

## Publications of Prof. Dr. Rajiv Dutta

### Book Edited:

1. **3D Printing Technology in Nanomedicine**, Publisher: Elsevier Inc., Philadelphia, USA; ISBN 978-0-12-815890-6 (2019).
2. Futuristic Trends in Biotechnology Editors: **Prof. Dr. Rajiv Dutta**, Dr. Vasumathi, Dr. Satish Mohabe and Dr. Chandini C Mohan; Under process of publication by Iterative International Publishers (IIP)

### Chapters/ Invited Chapters in Books:

#### (a) National:

1. **Dutta, Rajiv** (1997) Biotechnology in Environmental Management; Environmental Conservation with Sustainable Development (Edited by Dr. A. K. Sinha et al.) Chapter 5; 51-61; APH Publishing Corporation, New Delhi.
2. **Dutta, Rajiv** (1998) Electrical influence on polar movement of certain phytohormones; Biotechnology in Agriculture and Environment (Eds. S.S. Marwaha et al.); 50-51; PSCST, Chandigarh
3. Mishra, A.K., Tiwari, S.N. and **Dutta, Rajiv** (2006) Studies on the development of an Electrical Biosensor to detect the graft union success rate; Wireless Communication & Sensor Network (MacMillan Advanced Research Series) pp. 3-8.
4. Mishra, AK, Mishra, GR, Tiwari, R, Tiwari, SN, **Dutta, Rajiv** (2009) Nanobiosensor based on interfacial Resistance for early detection of graft compatibility in plants; Nanomaterials and Nanotechnology, Edited by Pandey, NK et al. Excel India Publishers, New Delhi.
5. Mishra, AK, Yadav, H, Vishwakarma, V, Dwivedi, A, Anand, V and **Dutta, Rajiv** (2009) Study of weak electric current on plant growth and its bio-molecular characterization; Nanomaterials and Nanotechnology, Edited by Pandey, NK et al. Excel India Publishers, New Delhi.
6. Srivastava, S., Pathak, N, Bhargava, A and **Dutta, Rajiv** (2010) Nanotechnology The Science of the Future. In: Current Trends in Life Sciences, Shukla, D.S. and H.D. Dwivedi, (Eds.). WordPress, Lucknow.
7. Jain, Pankaj Major, Jain, Shikha and **Dutta, Rajiv** (2011) Future prospects of Nanobiotechnology in Animal nutrition and meat technology; In Nanoscience & Nanobiotechnology (Edited by Dr. Pankaj Tyagi *et. al.*), 107-117.
8. Jain, Pankaj Major, Jain, Shikha and **Dutta, Rajiv** (2011) Future prospects of Nanobiotechnology in Veterinary Surgery; In Nanoscience & Nanobiotechnology (Edited by Dr. Pankaj Tyagi *et. al.*), 118-130.
9. Jain, Shikha, Jain, Pankaj Major and **Dutta, Rajiv** (2011) Nanotechnology: Future Prospects in Veterinary Medicine; In Nanoscience & Nanobiotechnology (Edited by Dr. Pankaj Tyagi *et. al.*), 197-205.
10. Parul Saini, Sonali Rao, Vinay Kumar and **Rajiv Dutta** (2023) Innovative Approaches of Nanotechnology in response to Recombinant DNA Technology; Futuristic Trends in Biotechnology, IIP Series, Volume 3, Book 1, Part 1, Chapter 10 Ayush Madan, Alok Bhatt, Pallavi Ghildiyal and Rajiv Dutta (2024) Forest Therapy: Exploring The Medicinal Secrets of Nature's Green Pharmacy; Futuristic Trends in Biotechnology e-ISBN: 978-93-6252-549-9, IIP Series, Volume 3, Book 15, Part 5, Chapter 1, 111-127.
11. Monika Saini, Rishabh Chitranshi and Rajiv Dutta (2024) Applications of Microbe Based Nanoparticles for Food And Beverage Industry; Futuristic Trends in Biotechnology (e-ISBN: 978-93-6252-358-7), IIP Series, Volume 3, Book 1, Part 1, Chapter 5, 77-87.

