rosario, Argentina (November 25 to December 15, 2016)**

**Research Guidance**

* Ph.D. Awarded - 25, Registered -04;
* M.Phil-03; M.Sc. Dissertations- 65

**Managing positions**

* **Head of the Department of Biotechnology (2001- August 2017)**
* **Chairman, Board of studies in Biotechnology, SGB Amravati Univ (2001-2017)**
* **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 2009-2011
* 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 (Academic)**

* 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 Slovania 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
* Elected Fellow of Maharashtra Academy of Sciences, 2016
* 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 - 380

h-index - 49

Popular articles - l00

Books - 45

Patents - 07

**LIST OF PUBLICATIONS (Last 10 years)**

**2018**

Mitri F.F., Ingle, A.P. an**d Mahendra Rai** (2018) Nanotechnology in the Management of Bone Diseases and as Regenerative Medicine, *Current Nanoscience,*  14 :1-9 **(IF 1.062).**

Wypij M., Joanna Czarneck, Magdalena Świecimska, Hanna Dahm, **Mahendra Rai** and Patrycja Golinska (2018). Synthesis, characterization and evaluation of antimicrobial and cytotoxic activities of biogenic silver nanoparticles synthesized from *Streptomyces xinghaiensis* OF1 strain, World Journal of Microbiology and Biotechnology 34:23 https://doi.org/10.1007/s11274-017-2406-3 **(IF-1.658)**

**Book Chapters:**

Ingle AP, Shende S, Gupta I, Nagaonkar D, Pandit R, Paralikar P, **Rai M** (2018). Metal nanoparticles in management of diseases of central nervous system. The Microbiology of Central Nervous System Infections, Volume 3 (Eds. Kon K and Rai M), Academic Press, Elsevier, UK. pp. 81-98.

**2017**

Jogee PS,Ingle AP and Rai M (2017). Isolation and identification of toxigenic fungi in infected peanuts and efficacy of silver nanoparticles against them. *Food Control* 71: 143-151 **(IF- 3.38**).

Rai M, Paralikar P, Jogee P, Agarkar G, Ingle AP, Derita M, Zacchino S (2017). Synergistic antimicrobial potential of essential oils in combination with nanoparticles: Emerging trends and future perspectives. *International Journal of Pharmaceutics*, 519 (1-2): 67-78 **(IF- 3.99**).

Sonar H, Nagaonkar D, Ingle AP, Rai M (2017). Mycosynthesized silver nanoparticles as potent growth inhibitory agents against selected waterborne human pathogens. *CLEAN Soil, Air Water*, 45(4): 1600247; DOI: 10.1002/clen.201600247 **(IF- 1.71**).

Ingle AP and Rai M (2017). Copper nanoflowers as effective antifungal agents for plant pathogenic fungi. *IET Nanobiotechnology* 11(5):546-551, DOI:  [10.1049/iet-nbt.2016.0170](http://dx.doi.org/10.1049/iet-nbt.2016.0170) (IF 1.71).

Rajak J, BawskarM, Rathod D, Agarkar G, Nagaonkar D, Gade A, Rai(2017). Interaction of copper nanoparticles and an endophytic growth promoter *Piriformospora indica* with *Cajanus cajan****.*** *J. Sci Food Agri* DOI 10.1002/jsfa.8324 **(IF- 2.463**).

Pandit R, Gaikwad S, Rai M (2016) Biogenic fabrication of copper nanoparticles, Copper bioconjugates and its in vitro assessment of antimicrobial and antioxidant activity, *IET Nanobiotechnology* 15(3): 443–452; DOI:  10.1049/iet-nbt.2016.0165 (**IF- 1.7**).

Rai M, Ingle AP, Paralikar P, Gupta I, Medici S; Santos CA (2017). Recent advances in use of silver nanoparticles as antimalarial agents. International Journal of Pharmaceutics, 526: 254-270 **(Impact Factor-3.99).**

Pandit R., Rai, M. and Santos CA (2017). Enhanced antimicrobial activity of the food-protecting nisin peptide by bioconjugation with silver nanoparticles. *Environ. Chem Lett*. 15(3):443-452. (**IF 3.49**)

Suryavanshi P, Pandit R, Gade A, Derita M, Zachino S and Rai M (2017) *Colletotrichum* sp. mediated synthesis of sulphur and aluminium oxide nanoparticles  and its *in vitro* activity against selected food-borne pathogens. *LWT-Food Science and Technol.* 81:188-194<http://dx.doi.org/10.1016/j.lwt.2017.03.038>**(IF 2.292).**

Biswas JK, Mondal M, Rinklebe J, Sarkar SK, Chaudhuri P, Rai M, Shaheen SM, Song H, Rizwan M (2017). Multi-metal resistance and plant growth promotion potential of a wastewater bacterium *Pseudomonas aeruginosa* and its synergistic benefits. [Environ Geochem Health.](https://www.ncbi.nlm.nih.gov/pubmed/?term=Multi-metal+resistance+and+plant+growth+promotion+potential+of+a+wastewater+bacterium+Pseudomonas+aeruginosa+and+its+synergistic+benefits) doi: 10.1007/s10653-017-9950-5**(IF-2.079)**

Dar M, Rai M, 2017. First report of *Diplodia seriata* causing canker on *Castanea sativa* in India. *New Disease Reports* **35**, 19.

Składanowski M, Wypij M, Laskowski D, Golińska P, Dahm H, Rai M (2017). Silver and gold nanoparticles synthesized from *Streptomyces* sp. isolated from acid forest soil with special reference to its antibacterial activity against pathogens*. J. Cluster Sci*, 28(1): 59-79 **(IF-1.471).**

M Wypij, J Czarnecka, H Dahm, M Rai, P Golinska (2017). Silver nanoparticles from *Pilimelia columellifera* subsp. pallida SL19 strain demonstrated antifungal activity against fungi causing superficial mycoses. *J Basic Microbiol*, doi: 10.1002/jobm.201700121 **(IF 1.438)**.

