

NAME: DR. JATINDRA NATH MOHANTY

Designation: Assistant Professor

Qualification: Ph.D

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ABOUT ME

Dr. Jatindra Nath Mohanty has a Ph.D. with a specialization in deciphering plant sex linked gene from Siksha O Anusandhan University, Odisha. He has worked in multiple Govt. India funded Projects as Research fellow. Prior to joining at CUTM, he has joined as Assistant Professor at Centre for Genomic and Biomedical informatics in CRL, SOA University. Dr. Mohanty has worked on the molecular cloning as well as characterization of trait related genes and marker development in a diverse range of plants including chilli pepper, spine gourd and ivy gourd. He has developed pair of ISSR based STS markers linked to a dominant resistant gene *Rct1* against anthracnose disease and developed sex linked (STS) marker in vegetable crop plant. He has characterized sex linked candidate genes, microRNAs, and other regulating elements linked to human disease as well. Additionally, Dr. Mohanty possesses extensive expertise in conducting Next-Generation Sequencing (NGS) and effectively applying it to enhance plant resistance against phytopathogenic fungi. Currently, his research primarily focuses on microbial genomics, involving the characterization and identification of MDR bacteria using genomic approaches. He is proficient in sequencing data analysis, transcriptome profiling, and Differential Expression Gene (DEG) analysis. As an outcome of his research, he has already published 3 patents and many articles in several journals of international repute. The cumulative SCI Impact factor of his publications is >50 and having an *h*-index of 13 and an *i10*-index of 20, with >650 citations.

AREA OF INTEREST: NGS and High-throughput sequencing, CRISPR/Cas Genome editing, Small RNA profiling, Genomics & Computational Biology

COURSES TAUGHT: Plant genomics, Genetics & Genomics, Biochemistry, plant breeding and genetics, Molecular Genomics, Techniques in Molecular Biology

TEACHING EXPERIENCE- 6 year+

RESEARCH EXPERIENCE- 8 year+

ADMINISTRATIVE/EXECUTIVE EXPERIENCE: 4 year

1. Working as coordinator of the domain genomic and genetic engineering since 2022
2. Setting up COVID 19 molecular-based detection laboratories starting from NABL accreditation to a smooth running of the testing laboratory, Centre for Genomics & Biomedical Informatics (CGBI), IMS & SUMH, SOAU

AWARDS & HONORS:

1. Science & Engineering Research Board (SERB), **Govt of India**, Travel grant for attending “5th Plant Genomics & Gene Editing Congress: Asia 2018” at Bangkok, Thailand.
2. Faculty Incentives Awards 2022, SoAS, Centurion University of Technology and management
3. Provost Research Awards 2023 (EMINENT ACHIEVER).

RESEARCH GUIDANCE:

Guided more than 20 Post graduate thesis and guiding now 2 full times and 1 part time PhD scholar as supervisor and as Co-supervisor, guiding 2 full time PhD scholars at SOA University, Bhubaneswar

RESEARCH GRANTS

1. One seed money grand entitle “Phytochemical Profiling of Black Rice (*Oryza sativa* L)Collected from Hilly Terrain of Southern Odisha and its Surveillance against MDR Bacteria” (Total Amount 2.9 Laks)

PUBLICATIONS

JOURNAL PUBLICATIONS: 65

BOOK PUBLICATIONS: 7

PARTICIPATION IN CONFERENCE & SEMINARS (AS INVITED/PLENARY/CHAIR)- 2

OTHER INFORMATIONs- 3 patent

Article publication (Selected last 5 year)

1. Mishra R, Rout E, **Mohanty JN**, Joshi RK. Sequence-tagged site-based diagnostic markers linked to a novel anthracnose resistance gene RCt1 in chili pepper (*Capsicum annuum* L.). **3 Biotech**. 2019 Jan 1;9(1):9.
2. **Mohanty JN**, Chand SK, Joshi RK. Multiple microRNAs Regulate the Floral Development and Sex Differentiation in the Dioecious Cucurbit *Coccinia grandis* (L.) Voigt. **Plant Molecular Biology Reporter**. 2019 Apr 15;37(1-2):111-28.