12. Ayush Madan, Alok Bhatt, Pallavi Ghildiyal and Rajiv Dutta (2024) Forest Therapy: Exploring The Medicinal Secrets Of Nature's Green Pharmacy; Futuristic Trends in Biotechnology, IIP Series, Volume 3, Book 15, Part 5, Chapter 1

#### **(b) International:**

1. Ahmad, Nabeel, Bhatnagar, Sharad, Dubey, Shyam Dhar, Saxena, Ritika, Sharma, Shweta and **Dutta, Rajiv** (2017) Nanopackaging in Food and Electronics; In Nanoscience in Food and Agriculture 4, Sustainable Agriculture Reviews 24, 2; pp 45-97.
2. Sahai, Pragati and **Dutta, Rajiv** (2018) Nanoparticles for Bioremediation of Heavy Metal Polluted Water; In book "Biostimulation Remediation Technologies for Groundwater Contaminants" Edited by Dr. Ashok Rathoure; Chapter 13, 220-248 IGI Global ISBN: 9781522541622 (Invited Review).
3. Sahai, Pragati and **Dutta, Rajiv**; Microbial production of nanoparticles and their applications; Current Research in Microbiology, 1-22; ISBN: 978-93-87500-01-3 (Invited Review).
4. Vinay Kumar, Ayush Madan, Pragati Sahai and Rajiv Dutta (2023) Scaling up of Secondary Metabolites Production In Book Secondary Metabolites And Biotherapeutics Edited by Awanish Kumar and Sunil Kumar (series entitled Developments In Applied Microbiology and Biotechnology; published by Elsevier), 189-213.
5. Vinay Kumar and Rajiv Dutta (2024) Nano encapsulation for the targeted drug delivery to enhance the efficacy of drugs; Deep Learning and Computer Vision: Models and Biomedical Applications: Volume 2 (Editors: Uma N. Dulhare, Essam Halim Houssein) Springer Nature (In Press).
6. Vinay Kumar, Pragati Sahai and Rajiv Dutta; Artificial Intelligence in Agriculture; Artificial Intelligence and Internet of Things for Smart Agriculture Edited by Dr. Praveen Kumar Shukla et.al, CRC Press (Invited Review), In Press.

#### **In Peer Reviewed Journals:**

1. Sharma, V.N. and **Dutta, Rajiv** (1996) Mass scale propagation of *Rosa hybrida*; Recent Advances in Biosciences; 211-212
2. **Dutta, Rajiv** (1997) The immobilized cell reactor for Taxol production from *Taxus baccata*; Journal Society of Bioengineers, India, 2, 41-45 (1997).
3. **Dutta, Rajiv** (1999) Measurement of *in vitro* growth by image processing; Comp. Biol. Applications; 677-683.
4. Mishra, A.K., **Dutta, Rajiv**, Tiwari, S.N., and Tiwari, R.K. (2006) Electrical Biosensor and Measurement of graft union success rate in plant systems: A Review; Applied Botany ABS 26, 355-365.
5. Mishra, Ashok Kumar, Mishra, K.K., Tiwari, S.N. and **Dutta, Rajiv** (2010) Augmentation Of Graft Compatibility Through Electric Control; Indian Journal of Scientific Research Vol. 1, No.2, 27-31.
6. Gupta, Maneesh and **Dutta, Rajiv** (2011) Shoot proliferation, induction of roots in excised shoots and undifferentiated growth in *Kallstroemia pubescens*; Indian Journal of Scientific Research 2(3), 78-84
7. Mathur, Gaurav and **Dutta, Rajiv** (2011) Categorization of Bio-information; Trans. Physical and Life Sciences, Section-B, 1(1), 27-29.
8. Mishra, A.K., Tiwari, S.N., Mishra, K.K. and **Dutta, Rajiv** (2011) Electrical Resistance as Universal Indicator graft compatibility; Trans. Physical and Life Sciences, Section-B, 1(1), 32-34.
9. Pandey, AK, **Dutta, Rajiv** and Siddiqui, Md. Haris (2019) Pharmacokinetics studies of designed analogues of Triclosan standard targeting FabI enzyme regulation in

*P.falciparum*: An *in-silico* Approach; International Research Journal of Humanities, Engineering & Pharmaceutical Sciences, 9, **17**; 11-18.

10. Anil Kumar Pandey, Mohammad Haris Siddiqui, Rajiv Dutta (2023) Pharmacological analysis for prepared novel Leads of Thiolaetomycin standard targeting regulation of FabB enzyme in *P. falciparum*: An In-silico study; IJERED 11(1) 233-238.
11. Saini, Monika, Garg, Shriya, Kapoor, Raj, Chitranshi, Rishabh and Dutta, Rajiv (2023) Nutraceutical contribution of Aloe-vera gel for making milk cake during festive season in India; Plant Archives, Vol. 23, No. 2, 364-369.
12. Shivanshi Chauhan, Vinay Kumar, Namrata Sachdeva, Rishabh Chitranshi, Sarita Devi, Sonali Rao and Rajiv Dutta (2024) Drug induced liver injury: a Systematic Review; Asian Jr. of Microbiol. Biotech. Env. Sc. Vol. 26, No. (2) : 2024 : 197-210.