Alves TF, Chaud MV, Grotto D, Jozala AF, Pandit R, Rai M, dos Santos CA (2017). Association of silver nanoparticles and curcumin solid dispersion: Antimicrobial and antioxidant properties*. AAPS PharmSciTech* , doi: 10.1208/s12249-017-0832-z.**(IF 2.451)**

Lachmapure M, Paralikar P, Palanisamy M, Alves M, Rai M (2017). Efficacy of biogenic silver nanoparticles against clinical isolates of fungi causing mycotitic keratitis in humans*. IET Nanobiotechnol*. , doi:  10.1049/iet-nbt.2017.0003**.(IF 1.463)**

Shende S, Rathod D, Gade A, Rai M (2017). [Biogenic copper nanoparticles promote the growth of pigeon pea (*Cajanus cajan* L.)](https://scholar.google.co.in/citations?view_op=view_citation&hl=en&user=8rykdvYAAAAJ&sortby=pubdate&citation_for_view=8rykdvYAAAAJ:sJK75vZXtG0C). *IET Nanobiotechnol*. (in press), doi: 10.1049/iet-nbt.2016.0179. **(IF 1.463)**

[Shende](https://link.springer.com/search?facet-creator=%22Sudhir+Shende%22), S.,  [Gade](https://link.springer.com/search?facet-creator=%22Aniket+Gade%22) A K,  [M. Rai](https://link.springer.com/search?facet-creator=%22Mahendra+Rai%22) (2017). [Large-scale synthesis and antibacterial activity of fungal-derived silver nanoparticles](https://link.springer.com/article/10.1007/s10311-016-0599-6)*. Environmental Chemistry*  15 (3):427-434  **(IF-3.594)**

Paralikar, P. and Mahendra Rai (2017). Bio-inspired synthesis of sulphur nanoparticles using leaf extract of four medicinal plants with special reference to their antibacterial activity, *IET Nanobiotechnology,* doi: 10.1049/iet-nbt.2017.0079 **(IF 1.463)**

Rai, Mahendra, Avinash P. Ingle, Raksha Pandit, Priti Paralikar, Indarchand Gupta, Marco V. Chaud, Carolina Alves dos Santos (2017). Broadening the spectrum of small-molecule antibacterials by metallic nanoparticles to overcome microbial resistance,[*International Journal of Pharmaceutics*](http://www.sciencedirect.com/science/journal/03785173), [532 (1](http://www.sciencedirect.com/science/journal/03785173/532/1)):  139-148 **(IF-3.649)**

Ingle, Avinash P., Jyoti Rathod, Raksha Pandit, Silvio Silverio da Silva & Mahendra Rai (2017). Comparative evaluation of free and immobilized cellulase for enzymatic hydrolysis of lignocellulosic biomass for sustainable bioethanol production, *Cellulose,* DOI 10.1007/s10570-017-1517-1**(IF 3.417)**

Ataide J.A., de Carvalho N.M., Rebelo M.A., Chaud M.V., Grotto D., Gerenutti M., **Rai M.**, Mazzola P.G., Jozala A.F. (2017). Bacterial Nanocellulose Loaded with Bromelain: Assessment of Antimicrobial, Antioxidant and Physical-Chemical Properties,[*Sci Rep.*](https://www.ncbi.nlm.nih.gov/pubmed/?term=Bacterial+Nanocellulose+Loaded+with+Bromelain%3A+Assessment+of+Antimicrobial%2C+Antioxidant+and+Physical-Chemical+Properties)  7(1): 18031. doi: 10.1038/s41598-017-18271-4. **(IF-4.8)**

**Book chapters**

Ingle A, Rathod D, Verma A, Rai M (2017). Understanding the Mycorrhiza-Nanoparticles Interaction. In: Mycorrhiza- Eco-Physiology, Secondary Metabolites, Nanomaterials (Eds. Varma A, Prasad R, and Tuteja N), Springer International Publishing AG, Switzerland, pp 311-314.

Rai M, Pandit R, Paralikar P, Shende S, Gaikwad S, Ingle AP, Gupta I (2017). Nanoparticles as therapeutic agent for treatment of bacterial infections. In: Essential Oils and Nanotechnology for Treatment of Microbial Diseases (Eds. Rai M, Zacchino S, Derita M), CRC Press, New York, USA, pp. 191-208.

RaiM, Ingle AP, Gaikwad S, Dussan KJ, da Silva SS (2017). Role of nanoparticles in enzymatic hydrolysis of lignocellulose in ethanol. In: Nanotechnology for Bioenergy and Biofuel Production: Green Chemistry and Sustainable Technology (Eds. Rai M and Da Silva SS), Springer International Publishing, Switzerland. pp. 153-171.

Rai M, Ingle AP, Pandit R, Paralikar P, Gupta I, Anasane N, Dolenc-Voljc M (2017). Nanotechnology for the treatment of fungal infections on human skin. In: The Microbiology of Skin, Soft Tissue, Bone and Joint Infections (Eds. Kon K and Rai M), **Elsevier publisher, UK, pp. 169-184.**

Ingle AP, Rathod D, Brestic M, Kalaji HM, Rai M (2017). Biophysical phenotyping as an essential tool for understanding host-microbe interaction. In: Modern Tools and Techniques to Understand Microbes (Eds. Varma A and Sharma AK), Springer International Publishing AG, Cham, Switzerland. pp. 65-80.

Ingle AP, Gupta I, Duran N, Rai M (2017). Nanotherapy: A next generation hallmark for combating cancer. In: Nanostructures for Cancer Therapy (Eds. Ficai A and Grumezescu AM), **Elsevier,** Amsterdam Netherlands, pp. 811-830.

Ingle AP, Paralikar P, Pandit R, Anasane N, Gupta I**, Rai M,** Chaud MV, Santos CAD (2017). Nanoformulations for Wound Infections. In: Nanotechnology Applied To Pharmaceutical Technology (Eds. Rai M and Santos CAD), Springer International Publishing, Cham, Switzerland. pp. 223-246.

Ingle AP, Paralikar P, Grupenmacher A, Padovani FH, Ferrer MT**, Rai M**, Alves M (2017). Nanotechnological interventions for drug delivery in eye diseases. In: Nanotechnology Applied To Pharmaceutical Technology (Eds. Rai M and Santos CAD), Springer International Publishing, Cham, Switzerland. pp. 279-306.

Rai, Mahendra, Raksha Pandit, Priti Paralikar, Dipali Nagaonkar, Farkhanda Rehman and Carolina Alves dos Santos (2017). Pharmaceutical Applications of Curcumin-Loaded Nanoparticles, In: Nanotechnology Applied To Pharmaceutical Technology (Eds. Rai M and Santos CAD), Springer International Publishing, Cham, Switzerland. pp. 139-154.

Martins, Luiza Helena da Silva, **Mahendra Rai,** João Moreira Neto, Johnatt Allan Rocha de Oliveira, Júlia Helena da Silva Martins, Andrea Komesu, Debora Kono Taketa Moreira and Paulo Weslem Portal Gomes (2017). Nanomaterials: Properties, Toxicity, Safety, and Drug Delivery, In: Nanotechnology Applied To Pharmaceutical Technology (Eds. Rai M and Santos CAD), Springer International Publishing, Cham, Switzerland. pp. 363-381.

Gupta I, **Ingle A**, Paralikar P, Pandit R, da Silva SS, Rai MK (2017). Bio-distribution and toxicity of noble metal nanoparticles in humans. In: Metal Nanoparticles in Pharma (Eds. Rai M and Shegokar R), Springer International Publishing AG, Switzerland, pp. 469-482.

