Dr. Tapan Kumar Mohanta

Research Assistant Professor

Biotech and Omics.....

Natural and Medical Sciences Research Center

University of Nizwa, Sultanate of Oman

Telephone: (+968)+96879405046, Ext: 724

eMail: tapan.mohanta@unizwa.edu.om

Office Location: 25-B.....

Time at UoN: Since 2018

Marital Status: .....

Currently, Dr. Tapan Kumar Mohanta is working as a Researcher at the University of Nizwa since March 2018. Before joining the University of Nizwa, Dr. Mohanta was working as a Research Professor at Yeungnam University, Gyeongsan, South Korea from April 2014 to February 2018. Dr. Mohanta also worked as a postdoctoral research associate at G.B. Pant University of Agriculture and Technology, Pant Nagar, India from September 2011 to April 2012 and National Institute of Plant Genome Research, New Delhi, India from April 2012 to March 2014. To his credit, Dr. Mohanta has more than 60 SCI/SCI-E indexed research publications in Q1, Q2, and Q3 journals in the field of plant genomics, molecular biology, and metabolomics. In addition, Dr. Mohanta has contributed several book chapters and other research publications as well. Dr. Mohanta has completed his MS in Bioinformatics (2007) and Ph.D. degree (2011) from the University of Turin, Italy, and M. Sc. Biotechnology (2006) degree from North Orissa University, India.

Academic Qualifications

PhD (University of Turin, Italy), 2011

MS Bioinformatics (University of Turin, Italy), 2007

M.Sc. Biotechnology (North Orissa University), 2006

Teaching Activities

Bacteriology, Spring 2021

Metabolic Engineering, 2016

Advanced metabolic engineering, 2017

Research Activities

- Research Interests

tRNA, Genomics, Proteomics & Plant Molecular Biology

Construction of virtual 2-D proteome map of plant, fungi, plastome, and bacteria

Functional analysis of quadruplet anti-codons

Functional analysis of small peptides of plants and fungi

Speed Breeding using chemical agent

- Publications

Article:

1. 2022 Biswas K, Mishra AK, Rauta PR, Al-Sehemi AG, Pannipara M, Sett A, Bratovcic A, Avula SK, Tapan Kumar Mohanta, Saravanan M, Mohanta YK. (2022). Exploring the bioactive potential of C60-AgNPs nanocomposites against malignancies and microbial infections. International Journal of Molecular Sciences, 22 (2): 714. IF 6.208

2. 2022 Mustafa F, Chopra H, Baig AM, Avula SK, Kumari S, Tapan Kumar Mohanta, Saravanan M, Mishra A, Sharma N, Mohanta YK. (2022). Edible mushrooms as novel myco-therapeutics: effect on lipid level, obesity, and BMI. Journal of Fungi, 8: 211. IF 5.724

3. 2022 YK Mohanta, Mishra AK, Nayak D, Patra B, Bratovcic A, Avula SK, Tapan Kumar Mohanta, Saravanan M, Murugan K. (2022). Exploring dose dependent cytotoxic profile of Gracilaria edulis mediated green synthesized silver nanoparticles against MDA-MB-231 breast carcinoma. Oxidative Medicine and Cellular Longevity, 2022: 3863138. IF 7.31

4. 2022 Madhanvan Y, Shanmugan DK, Sai KV, Manimaran A, Guruviah K, Mohanta YK, Venugopal DC, Tapan Kumar Mohanta*, Sharma N, Muthupandian S. (2022).Current treatment options for COVID-19 associated Mucormycosis: present status and future perspectives. Journal of Clinical Medicine, 11(13): 3620. IF 4.964

5. 2022 S. Mahanta, T Naiya, K Biswas, L Chnagkakoti, YK Mohanta, B Tanti, AK Mishra,

Tapan Kumar Mohanta*, N Sharma. (2022). Plant Source Derived Compound Exhibited In Silico Inhibition of Membrane Glycoprotein In SARS-CoV-2: Paving The Way To Discover a New Class of Compound For Treatment of Covid-19. Frontiers in Pharmacology, 13: 805344. IF 5.988

6. 2022 Chakraborty I, Mohanta YK, Nogbet A, Tapan Kumar Mohanta*, Mohanta S, Das N, Saravanan M, Sharma N. (2022). Exploration of lamiaceae in cardiovascular disease and functional foods: Medicine as food and food as medicine. Frontiers in Pharmacology, 13: 894814. IF 5.988