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1. **Dutta, Rajiv** (1996) Electrically induction of growth, proliferation and differentiation: A novel *in vitro* approach; Bioelectromagnetism **17**; 174-178.
2. **Dutta, Rajiv** (1996) Electrical influence on the movement of certain PGRs; BEMS Letters **132**; 2-4.
3. **Dutta, Rajiv** (1998) Analysis of electrical distribution in callus: A possible marker for differentiation; BEMS Letters **137**; 210-214.
4. **Dutta, Rajiv** (2000) Electrical influence during growth and morphogenesis; BEMS Letters **140**, 126-129.
5. **Dutta, Rajiv** (2000) The electrical properties of plant membranes; Bioelectromagnetism **21**(1), 63-66.
6. Gupta, Amrita and **Dutta, Rajiv** (2000) Electrical control of gravitotropic movement in *Brassica*; Bioelectromagnetism, **21**(9), 51-54.
7. Sirohi, S., Srivastava, V, **Dutta, Rajiv** and Mallick, N. (2012) Optimization of cultural and nutritional conditions for accumulation of poly- $\beta$ -hydroxybutyrate in *Aulosira fertilissima*; Journal of Eco-friendly Agriculture, **7**, 1, 12-16.
8. Ahmad, N, Hussain, M I, Kumar, R, Mukherjee, S and **Dutta, Rajiv** (2012) Comparative kinetics of corrosion rate on mild steel in various citrus juices; International Journal of Science and Advanced Technology, **2**, 5, 157-163.
9. **Dutta, Rajiv** (2013) FET Based sensor indentifying and qualifying cellular communication through specialized structure at interfacial cell wall success in plants; J. Biosens. Bioelectron. **4**(3), 104.
10. Nabeel Ahmad, Kavya Shree, Monisha Srivastava, **Rajiv Dutta** (2014) Novel rapid biological approach for synthesis of silver nanoparticles and its characterization; International Journal of Pharmacology and Pharmaceutical Sciences; Vol: 1, Issue: 1, 28-31.
11. Akhilesh Bind, Veeru Prakash, Nabeel Ahmad, **Rajiv Dutta** (2014) Antibioqram analysis of various medicinal plants leaves against pathogenic bacteria; International Journal of Pharmacology and Pharmaceutical Sciences; Vol: 1, Issue: 2, 26-29.
12. Ahmad, Nabeel, Rizvi, SMD, Sahai, Nitin and **Dutta, Rajiv** (2016) Biosynthesis and Characterization of Gold Nanoparticles using *M. indica* Leaf extract and their Anticancer Activity; International Journal of Nanotechnology **2**, 2, 1-4.
13. Pandey, AK., Siddiqui, Md. Haris and **Dutta, Rajiv** (2019) Drug-Likeness prediction of designed novel analogues of Isoniazid standard targeting FabI enzyme regulation in *P. falciparum* : An *In silico* Approach; Bioinformation, **15** (5), 364-368.
14. Sahai, Pragati, Sinha, Vimlendu Bhushan and **Dutta, Rajiv** (2019) The insight to green revolutionary approaches in agriculture; Acta Scientific Agriculture **3**, 11, 02-10.
15. Chhavi Goel and Rajiv Dutta (2022) Proximate And Qualitative Phytochemicals Studies On Leaves And Stems of *Adansonia digitata* L; Plant Cell Biotechnology and Molecular Biology, **23** (31-32), 1-11.
16. Chhavi Goel and Rajiv Dutta (2023) Antimicrobial Activity of Leaf and Stem Extracts of *Adansonia digitata*; Plant Cell Biotechnology and Molecular Biology, **24** (1-2), 104-113.

17. Dutta, A., Kumar, V., & Rajiv Dutta (2023). Comparative Analysis of Pollen Grains from Various Floral Species Using Scanning Electron Microscope. *Plant Cell Biotechnology and Molecular Biology*, 24(7-8), 8–16.