Rai M, Nagaonkar D, **Ingle AP** (2017) Metal nanoparticles as therapeutic agents: a paradigm shift in medicine. In: Metal Nanoparticles: Synthesis and Applications in Pharmaceutical Sciences, First Edition (Eds. Thota S and Crans DC), Wiley-VCH Verlag GmbH & Co. KgaA, Germany, pp. 33-48

**2016**

Pinjarkar H., Swapnil Gaikwad, Avinash P. Ingle, Aniket Gade, Mahendra Rai (2016). Phycofabrication of silver nanoparticles and their antibacterial activity against human pathogens, *Adv. Mater. Lett*. 7(12): 1010-1014 **(IF-1.253)**

Golinska P., Rathod D., Wypij M., Gupta I., Składanowski M., Paralikar P., Dahm H., Rai M. (2016). Mycoendophytes as efficient synthesizers of bionanoparticles: nanoantimicrobials, mechanism and cytotoxicity. *Critical Reviews in Biotechnology*, 37(6): 765-778. 10.1080/07388551.2016.1235011 (**IF 7.510)**

[Składanowski M](http://www.ncbi.nlm.nih.gov/pubmed/?term=Sk%C5%82adanowski%20M%5BAuthor%5D&cauthor=true&cauthor_uid=27620485)., [Golinska P](http://www.ncbi.nlm.nih.gov/pubmed/?term=Golinska%20P%5BAuthor%5D&cauthor=true&cauthor_uid=27620485)., [Rudnicka K](http://www.ncbi.nlm.nih.gov/pubmed/?term=Rudnicka%20K%5BAuthor%5D&cauthor=true&cauthor_uid=27620485)., [Dahm H](http://www.ncbi.nlm.nih.gov/pubmed/?term=Dahm%20H%5BAuthor%5D&cauthor=true&cauthor_uid=27620485)., [Rai M](http://www.ncbi.nlm.nih.gov/pubmed/?term=Rai%20M%5BAuthor%5D&cauthor=true&cauthor_uid=27620485). (2016). Evaluation

of  cytotoxicity, immune compatibility and antibacterial activity of biogenic silver nanoparticles, 205 (6):603-613. DOI 10.1007/s00430-016-0477-7 **(IF 3.16)**

Składanowski M., Wypij M., Laskowski D., Golińska P., Dahm H., Rai M. (2016). Silver and gold nanoparticles synthesized from *Streptomyces* sp. isolated from acid forest soil with special reference to its antibacterial activity against pathogens*. Journal of Cluster Science*.,28(1):59-79 DOI: 10.1007/s10876-016-1043-6 **(IF 1.664)**

Rai, Mahendra, Raksha Pandit, Swapnil Gaikwad, Gyorgy Kovics (2016). Antimicrobial peptides as natural bio-preservative to enhance the shelf-life of food, J*. Food Sci. Technol.,* 53(9):3381-3394; DOI 10.1007/s13197-016-2318-5 **(IF 1.24)**

Jogee, P., Avinash P. Ingle, Mahendra Rai (2017).Isolation and identification of toxigenic fungi from infected peanuts and efficacy of silver nanoparticles against them, *Food Control 71* 143-151 **(IF 3.496)**

Rai, Mahendra, Avinash P. Ingle & Priti Paralikar (2016).Sulfur and sulfur nanoparticles as potential antimicrobials: from traditional medicine to Nanomedicine, *Expert Review of Anti-infective Therapy*, 10:969-978; DOI: 10.1080/14787210.2016.1221340 **(IF-3.542)**

Wypij M., Patrycja Golinska, Hanna Dahm, Mahendra Rai (2016). Actinobacterial-mediated synthesis of silver nanoparticles and their activity against pathogenic bacteria, *IET Nanobiotechnology* 11(3):336-342, doi: 10.1049/iet-nbt.2016.0112 **(IF-1.5)**

Tiwari,N., Raksha Pandit, Swapnil Gaikwad, Aniket Gade, and Mahendra Rai (2016). Biosynthesis of zinc oxide nanoparticles by petals extract of *Rosa indica* L., its formulation as nail paint and evaluation of antifungal activity against fungi causing onychomycosis, *IET Nanobiotechnology*, 11(2):205-211 doi: 10.1049/iet-nbt.2016.0003 **(IF-1.5)**

Gabriela, K.; Konvičková, Zuzana; Vávra, Ivo; Zapomělová, Eliška; Mahendra Rai; Schröfel, Adam (2016). Noble Metal Nanoparticles Synthesis Mediated by the Genus *Dolichospermum*: Perspective of Green Approach in the Nanoparticles Preparation,  *[Advanced Science Letters](http://www.ingentaconnect.com/content/asp/asl)*, 22 (3): 637-641 **(IF-1.253)**

Rathod, D., Patrycja Golinska, Magdalena Wypij, Hanna Dahm,and Mahendra Rai (2016). A new report of *Nocardiopsis valliformis* strain OT1 from alkaline Lonar crater of India and its use in synthesis of silver nanoparticles with special reference to evaluation of antibacterial activity and cytotoxicity, *Med Microbiol Immunol* 205:435–447; DOI 10.1007/s00430-016-0462-1 **(IF-3.038)**

[Mbarki, S., Artemi Cerdà, Marian Brestic, Rai Mahendra, Chedly Abdelly and Jose Antonio Pascual (2016) . Vineyard compost supplemented with *Trichoderma harzianum* t78 improve saline soil quality](http://onlinelibrary.wiley.com/doi/10.1002/ldr.2554/abstract), *Land degradation and Development*, 28(3):1028-1037, DOI: 10.1002/ldr.2554 **(IF 8.145)**

Bramhanwade, K., S. Shende, S. Bonde, A. Gade and Rai, M. (2016). Fungicidal activity of Cu nanoparticles against *Fusarium* causing crop diseases, *Environ Chem Lett,* 14:229–235 DOI 10.1007/s10311-015-0543-1**(IF 2.573)**

Bhople S., Swapnil Gaikwad, Swapna Deshmukh, Shital Bonde, Aniket Gade, Sanjib Sen, Anna Brezinska, Hanna Dahm, Mahendra Rai (2016). Myxobacteria-mediated synthesis of silver nanoparticles and their impregnation in wrapping paper used for enhancing shelf life of apples, IET Nanobiotechnology, 10(6):389-394, doi: 10.1049/iet-nbt.2015.0111 **(IF-1.72)**

Rai, M., Júlio César dos Santos, Matheus Francisco Soler, Paulo Ricardo Franco Marcelino, Larissa Pereira Brumano, Avinash P Ingle, Swapnil Gaikwad, Aniket Gade, Silvio Silvério da Silva. (2016). Strategic role of nanotechnology for production of bioethanol and biodiesel. Nanotechnology Reviews. ; 5(2): 231–250, 10.1515/ntrev-2015-0069 (**IF-1.273)**

Soares, L.C. S. R., Anuj K. Chandel, Fernando C. Pagnocca, Swapnil C. Gaikwad, Mahendra Rai and Silvio S. da Silva (2016). Screening of Yeasts for Selection of Potential Strains and Their Utilization for In Situ Microbial Detoxification (ISMD) of Sugarcane Bagasse Hemicellulosic Hydrolysate, Indian J Microbiol, 56(2):172–181 DOI 10.1007/s12088-016-0573-9 **(IF-1.143)**

Patil, S.D., Pankaj P. Maknikar, Sushilkumar J. Wankhade, Chandrakiran S. Ukesh , Mahendra Rai (2016). Chemical composition, antimicrobial and antioxidant activity of essential oils from cumin and ajowan. Nusantara Bioscience, 8(1):60-65; doi: 10.13057/nusbiosci/n080111

**Book chapters**

Rai, M. Avinash Ingle, Swapnil Gaikwad, Indarchand Gupta, Alka Yadav,Aniket Gade and Nelson Duran (2016). Fungi: Myconanofactory, Mycoremediation and Medicine, In: FUNGI: Applications and Management Strategies (Eds: S.K. Deshmukh, J.K. Mishra, J.P. Tiwari and Tamás Papp), CRC Press, Taylor and Francis, Boca Raton, Florida, USA pp 201-219.