7. 2022 Kumari S, Gogoi SS, Shamim MZ, Laskar I, Tapan Kumar Mohanta*, Suprasanna P, Mohanta YK. (2022). Physiochemical characterization, antioxidant, activity, and total phenolic content of value-added products from indigenous banana varieties of Assam, India. Measurement: Food, 7: 100040. IF 3.927

8. 2022 Pandey VK, Prajapati GK, Tapan Kumar Mohanta, Mishra AK. (2022). N-glycosylation, a leading role in viral infection and immunity development. Molecular Biology Reports, 49: 8109-8120. IF 2.702

9. 2022 Kumar H, Aggarwal A, Marwaha MG, Deep A, Chopra H, Matin MM, Roy A, Emran TB, Mohanta YK, Tapan Kumar Mohanta, Ahmed R, Muthupandian S, Kumar R. (2022). Thiazolidin 2,4-dione scaffold: an insight into recent advances as antimicrobial, antioxidant, hypoglycemic agents, mechanism of action, and patent granted. Molecules, 27(12): 6763 IF 4.927

10. 2022 Mohanta YK, Nayak D, Mishra AK, Chakrabartty I, Ray MK, Tapan Kumar Mohanta, Tayung K, Rajaganesh R, Vasanthakumaran M, Muthupandian S, Murugan K, Sharma G, Dahms H-U, Hwang J-S. (2022) Green synthesis of endolichenic fungi functionalized silver nanoparticles: the role in antimicrobial, ant-cancer, and mosquitocidal activities. International Journal of Molecular Sciences, 23: 10626. IF: 6.208

11. 2022 Boddu SK, Rehman NU, Tapan Kumar Mohanta, Majhi A, Avula SK, Al-Harrasi A. (2022). A review on DBU mediated organic transformation. Green Chemistry Letters and Reviews, 15(3): 765-795. IF 6.016

12. 2022 Tapan Kumar Mohanta*, Kamran MS, Omar M, Anwar W, Choi GS. (2022). PlantMWpIDB: A database for the Molecular Weights and Isoelectric Point of the Plant Proteomes. Scientific Reports, 12: 7421. IF 4.996

13. 2022 Vij S, Sharma N, Sharma M, Tapan Kumar Mohanta, Kaushik P. (2022). Application of Trichoderma viride and Pseudomonas fluorescens to cabbage (Brassica oleracea L.) improves both its seedling quality and field performance. Sustainability, 14(13): 7583. IF 3.889

14. 2022 Tapan Kumar Mohanta*, Mohanta YK, Avula SK, Nongbet A, Harrasi A. (2022). Virtual 2D map of cyanobacterial proteomes. PLoS One, 17(10): e0275148. IF: 3.752

15. 2022 Navgire GS, Goel N, Sawhney G, Sharma M, Kaushik P, Mohanta YK, Tapan Kumar Mohanta*, Harrasi A. (2022). Analysis and interpretation of metagenomic data: An approach. Biological Procedures Online, 24:18. IF: 7.717

16. 2022 Rashid M, Omar M, Tapan Kumar Mohanta*. (2022). FungiProteomeDB: a database for the molecular weight and isoelectric points of the fungal proteomes. Database:xx. IF 4.462

17. 2022 apan Kumar Mohanta*, Mohanta YK, Harrasi A. (2022). Decoding the virtual 2D map of the chloroplast proteomes. Biological Procedures Online, 24: xx. IF 7.717

18. 2021 Hitesh Chopra, Awdhesh Kumar Mishra, Atif Amin Baig, Tapan Kumar Mohanta, Yugal Kishore Mohanta, Kwang-Hyun Baek. (2021). Narrative Review: Bioactive Potential of Various Mushrooms as the treasure of versatile therapeutic natural product. Journal of Fungi, 7(9): 728

19. 2021 Tapan Kumar Mohanta*, Awdhesh Kumar Mishra, A Al-Harrasi. (2021). The 3D Genome: From Structure to Function. International Journal of Molecular Sciences, 2021, 22(21): 11585

20. 2021 Tapan Kumar Mohanta*, Awdhesh Kumar Mishra, Yuga Kishore Mohanta, Ahmed Al-Harrasi. (2021). Virtual 2D Mapping Of The Viral Protein Reveals Host-Specific Modality Distribution Of Molecular Weight And Isoelectric Point. Scientific Reports, 11: 21291

21. 2021 Yugal Kishore Mohanta, Pradipta Ranjan Rauta, Awdhesh Kumar Mishra, Debasish De, Abeer Hashem, Al-Bandari Fahad Al-Arjani, Abdulaziz A. Alqarawi, Elsayed Fathi Abd_Allah, Saurov Mahanta & Tapan Kumar Mohanta. (2021). Development of graphene oxide nanosheets as potential biomaterials in cancer therapeutics: an in-vitro study against breast cancer cell line. Journal of Inorganic and Organometallic Polymers and Materials, 31

22. 2021 Tapan Kumar Mohanta*, Mishra AK, Khan A, Hashem A, Abd_Allah EF, Harrasi A. (2021). Virtual 2-D map of the fungal proteome. Scientific Reports, 11: 6676.