### In SCOPUS Journals:

1. **Dutta, Rajiv** (1997) Bioelectric augmentation of growth and differentiation in *Nicotiana tabacum*: The physiological evidence to the phenomenon; *The FASEB Journal* **11(9) Suppl.**; 1031.
2. Schoenknecht, Gerald, Spoormaker, Petra, Steinmeyer, Ralf, Bruggeman, Liubov, Ache, Peter, **Dutta, Rajiv**, Reintanz, Godde, Hedrich, Rainer and Palme, Klaus (2002); KCO1 is a component of the slow-vacuolar (SV) ion channel; *FEBS Letters* **511**, 28-32.
3. **Dutta, Rajiv** and Robinson, Kenneth R. (2004); Identification and Characterization of Stretch-activated Ion Channels in Pollen Protoplasts; *Plant Physiology*, **135**, 1398-1406.
4. Ahmad, Nabeel, Bhatnagar, Sharad, Ali, Syed Salman and **Dutta, Rajiv** (2015) Phytofabrication of bioinduced silver nanoparticles for biomedical applications; *International Journal of Nanomedicine*; 10 7019–7030.
5. Ahmad, Nabeel, Bhatnagar, Sharad, Saxena, Ritika, Iqbal, Danish, Ghosh, Ashoke K, **Dutta, Rajiv** (2017) Biosynthesis and Characterization of Gold Nanoparticles: Kinetics, In vitro and In vivo study; *Material Science & Engineering C*; 78, 553-564..
6. Unsugmi, Horom, Sahai, Pragati, Sinha, Vimlendu Bhushan and **Dutta, Rajiv** (2017) Electrical augmentation of seed germination in chick pea; *Plant Archives* Vol. 17 No.2, 1661-64.
7. Aisha Khatoon, Farheen Khan, Nabeel Ahmad, Sibghatulla Shaikh, Syed Mohd. Danish Rizvi, Shazi, Shakil, Mohammad H. Al-Qahtani, Adel M. Abuzenadah, Shams Tabrez, Abo Bakr Fathy Ahmed, Ahmed Alafnan, Hayatul Islam, Danish Iqbal and **Dutta, Rajiv**; Silver nanoparticles from leaf extract of *Mentha piperita*: Eco-friendly synthesis and effect on acetylcholinesterase activity (2018) *Life Sciences* 209, 430-434.
8. Shukla, N., Deo, M.N., Uttam, K.N. and **Dutta, Rajiv** (2021) Biochemical Evaluation of the Bottle Gourd (*Lagenaria Siceraria*) Fruit By Nondestructive Fourier Transform Raman and Attenuated Total Reflectance Fourier Transform Infrared Spectroscopy; *Plant Cell Biotechnology and Molecular Biology*. **22** (45 & 46), 95-102.
9. Goel, Chhavi and **Dutta, Rajiv** (2021) *Adansonia digitata*: A Mythological Tree has Several Nutritional and Medicinal Properties; *Plant Cell Biotechnology and Molecular Biology*; **22** (57 & 58): 16-20.
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11. Prakash, D., Saini, M., Tyagi, N., Madan, A. and **Dutta, Rajiv** (2021). A Mystical Plant *Azadirachta Indica* used as Phytomedicine: State-of-the-art; *Plant Cell Biotechnology and Molecular Biology*, **22** (71-72), 575-583.
12. Chhavi Goel and Rajiv Dutta (2024) Quantitative Phytochemicals and Antioxidant Potential of *Adansonia digitata* leaves and stem extract; *Research Journal of Biotechnology*, Vol. 19 (4), 5-13.
13. Chhavi Goel, Vinay Kumar and Rajiv Dutta; GC-MS Studies of Crude Extract of Stem and Leaves of *Adansonia digitata* in Two Different Solvents; *Research Journal of Pharmacy and Technology* (In Press)

### Publications in International Conference:

1. Schonknecht, Gerald, Spoormaker, P, Steinmayer, R, Ache, P, **Dutta, Rajiv**, Reintanz, B, Godde, M, Hedrich, R and Palme, K; The vacuolar two-pore domain potassium channel KCO1; *Plant Biology* 2002.

2. **Dutta, Rajiv** and Robinson, K.R. (2003) Identification of stretch-activated channels necessary for pollen germination and growth; Proc. ASCB, F07-F10.
3. Sahai, Pragati and **Dutta, Rajiv** (2007) Augmentation of Cell Volume of *Nicotiana tabacum* under the influence of extremely weak electric current; Proceeding ICBEM-2007, 81-82.

#### **Publications in National Conference:**

1. **Dutta, Rajiv** (1994) Computer optimization of relative growth of callus cultures of Poplar (*Populus deltoids*); Modern Trends in Biotechnology; 51-54; CREIID, BITS, Pilani.