Rai M, Kon K, Gade A, Ingle A, Nagaonkar D, Paralikar P, S S da Silva (2016)

Antibiotic resistance: Can nanoparticles tackle the problem? In:Antibiotic Resistance: Mechanism and new antimicrobial approaches (Eds: kon, K. and Rai M.), pp 121-135, Elsevier, Netherlands.

Ingle A, Shende S, Pandit R, Paralikar P, Tikar S, Kon K and Rai M (2016) Nanotechnological applications for the control of pulmonary infections, In: [The Microbiology of Respiratory System Infections](http://www.sciencedirect.com/science/book/9780128045435), (Eds: Kon, K. and Rai M.), pp 223-235, Elsevier, Netherlands.

Qureshi S, Paralikar P, Pandit R, [Razzaghi-Abyaneh](http://www.sciencedirect.com/science/article/pii/B9780128045435000129) M, Kon K, and Rai M (2016) Pulmonary aspergillosis: diagnosis and treatment, In: [The Microbiology of Respiratory System Infections](http://www.sciencedirect.com/science/book/9780128045435) (Eds: Kon, K. and Rai M.), pp 167-183, Elsevier, Netherlands.

**2015**

Santos, Carolina Alves Dos, Seckler, M.M., Ingle A.P., and Rai,M. (2015). Comparative antibacterial activity of silver nanoparticles synthesised by biological and chemical routes with pluronic F68 as a stabilising agent, IET Nanobiotechnology, doi: 10.1049/iet-nbt.2015.0055 **(IF-1.72)**

Golinska, P., Magdalena Wypij, Dnyaneshwar Rathod, Sagar Tikar, Hanna Dahm

and Mahendra Rai (2015). Synthesis of silver nanoparticles from two acidophilic strains of *Pilimelia columellifera* subsp. *pallida* and their antibacterial activities, *J. Basic Microbiol.,* DOI 10.1002/jobm.201500516 **(IF-1.823)**

Anasane, N., P. Golińska, M. Wypij, D. Rathod, H. Dahm, M. Rai (2015). Acidophilic actinobacteria synthesized Silver nanoparticles showed remarkable activity against fungi causing superficial mycoses in humans, *Mycoses*, published online; DOI: 10.1111/myc.12445 **(IF-2.239)**

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 doi: 10.1111/jam.13010 **(IF-2.479)**

[Rai, M](http://www.ncbi.nlm.nih.gov/pubmed/?term=Rai%20M%5BAuthor%5D&cauthor=true&cauthor_uid=26189355)., [Ingle, A.P](http://www.ncbi.nlm.nih.gov/pubmed/?term=Ingle%20AP%5BAuthor%5D&cauthor=true&cauthor_uid=26189355)., [Gaikwad, S](http://www.ncbi.nlm.nih.gov/pubmed/?term=Gaikwad%20S%5BAuthor%5D&cauthor=true&cauthor_uid=26189355)., [Padovani, F.H](http://www.ncbi.nlm.nih.gov/pubmed/?term=Padovani%20FH%5BAuthor%5D&cauthor=true&cauthor_uid=26189355)., [Alves, M](http://www.ncbi.nlm.nih.gov/pubmed/?term=Alves%20M%5BAuthor%5D&cauthor=true&cauthor_uid=26189355). (2015). The role of nanotechnology in control of human diseases: perspectives in ocular surface diseases, *Crit Rev Biotechnol*, 36(5):777-87, DOI: 10.3109/07388551.2015.1036002 **(IF-7.178)**

Rai, Mahendra, Avinash P. Ingle, Sonal Birla, Alka Yadav, and Carolina Alves Dos Santos (2016). Strategic role of selected noble metal nanoparticles in medicine, *Crit Rev Microbiol*, 42(5):696-719, DOI: 10.3109/1040841X.2015.1018131 **(IF-6.281)**

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*, 133:296-303; DOI: http://dx.doi.org/doi:10.1016/j.colsurfb.2015.06.024 **(IF-4.152)**

# 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*, 108:267–289; 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*., 66(1):17-33; 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; oi:10.3390/ molecules 20058856  **(IF 2.095)**

Rai M, Agarkar G (2015). Plant-fungal interactions: What triggers the fungi to switch among lifestyles? *Critical* Reviews *in Microbiology*, 42(3):428-438 **(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*, 54(2):189-197 **(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. **293(5):1465-1473;** 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*, 6(4):334-341; **(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*, 31(2):557-565; 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*, 31 (6): 865–873; 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,* 9(5): 280-287; 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,*  4(2):161-172; 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*, 9 (4), 239-245; 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 (IF 0.33)

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*, 29(2):221-236; 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,* 5(6): 991-997; DOI 10.1007/s13205-015-0302-9 **(IF-0.992)**

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](http://scholar.google.co.in/citations?view_op=view_citation&hl=en&user=8rykdvYAAAAJ&sortby=pubdate&citation_for_view=8rykdvYAAAAJ:SIv7DqKytYAC). *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.* 6(4):5014; doi:10.1088/2043-6262/6/4/045014 (IF 1.581)

Rai M, Gaikwad S, Nagaonkar D, Santos CAD (2015). Current Advances in the Antimicrobial Potential of Species of Genus *Ganoderma* (Higher Basidiomycetes) against Human Pathogenic Microorganisms. *International Journal of Medicinal Mushrooms,* 17(10):921-932 (IF-1.104)

**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, Masoomeh Shams-Ghahfarokhi, and Mahendra Rai ) , CRC Press, Taylor and Francis,USA, pp 79-93.

Rai M, Tiwari V and Balis E (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.

Thakare, R., Dnyaneshwar Rathod and Mahendra Rai (2015). Role of medicinal plants and their metabolites for the management of plant pathogens, In: Sustainable crop disease management using natural products (Eds Sangeetha Ganeshan, Kurucheve Vadivel and Jayaraj Jayaraman), CAB International, UK, pp 131-143.