23. 2020 Tapan Kumar Mohanta, YK Mohanta. (2020). Corona virus (Covid19) genome: Genomic and biochemical analysis revealed its possible synthetic origin. Journal of Applied Biotechnology and Bioengineering, 7(5): 200-213

24. 2020 Tapan Kumar Mohanta*, Pietro Ariana, Nanaocha Sharma, Paola Defilippi. Role of Azithromycin in Antiviral Treatment: Enhancement of Interferon-Dependent Antiviral Pathways and Mitigation of Inflammation May Rely on Inhibition of the MAPK Cascade? Am. J. Trans Res, 12(12): 7702-7708.

25. 2020 Tapan Kumar Mohanta*, Nanaocha Sharma, Pietro Ariana, Paola Defilippi. Molecular insight on MAPK cascade in viral infection: a potential cross-talk with HCQ and HCQs analogues. Biomed Research International, Vol. 2020: 8827752.

26. 2020 Tapan Kumar Mohanta*, Mishra AK, Hashem A, Abd_Allah EF, Khan AL, Harrasi A. (2020). Construction of anti-codon table of the plant kingdom and evolution of tRNA selenocysteine (tRNASec). BMC Genomics, 21: 804.

27. 2020 Pandey B, Tyagi C, Prajapati GK, Mishra AK, Hashem A, Alqarawi AA, Abd_Allah EF, Tapan Kumar Mohanta*. (2020). Analysis of mutations of defensin protein using accelerated molecular dynamics simulations. PLoS One 15(11): e0241679.

28. 2020 Tapan Kumar Mohanta*, Mohanta YK, Yadav D, Hashem A, Abd_Allah EF, Al-Harrasi A. (2020). Global trends in phytohormone research: Google trend analysis revealed African countries have higher demand for phytohormone information. Plants, 9(9): 1248.

29. 2020 Tapan Kumar Mohanta*, Mishra AK, Khan A, Hashem A, Abd_Allah EF, Al-Harrasi A. (2020). Gene loss and evolution of the plastome. Genes 11(10):1133.

30. 2020 Biswas K, Mohanta YK, Kumar VB, Hashem A, Abd_Allah EF, Mohanta DD, Tapan Kumar Mohanta*. (2020) Nutritional assessment study and role of green silver nanoparticle in self life of coconut endosperm to develop as functional food. Saudi Journal of Biological Sciences, 27(5): 1280-1288.

31. 2020 Mohanta YK, Biswas K, Jena SK, Hasheem A, Abd_Allah EF, Tapan Kumar Mohanta*. (2020). Anti-biofilm and antibacterial activities of silver nanoparticles synthesized by the reducing activities of phytoconstituents present in the medicinal plants. Frontiers in Microbiology, 11.1143.

32. 2020 Mohanta, YK; Hashem, A; Abd_Allah, EF; Jena, SK; Tapan Kumar Mohanta*. (2020). Bacterial synthesized metal and metal salt nanoparticles in biomedical applications: An up and coming approach. Applied Organometallic Chemistry, 34(9): e5810

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35. 2020 Khan AL, Asaf S, Abed RM, Chai YN, Al-Rawahi AN, Tapan Kumar Mohanta, Al-Rawahi A, Schachtman DP, Al-Harrasi A. (2020). Rhizosphere microbiome of arid land

medicinal plants and extracellular enzymes contribute to their abundance. Microorganisms, 8(2), 213.

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39. 2020 Kim H, Tapan Kumar Mohanta, Park YH, Park SC, Shanmugam G, Park JS, Jeon J, Bae H. (2020). Complete genome sequence of mountain-cultivated ginseng endophyte Burkholderia stabilis and its antimicrobial compounds against ginseng root rot disease. Biological Control,140(1): 104126.