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](http://scholar.google.co.in/citations?view_op=view_citation&hl=en&user=8rykdvYAAAAJ&sortby=pubdate&citation_for_view=8rykdvYAAAAJ:YlPif8NxrbYC). *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.*](http://www.ncbi.nlm.nih.gov/pubmed/?term=Metal+nanoparticles%3A+The+protective+nanoshield+against+virus+infection) 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 promoter endophytes: 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*](http://scholar.google.co.in/citations?view_op=view_citation&hl=en&user=8rykdvYAAAAJ&sortby=pubdate&citation_for_view=8rykdvYAAAAJ:69ZgNCALVd0C). *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 andVegetables.*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 *Emblica 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: AmeenahGurib-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 (EdsDurán, Nelson; Guterres, Silvia S.; Alves, Oswaldo L.), Springer, Germany, pp 325-345.

Gupta I, Rai M, Sarkar B (2014) Deciphering nanotoxicity on zebrafish model. In 'Advances in Biochemistry and Biotechnology, Vol-2'. Eds. Biplab Sarkar, Chiranjib Chakraborty. Daya Publishing House, New Delhi: pp 67-80

**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 (**IF6.693)**

### Giannossa, L.C., Daniela Longano , Nicoletta Ditaranto , Maria Angela Nitti, Federica Paladini , Mauro Pollini, Mahendra Rai , Alessandro Sannino, Antonio Valentini and Nicola Cioffi (2013). [Metal nanoantimicrobials for textile applications](https://www.google.co.in/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwjS28L0spPPAhUCnJQKHV5-AdAQFggdMAA&url=https%3A%2F%2Fwww.researchgate.net%2Fpublication%2F236132054_Metal_nanoantimicrobials_for_textile_applications&usg=AFQjCNG_NiIYRzpYpe24q9f3-sG4hSEctg) *Nanotechnol Rev* 2(3): 307–331 (IF 1.273)

Kövics, G.J., Sándor, E., Rai,M. and Irinyi, L. (2014). *Phoma*-like fungi on soybeans. *Critical Reviews in Microbiology* 40(1):49-62 ;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 Raí (2013) Green synthesis of silver nanoparticles using white sugar, *IET Nanobiotechnology* 7(1):28-32. **(IF-1.833)**

Raí, Mahendra and AlkaYadav (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. Raí (2013). Comparative studies on synthesis of Silver Nanoparticles by *Fusarium oxysporum* and *Macrophomina phaseolina* and it's 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)**

Gade, A., Gaikwad, S., Duran, N. and Mahendra Raí (2013).Screening of different species of *Phoma* for Synthesis of Silver nanoparticles.*BiotechnolApplBiochem*. doi:10.1002/bab.1141. [Epub ahead of print] **(IF 1.893).**

Kon, Kateryna and Mahendra Raí (2013). Metallic nanoparticles: mechanism of antibacterial action and influencing factors, *J Comp Clin Path Res* 2(1): 160 -174

Negedu, A., Joseph B. Ameh, Verônica J.Umoh, Sundy E. Atawodi and Mahendra Raí (2013). Effects of autoclaving on the proximate composition of stored castor (*Ricinus communis*) seeds, *Bioscience* 5(2):51-56.

Gupta, A., Shital R. Bonde , Swapnil Gaikwad , Avinash Ingle , Aniket K. Gade, Mahendra Rai (2013). *Lawsonia inermis*- mediated synthesis of silver nanoparticles: activity against human pathogenic fungi and bacteria with special reference to formulation of an antimicrobial nanogel, *IET Nanobiotechnology*, doi: 10.1049/iet-nbt.2013.0015. pp 1-7 **(IF-1.833)**

Gudadhe, J.A. Yadav, A., Gade, A., Marcato, P.D. Durán, N. and Rai, M. (2013). Preparation of an agar-silver nanoparticles (A-AgNp) film for increasing the shelf-life of fruits, *IET J. Nanobiotechnology* (in press)

Birla Sonal, Swapnil C. Gaikwad, Aniket K. Gade and Mahendra K. Rai (2013). Rapid Synthesis of Silver Nanoparticles from *Fusarium oxysporum* by Optimizing Physicocultural Conditions, *The Scientific World Journal*, http://dx.doi.org/10.1155/2013/796018, 1-12 p **(IF 1.730)**

Gaikwad, Swapnil, Avinash Ingle, Aniket Gade, Mahendra Rai, AnnaritaFalanga, Novella Incoronato, Luigi Russo, StefaniaGaldiero and Massimilano Galdiero (2013). Antiviral activity of mycosynthesized silver nanoparticles against Herpes Simplex virus and Human Parainfluenza Virus Type 3, *International Journal of Nanomedicine* 8: 1–12.**(IF : 3.463)**

Gaikwad, Swapnil, Sonal S. Birla, Avinash P. Ingle, Aniket K. Gade, Priscyla D. Marcato, Mahendra Rai and Nelson Duran (2013). Screening of different *Fusarium* species to select potential species for the synthesis of silver nanoparticles, *J. Braz. Chem. Soc.* (published online).

Rai, Mahendra (2013). Nanobiotecnologiaverde: biossínteses de nanopartículasmetálicas e suasaplicaçõescomonanoantimicrobianos, *Ciencia & Cultura,* 65 (3): 44-48.

**National**

TiwariVaibhav, Aniket Gade and Mahendra Raí (2013). A study of phylogenetic variations among Indian *Phoma tropica*species by RAPD-PCR and ITS-rDNA sequencing, *Indian Journal of Biotechnology,* 12:187-194 **(IF 0.55)**

**Book Chapters**

Kon, K. and **Rai, M.** (2013). Combining Essential Oils with Antibiotics and other Antimicrobial Agents to Overcome Multidrug-Resistant Bacteria, In: book name (Eds Mahendra Rai and KaterynaKon), Elservier, USA, pp 149-164.

**Rai, M.,** Rathod, D., Ingle, A.,Peter Proksh and KaterynaKon.(2013) Biocidal metabolites from endophytes occurring in medicinal plants.Natural Antioxidants and Biocides from Wild Medicinal Plants.CABI publication 56-64.

Rathod, D. Mudasir Dar, Aniket Gade, Ravi B. Shrivastava, **Mahendra Rai** and AjitVarma (2013). Microbial Endophytes: Progress and Challenges, In: Biotechnology for Medicinal Plants: micropropagation and improvement (Eds. Chandra, Lata and Varma) pp 101-121.

Das, A., Prasad, R., Srivastava, R.B., Deshmukh, S. Rai, M.K., and A Varma (2013). Cocultivation of Piriformospora indica with Medicinal Plants: Case Studies, In: Piriformosporaindica (Eds. Varma et al.), Soil Biology Springer, 149-171

Polizeli, Maria de Lourdes Teixeira de Moraes, André Ricardo de Lima Damásio, AlexandreMaller, Hamilton Cabral, AlineMoraesPolizeli, and **Mahendra Rai** (2013). Pectinases produced from microorganisms: biochemical properties and industrial applications, In: Fungal Enzymes (Eds Maria T M Polizeli and M. Rai), CRC Press, USA, pp 464

Rai M and Deshmukh S. (2013). Nanorevolution and Professionalizing University Education: Opportunities and Obstacles. Evolving Corporate Education Strategies for Developing Countries: The Role of Universities (B.P. Narasimharao, S.R Kanchugarakoppal, T. U. Fulzele edition) IGI Global Publication pp. 138-153.

Razzaghi-Abyaneh, M., Shams-Ghahfarokhi, M. and **Rai, M.** (2013). Antifungal Plants of Iran: An Insight into Ecology, Chemistry and Molecular Biology, In, Antifungal Metabolites from Plants (Eds Mehdi, R. and Raí, M.), Springer, pp.27-57

Rai, Mahendra, Avinash Ingle, Swapnil Gaikwad, Indarchand Gupta, AlkaYadav, Aniket Gade, Nelson Duran (2013). Fungi: Myconanofactory, Mycoremediation and Medicine, In: *Fungi and their Applications under the series of Progress in Mycological Research* (Eds: S.K. Deshmukh, J. K. Misra, J. P. Tiwari and T. Papp), CRC press USA (in press) **.**

Rai, Mahendra, Irena Maliszewska, Avinash Ingle, Indarchand Gupta, Alka Yadav (2013). Diversity of microbes in synthesis of metal nanoparticles: Progress and limitations, In: Bio-nanoparticles: Biosynthesis and Sustainable Biotechnological Implications, (Editor Om Singh), Wiley-Blackwell, USA (in press)

**2012**

**International**

Rai, M., Deshmukh, S, Ingle, A., Gade, A. (2012).Silver nanoparticles: The powerful nano-weapon against multidrug resistant bacteria. *Journal of Applied Microbiology* 112(5); 841-52.**(IF- 2.37)**.

Rai, M., Ingle, A. (2012). Role of nanotechnology in agriculture with special reference to management of insect-pest.*Applied Microbiology and Biotechnology*, 94(2):287-293 **(IF- 3.58).**

Rai, M. K., Gade, A. K., Gaikwad, S., Marcato, P. D and Duran N. (2012). Biomedical applications of nanobiosensors: The state-of-the-art. *Journal of Brazilian Chemical Society,* 23(1):14-24 **(IF- 1.09).**

Marcato PD, Durán M, Huber S, Rai M, Melo P, Alves O, Duran N (2012). Biogenic silver nanoparticles and its antifungal activity as a new topical transungual drug, *Journal of Nano Research* 20:99-107 **(IF 0.63)**

Oksana S, Brestic M, Rai M and Shao H (2012). Plasantosnt phenolic compounds for food, pharmaceutical and cosmetiсs production, *Journal of Medicinal Plants Research* 6(13): 2526-2539.**(IF 0.59)**

Kon K and Rai M (2012). Plant essential oils and their constituents in coping with multidrug-resistant bacteria, *Expert Rev. Anti Infect. Ther.* 10(7), 775–790 (2012)

Oksana S, Brestic M and Rai M (2012). Possible ways of fagopyrin biosynthesis andproduction in buckwheat plan Fitoterapia 84(1):72-79 **(IF 1.85).**

Rai M, Deshmukh S. Gade A, Kamel AE. (2012). Strategic nanoparticle-Mediated gene transfer in plants and Animals- a novel approach.*C. Nano.* (8), 170-179. **(IF- 1.79).**

Karwa A and Rai M (2012). [Naturally Occurring Medicinal Mushroom-Derived antimicrobials: A Case-Study Using Lingzhi or Reishi *Ganoderma lucidum* (W. Curt.:Fr.) P. Karst. (Higher Basidiomycetes)](http://dl.begellhouse.com/journals/708ae68d64b17c52,03ea8c440cfbb276,4a8a33b75aba4cd8.html), *International Journal of Medicinal Mushrooms*14 (5): 481-490 (**IF 0.639).**

Bonde, S.,Rathod, S., Ingle, A. Ade, R. Gade, A.and Rai, M.K. (2012).*Murraya koenigii* Mediated Synthesis of Silver Nanoparticles and Its Activity against Three Human Pathogenic Bacteria. *Nanoscience Methods.* (1) 25-36.

Rai M, Gade A, Rathod D, Dar M and Varma A. (2012). Mycoendophytes in medicinal plants: Diversity and Bioactivities, *Bioscience* 4(2):86-96.

Janhvi Guddhe, Shital Bonde, Swapnil Gaikwad, Aniket Gade, Mahendra Rai (2012). *Phoma glomerata:* A Novel Agent for Fabrication of Iron Oxide Nanoparticles. *Journal of Bionanoscience 5* (2), 138-142.

Sable N, Gaikwad S, Bonde S, Gade A, Rai M (2012). Phytofabrication of silver nanoparticles by using aquatic plant *Hydrilla verticilata,* Bioscience 4(2): 45-49.

Dar M, Rai M. (2012). Declining population of chestnut (*Castanea sativa* Mill) trees in Jammu & Kashmir State of India by natural and anthropogenic activities, *Journal of Agricultural Sciences*(Supplement), 72-75.

Kon K and Rai M (2012).Antibacterial activity of *Thymus vulgaris* essential oil alone and in combination with other essential oils, *Bioscience* 4(2):50-56.

Jogee P, Ingle A, Gupta I, Bonde S and Rai M (2012). Detection and Management of Mycotoxigenic Fungi in Nuts and Dry Fruits, Proceedings of Inter. Symp. On mycotoxin in dry nuts and fruits, Detection and Management of Mycotoxigenic Fungi in Nuts and Dry Fruits (edsM. RazzaghiAbyaneh et al.) Acta Hort. 963, ISHS 2012

Deshmukh S.D, Deshmukh SD, Gade AK, Rai M. (2012). *Pseudomonas aeruginosa* mediated synthesis of silver nanoparticles having significant antimycotic potential against plant pathogenic fungi. *J. of Bionanosci.* 6(2); 90-94.

**National**

Dar, M.A. and Rai.M. (2012). Biological and phylogenetic analyses, evidencing the presence of *Gnomoniopsis sp.*in India, causing canker of chestnut trees: a new report. *Indian forester* 139(1):37-42.

Rai, M. K.Bonde, S. Ingle, A. Gade, A. (2012). Mycotoxin: Rapid Detection, Differentiation and Safety: A review, *Journal of Pharmaceutical Education and ResearchJ Pharm Educ Res* 3 (1) 22-34.

**Book Chapters**

Gupta, I., Duran, N and Rai, M. (2012). Nanosilver toxicity: Emerging concerns and consequences in human health. *In*Nanoantimicrobials: Progress and Prospects (Eds. Cioffi, N and Rai, M), Springer pp525-548.