40. 2019 Mohanta S, Singdevsachan S, Mohanta YK, Panda S, Tapan Kumar Mohanta. (2019). An overview of mycogenic nanoparticles: synthesis and their bio-prospective application. Chapter 7, page 87-97. Nanotechnology in Biology & Medicine: Research Advancements and Future perspectives (ISBN 9780367200503), CRC Press (Taylor & Francis group)

41. 2019 YK Mohanta, Tapan Kumar Mohanta, Debasis Nayak. (2019). Recent developments on nanotechnology in agriculture: challenges and prospects. Chapter 6, page: 79-86. Nanotechnology in Biology & Medicine: Research Advancements and Future perspectives (ISBN 9780367200503), CRC Press (Taylor & Francis group).

42. 2019 Tapan Kumar Mohanta*, Dhananjay Yadav. (2019). Cloning and characterization and auxin efflux carrier genes EcPIN1c and EcPIN1d from finger millet Eleusine coracana subsp. coracana. Journal of animal and plant sciences, 28(6): 232-244.

43. 2019 Pudake RN, Mittal J, Tripathi RM, Tyagi J, Mohanta TK. (2019). Biochemical responses of maize seedlings exposed to SnNPS. Micro & Nano Letters, 14(6): 645-649.

44. 2019 Amjad Ali, Tapan Kumar Mohanta*, Asaf S, Rehman N, Al-Housni S, Al-Harrasi A, Khan AL, Al-Rawahi A. Biotransformation of benzoin by Sphingomonas sp. LK11 and ameliorative effects on growth of Cucumis sativus. Archives of Microbiology, 201(5): 591-601.

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Plant Biology. 19: 39.

46. 2019 Tapan Kumar Mohanta*, Yadav D, Khan AL, Hashem A, Abd_Allah EF, Harrasi A. (2019). Molecular players of EF-hand containing calcium signaling event in plants. Int. J. Mol. Sci. 19, 1476.

47. 2019 Tapan Kumar Mohanta*, Yadav D, Khan AL, Hasheem A, Abda_Allah EF, Al-Harrasi A. (2019). Analysis of genomic tRNA reveal presence of novel genomic features in cyanobacterial tRNA. Saudi Journal of Biological Sciences, 27(1): 124-133.

48. 2019 Tapan Kumar Mohanta*, AL Khan, A Hashem, EF Abd_Allah, A Al-Harrasi (2019). Molecular mass and isoelectric point of plant proteomes. BMC Genomics, 20: 631.

49. 2018 Tapan Kumar Mohanta*. (2018). Sound wave in plant growth regulation: A review of potential biotechnological applications. Journal of animal and plant sciences, 28(1): 1-9.

50. 2018 Mohanta, YK, Biswas K, Bandyopadhyay J, Tamang A, De D, Mohanta D, Panda S, Jayabalan R, Mohanta TK*, Bastia AK. (2018). Abuliton indicum (L.) sweet leaf extracts assisted bio-inspired synthesis of electronically chanrged silver nano-particles with potential antimicrobial, antioxidant and cytotoxic properties. Material Focus 7, 94-100.

51. 2018 Yugal Kishore Mohanta, Sameer Sighdevsachan, Sujogya Panda, Sayed Asad, Hasan F, Bastia A, Tapan Kumar Mohanta*. (2018). Bio-inspired synthesis of silver nano-particles from leaf extracts of Cleistanthus collinus (Roxb.): Its potential antibacterial and anticancer activity. IET Nanobiotechnology, 12(3): 343-348.

52. 2018 Tapan Kumar Mohanta*, Tufail Bashir, Abeer Hashem, EF Abd_Allah, AL Khan, AS Al-Harrasi (2018). Molecular players of auxin transport systems: Advances in genomic and molecular events. J. Plant Interactions, 13: 483-495.

53. 2018 Tapan Kumar Mohanta*, Tufail Bashir, Abeer Hashem, Elsayed Fathi Abd_Allah, Abdul Latif Khan, Ahmed Suleiman Al-Harrasi. (2018). Early events in plant abiotic stress signaling: interplay between calcium, reactive oxygen species and phytohormones. Journal of Plant Growth Regulation, 37(4): 1033-1049.

54. 2018 YK Mohanta, D Nayak, K Biswas, SK Singhdevsachan, EF Abdallah, A Hashem, AA Alqarawi, D Yadav, Tapan Kumar Mohanta*. (2018). Silver nanoparticles synthesized using wild mushroom show potential antimicrobial activities against food borne pathogens. Molecules 23(3): 655.

55. 2018 M Mishra, AP Arukha, AK Patel, N Behera, Tapan Kumar Mohanta, D Yadav*. (2018). Multi-drug resistant coliform: water sanitary standard and health hazards. Frontiers in Pharmacology, 9: 311.

56. 2018 Tufail Bashir, R Mishra, M Hasan, Tapan Kumar Mohanta, H Bae. (2018). Effect of

hybridization on somatic mutation and genomic rearrangements in plants. Int. J. Mol. Sci. 19, 3758.

57. 2017 Pratap Parida, RN Yadav, B Dehury, D Ghosh, N Mohapatra, A Mitra, Tapan Kumar Mohanta*. (2017). Novel insight into the molecular interactions of a Panduratin A derivative with the non-structural protein (NS3) of dengue serotype: A molecular dynamic study. Current Pharmaceutical Biotechnology, 18 (9): 769-782.

58. 2017 Yugal Kishore Mohanta, Kunal Biswas, Sujogya Panda, Jaya Bandyopadhyay, Debashis De, Rasu Jayabalan, Akshaya Bastia, Tapan Kumar Mohanta*. (2017). Phyto-assisted synthesis of bio functionalize silver nanoparticles and their potential antioxidant, antimicrobial and wound healing activities. IET Nanobiotechnology, 11(8): 1027-1034.

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60. 2017 Ramesh N Pudake, Chandra Mohan Mehta, Tapan Kumar Mohanta, Suvigya Sharma, Ajit Varma, Anil K Sharma. (2017). Expression of four phosphate transporter genes from finger millet (Eleusine coracana L.) in response to mycorrhizal colonization and Pi stress. 3 Biotech, 7: 17.

61. 2017 Tapan Kumar Mohanta*, Ramesh N Pudake, Hanhong Bae. (2017). Genome-wide Identification of Major Protein Families of Cyanobacteria and Genomic Insight into the Circadian Rhythm. European Journal of Phycology, 52: 149-165.

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65. 2017 Tapan Kumar Mohanta*, Pradeep Kumar, Hanhong Bae. (2017). Genomics and evolutionary aspects of calcium signaling event in calmodulin and calmodulin-like proteins. BMC Plant Biology, 17: 38.

66. 2017 Tapan Kumar Mohanta*, Hanhong Bae. (2017). Analyses of genomic tRNA reveal presence of novel tRNAs in Oryza sativa. Frontiers Genetics, 8:90.

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72. 2016 Chandra Mohan Mehta, Kajol Srivastava, Tapan Kumar Mohanta, Anil K Sharma. (2016). Phosphate transporter based genetic diversity of Eleusine coracana. Walailak Journal of Science and Technology, 13(3): 157-164.

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Membership in Professional Bodies

2022-Present: Topic editor, Opportunities and Challenges for nanotechnology in Sustainable Agri-Food Production, Frontiers in Nanotechnology

2022-Present: Topic editor, Fungi for food and environment sustainability, Frontiers in Microbiology

2022-Present: Topic editor, Structural Variation of the Chloroplast Genome and Related Bioinformatics Tools, Frontiers in Plant Science

2022-Present: Associate Editor, Mitochondrial DNA Part B: Resources, Taylor & Francis

2022-Present: Associate Editor, Frontiers in Ecology and Evolution

2022-Present: Associate Editor, Frontiers in Molecular Biosciences

2022-Present: Editorial Board Member, Scientific Reports

2022-Present: Editorial Board Member, BMC Plant Biology

2021-Present: Named as top 2% highy cited researcher in the world as per Standford University Ranking

2021-Present: Editorial Board Member, BMC Genomic Data

2021-Present: Member, Australasian proteomics society

2021-Present: Editorial board member, BMC Research notes, Springer Nature

2020-2020: Honorary Rosalind Membership, London Journal Press (Membership ID: UK43494)

2020-Present: Topic Editor, International Journal of Molecular Sciences (IJMS), MDPI

2020-Present: Associate editor, Frontiers in Plant Science, Frontiers Media

2020-Present: Associate Editorial Board Member, Current Proteomics, Bentham Science

2018-Present: Editor, Current Protein and Peptide Science, Publisher: Bentham Science

2017-Present: Asian Council of Science editors

2010-Present: Member, American society of plant pathology

Award and Recognitions

2008 Government of Italy Doctoral Scholarship for International Students (Full tuition fee and living stipend).

2007 Italian Government fellowship, Department of Secondary and higher education, Ministry of HRD, Govt. of India (Selected through all India Competition).

2006 Ranked first, M.Sc. Biotechnology degree examination, North Orissa University, India

2003 Meritorious student award, Bachelor’s degree study, Karanjia College Karanjia, India

2003 Ranked 3rd in Botany Honours, B.Sc. degree examination, North Orissa University, India