Rai, M., Yadav, A and Cioffi, N. (2012). Silver nanoparticles as nanoantimicrobials: Bioactivity, Benefits and Bottlenecks. *In*Nanoantimicrobials: Progress and Prospects (Eds. Cioffi, N and Rai, M), Springer pp211-224.

**2011**

Gade A. K. and Rai, M. K. (2011). *Phoma sorghina*, a Phytopathogen Mediated Synthesis of Unique Silver Rods.*International Journal of Green Nanotechnology*, 3(3): 153-159

Raheman, F., Deshmukh, S., Ingle, A., Gade, A. and Rai, M. (2011). Silver nanoparticles: Novel antimicrobial agent synthesized from aendophytic fungus *Pestalotia* sp. isolated from leaves of *Syzygiumcumini* (L.). *Nano Biomedicine and Engineering*, 3(3): 174-178.

Durán, N., Marcato, P. D., Durán, M., Yadav, A., Gade, A. and Rai, M (2011).Mechanistic aspects in the biogenic synthesis of extracellular metal nanoparticles by peptides, bacteria, fungi and plants.*Applied Microbiology and Biotechnology*, 90:1609–1624. **(IF- 3.58)**

Ingle, A. P. and Rai, M. K. (2011). Genetic diversity among Indian phytopathogenic isolates of *Fusarium semitectum* Berkeley and Ravenel. *Advances in Bioscience and Biotechnology*, 2: 142-148.

[Karwa A](http://www.ncbi.nlm.nih.gov/pubmed/?term=Karwa%20A%5BAuthor%5D&cauthor=true&cauthor_uid=22324414)., [Gaikwad S](http://www.ncbi.nlm.nih.gov/pubmed/?term=Gaikwad%20S%5BAuthor%5D&cauthor=true&cauthor_uid=22324414).,and  [Rai M.K](http://www.ncbi.nlm.nih.gov/pubmed/?term=Rai%20MK%5BAuthor%5D&cauthor=true&cauthor_uid=22324414). (2011). Mycosynthesis of silver nanoparticles using Lingzhi or Reishi medicinal mushroom, *Ganoderma lucidum* (W. Curt.:Fr.) P. Karst. and their role as antimicrobials and antibiotic activity enhancers, *Int J Med Mushrooms*.13(5):483-91.

More, M., Narkhede, C., Deshmukh, S., Gade, A. and Rai, M. (2011) Species specific primer designing-an easy method for identification of *Bacillus thuringiensis*. Curr. *Trends In Biotech. & Pharmacy*, 6(3): 1274-1280

Yadav, A. and Rai, M, (2011) Bioreduction and mechanistic aspects involved in synthesis of silver nanoparticles using *Holarrhena antidysenterica.* *Journal of Bionanosci*ence. 5: 70-73.

Rathod, D.P., Rai, M. K., Brestic, M. and Shao, H.B. (2011) Chlorophyll *a* fluorescence determines the drought resistance capabilities in two varieties of Mycorrhized and non-mycorrhized *Glycine max* Linn. *African Journal of Microbiology Research* 5(24), 4197-4206.

**Book Chapters**

Rai, M. K., Yadav, A. P. and Gade, A. K. (2011). Biogenic nanoparticles: An introduction to what they, how they are synthesized and their applications. In Metal Nanoparticles in Microbiology (Eds. Rai, M. K. and Duran, N).Springer-Verlag Berlin Heidelberg, Germany, pp 1-16.

**2010**

**International**

Gade, A., Ingle, A., Whiteley, C and Rai, M. (2010). Mycogenic metal nanoparticles: progress and applications. *Biotechnology Letters*, 32 (5): 593-600. **(IF- 1.63)**

Bawaskar, M., Gaikwad, S., Ingle, A., Rathod, D., Gade, A., Duran, N., Marcato, P. and Rai, M. (2010).A new report on mycosynthesis of silver nanoparticles by *Fusarium culmorum*. *Current Nanoscience*, 6 (4): 376-380. **(IF- 2.79)**

Gade, A., Gaikwad, S., Tiwari, V., Yadav, A., Ingle, A and Rai, M. (2010). Biofabrication of Silver Nanoparticles by *Opuntia ficus-indica:* *In vitro* antibacterial activity and study of the mechanism involved in the synthesis. *Current Nanoscience*, 6 (4): 370-375. **(IF- 2.79)**

Romagnoli, Carlo, R., Elisa, A., Silvia, M., Rai, M and Donatella, M. (2010). Antifungal activity of essential oil from fruits of Indian *Cuminum cyminum*.*Pharmaceutical Biology* 48 (7): 834-838 **(IF- 0.67)**

Rai, M. (2010).Biotechnological strategies for conservation of rare and endangered medicinal plants .*Biodiversitas*, 11(3):157-166.

Karwa, A and Rai M. K (2010). Tapping into edible fungi biodiversity of Central India. *Biodiversitas*, 11(2):97-101.

**National**

Chande, A., Kövics, G., Sandhu, S and Rai, M (2010). Morphological and genetic differentiation among four pigment producing Indian species of *Phoma* (Saccardo, 1899).*[Indian Journal of Microbiology](http://www.springerlink.com/content/0046-8991/" \o "Link to the Journal of this Article)*, 50: 110-116. **(IF 0.457).**

**Book Chapters**

Duran, N., Marcato, P. D., Ingle, A., Gade, A and Rai, M. (2010). Fungi-mediated synthesis of silver nanoparticles: characterization processes and applications. *In* Progress in Mycology (Eds. Rai and Kovics) Scientific Publisher, India.pp 425-449.

**2009**

**International**

Rai, M. K., Yadav, A. P. and Gade, A. K. (2009). Silver nanoparticles as a new generation of antimicrobials. *Biotechnology Advances*, 27(1): 76-82. **(IF- 10.597)**

Birla, S. S., Tiwari, V. V., Gade, A. K., Ingle, A. P., Yadav, A. P and Rai, M. K. (2009). Fabrication of silver nanoparticles by *Phoma glomerata* and its combined effect against *Escherichia coli*, *Pseudomonas aeruginosa* and *Staphylococcus aureus*. *Letters in Applied Microbiology* 48: 173-179. **(IF- 1.64)**

Mude, N., Ingle, A., Gade, Aand Rai, M. (2009). Synthesis of Silver Nanoparticles by the callus extract of *Carica papaya*: A first report. *Plant Biochemistry and Biotechnology* 18: 83-86. **(IF- 0.414)**

Ingle, A., Rai, M., Gade, A and Bawaskar, M. (2009). *Fusarium solani*: A novel biological agent for the extracellular synthesis of silver nanoparticles. *Journal of Nanoparticle Research.* 11 (8): 2079-2085.**(IF- 3.287)**

Gajbhiye, M. B., Kesharwani, J. G., Ingle, A. P., Gade, A. K and Rai, M. K. (2009). Fungus mediated synthesis of silver nanoparticles and its activity against pathogenic fungi in combination of Fluconazole. *Journal of* Nanomedicine NBM, 5(4): 282-286. **(IF- 6.692)**

Kesharwani, J. G., Rai, M. K., Hwang, J and Yoon, K. I. (2009). Phytofabrication of silver nanoparticles by leaf extract of *Daturametel*: Hypothetical mechanism involved in synthesis. *J. Bionanoscience*. 3: 1-6.

Rai, M. K., Deshmukh, P., Gade, A., Ingle, A., Kövics, G. J. and Irinyi, L. (2009). *Phoma Saccardo*: Distribution, secondary metabolite production and biotechnological applications. *Critical Reviews in Microbiology*. 35 (3): 182-196. (**IF- 5.34)**

Ade, R. B and Rai M. K**.** (2009). Current advances in *Gloriosasuperba* L. *Biodiversitas*, 10 (4): 210-214.

Devanand M. Dangre, Dnyaneshwar P. Rathod, Aniket K. Gade and Mahendra Rai (2009).An in Silico Molecular Evolutionary Analysis of Selected Species of *Phoma*: A Comparative Approach. *Journal of Proteomics and Bioinformatics,* 2(7): 295-309.

**National**

Tiwari, V. V and Rai, M. K. (2009). Incidence of *Candida albicans* infection in cerebrospinal fluid–A first report from Vidarbha, central India.*Current Trends in Biotechnology and Pharmacy,* 3 (1): 71-75.

**Book Chapters**

Ade, R. B and Rai M. K. (2009). *Gloriosa superba* L.: Ethnobotany to biotechnology, *In*Ethnoforestry: The future of Indian forestry (Ed. Tiwari), Bishen Singh Mahendra Pal Singh Publication, Dehra Dun, India.

Irinyi, L., Gade A.K., Ingle, A.P., Kövics, G.J., Rai, M.K. and Sándor, E. (2009).Morphology and Molecular Biology of *Phoma.*171-203. In: *Current Advances in Molecular Mycology*. (Eds.) Gherbawy, Y., Mach, R.L. and Rai, M.K., Nova Science Publishers, Inc., New York.

Ingle, A., Karwa, A., Rai, A and Gherbawy, Y. (2009) *Fusarium*: Molecular detection, mycotoxins and biocontrolIn: Current Advances in Molecular Mycology. Ed. By Youssuf Gherbawy, Robert Mach and Mahendra Rai, Science Publishers Inc., Enfield, New Hampshire 03748, USA. pp 85-106.

Rai M. K., Gade A. K. and Ingle A.P. (2009). Current Advances in Fabrication of Biogenic Nanoparticles: An Ecofriendly Approach. In A textbook of Molecular Biotechnology (Ed. Chauhan and Varma), I K International, New Delhi. pp 647-656.

Rai, M., Yadav, A., Bridge, P and Gade, A. (2009). Myconanotechnology: A new and emerging science. *In* Applied mycology (Eds Rai and Bridge), CAB International, pp. 285-267.

**2008**

Ingle, A. P., Gade, A. K., Pierrat, S., Sönnichsen, C and Rai, M. K. (2008). Mycosynthesis of silver nanoparticles using the fungus *Fusarium acuminatum* and its activity against some human pathogenic bacteria. *Current Nanoscience*. 4: 141-144. **(IF- 2.79)**

Gade A. K, Bonde P. P., Ingle A. P., Marcato P. D., Duran N, Rai M. K. (2008). Exploitation of *Aspergillus niger* for fabrication of silver nanoparticles. *J. Biobased Material and Bioenergy*. 2 (3): 243-247. (**IF- 1.40)**

Rai, M. K., Yadav, A. P. and Gade, A. K. (2008). Current trends in phytosynthesis of metal nanoparticles. *Critical Reviews in Biotechnology,* 28(4): 277–284. **(IF- 6.472 )**

Bansod, S and Rai, M. (2008). Emerging of mycotic infection in patients infected with *Mycobacterium tuberculosis.* *World Journal of Medical Sciences,* 3 (2): 74-80.

Bansod, S and Rai, M. (2008). Antifungal activity of essential oils from Indian medicinal plants against human pathogenic *Aspergillus fumigatus* and *A. niger. World Journal of Medical Sciences*, 3 (2): 81-88.

Rai, M. K., Shende, S. S. and Strasser, R. J. (2008). JIP test for fast fluorescence transients as a rapid and sensitive technique in assessing the effectiveness of arbuscular mycorrhizal fungi in *Zea mays*: Analysis of chlorophyll a fluorescence. *Plant Biosystems*, 142 (2): 191-198. **(IF- 1.912)**

**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: Currrent 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

1. Metal nanoparticles in Microbiology, Springer, 2011
2. Natural antimicrobials for Food Safety and Quality, CABI International, UK, 2011
3. Nanoantimicrobials: Progress and Prospects, Springer, 2012
4. Medicinal plants: Biodiversity and Drugs, CRC/Tay;or and Francis, 2012
5. Statistics for Microbiologists: Methods and Applications, Himalaya Publishing House, Nagpur pp 210, 2013
6. Natural Antioxidants and Biocides from Wild Medicinal Plants,CABI, UK, 2013
7. Fighting multidrug resistance with herbal extracts,essential oils and their components, USA, pp 271, 2013
8. Fungal Enzymes, CRC press, USA, pp 464, 2013
9. Antifungal metabolites from plants, Springer, pp 469, 2013
10. Green Biosynthesis of Nanoparticles, CABI, England, 2014
11. Microbiology for Surgical Infections: Diagnosis, Prognosis and Treatment, Elsevier, 2014
12. [Nanotechnology in Diagnosis, Treatment and Prophylaxis of Infectious Diseases](http://www.amazon.com/Nanotechnology-Diagnosis-Treatment-Prophylaxis-Infectious/dp/0128013176/ref=la_B001JP7S5A_1_23?s=books&ie=UTF8&qid=1430657038&sr=1-23). Elsevier, USA, 2015
13. Nanotechnologies in Food and Agriculture. Springer, 2015
14. Medical Mycology: Current Trends and Future Prospects, CRC Press, Taylor and Francis,USA,2015
15. Therapeutic Medicinal Plants: From Lab to the Market - CRC Press, Taylor and Francis,USA, 2016
16. Antibiotic resistance:Mechanisms and new antimicrobial approaches, Elsevier, 2016
17. The Microbiology of Respiratory systems infections, Elsevier, 2016
18. Nanotechnology for Bioenergy and  Biofuel Production, Springer, 2017
19. Essential Oils and Nanotechnology for Treatment of Microbial Diseases, CRC Press, Taylor and Francis,USA , 2017
20. Metal Nanoparticles in Pharma, Springer, 2017
21. Nanotechnology Applied to Pharmaceutical Technology, Springer, 2017
22. The Microbiology of Skin, Soft Tissue, Bone and Joint infections, Elsevier, 2017
23. The Microbiology of Central Nervous system, Elsevier, 2018
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