3. Mohanty P, Ayachit G, Sharma P, Shaikh I, **Mohanty JN**, Mankad AU, Pandya H, Das J. De novo sequencing and transcriptome analysis of Indian Bael (*Aegle marmelos* L.). **Gene Reports**. 2020 Apr 8:100671.
4. Ananya Nayak, Ayushman Gadnayak, Maheswata Sahoo, ShivarudrappaB Bhairappanava, Bidyutprava Rout, **Jatindra Nath Mohanty**, Jayashankar Das. Inferring Toll-Like Receptor induced epitope subunit vaccine candidate against SARS-CoV-2: A Reverse Vaccinology approach. **BioRxiv**. 2020 Dec 25
5. Mohanty P, Ayachit G, **Mohanty JN**, Pandya H, Mankad AU, Das J. Documentation of conserved and novel miRNAs participated in plant secondary metabolic pathways of sanctified *Aegle marmelos*. **Gene Reports**. 2020 Dec 1;21:100943.
6. Bhoyar RC, Jain A, Sehgal P, Divakar MK, Sharma D, Imran M, Jolly B, Ranjan G, Rophina M, Sharma S, Siwach S. High throughput detection and genetic epidemiology of SARS-CoV-2 using COVIDSeq next-generation sequencing. **PLoS one**. 2021 Feb 17;16(2):e0247115.
7. Rukmini Mishra, **Jatindra Nath Mohanty**, Bijayalaxmi Mahanty, Raj Kumar Joshi A single transcript CRISPR/Cas9 mediated mutagenesis of CaERF28 confers anthracnose resistance in chilli pepper (*Capsicum annuum* L.). **Planta** (2021) 254:5
8. Swain SK, Gadnayak A, **Mohanty JN**, Sarangi R, Das J. Does enterovirus 71 urge for effective vaccine control strategies? Challenges and current opinion. **Reviews in Medical Virology**. 2022 Jan 8:e2322.
9. Gatika A, Swain SK, **Mohanty JN**, Sarangi R. Comparison of diagnostic performance between serological tests (Scrub IgM-ELISA) and Scrub-PCR for scrub typhus fever in an Indian tertiary care teaching hospital. **Journal of Applied Biology & Biotechnology** Vol. 2020 Jul;8(04):65-8.
10. Swain SK, Sarangi R, **Mohanty JN***. Nasal myiasis among pediatric patients: Our experiences. **Medical Journal of Dr. DY Patil Vidyapeeth**. 2020 Jan 1;13(1):48. (**Scopus**)
11. Mohanty J, Mohanty MD, Das S. Incidence and Related Causes of Anaemia in Children: Hospital-Based diagnostic Study. **Annals of the Romanian Society for Cell Biology**. 2021 May 4:14262-7
12. Swain SK, Ghosh TK, Munjal S, **Mohanty JN**. Microscope-assisted coblation tonsillectomy among paediatric patients—our experiences at an Indian teaching hospital. **Pediatrics Polska-Polish Journal of Paediatrics**. 2019; 94(3):170-4. (**Scopus**)
13. Mohanty JN, Sahoo S, Routray SP. Obstructive Sleep Apnea and Intermittent Hypoxia Associated in the Growth of Malignancy: "A Review". **Annals of the Romanian Society for Cell Biology**. 2021 May 4:14440-62.
14. Rupali Das, Puspanjali Mishra, Jatindra Nath Mohanty, 2021. Ketosis, Type 2 Diabetes mellitus, management, nutrition. **Jour. of Med. P'ceutical & Allied. Sci.** V 10 - I 6, 1555, P- 3840- 3842

15. Prusty JB, Sahoo S, Bisoi SK, Mohanty JN*. Scrub Typhus: Clinical profile, Laboratory Findings and Outcome in Hospitalized Children, from a Tertiary Care Hospital in Eastern India. *Annals of the Romanian Society for Cell Biology*. 2021 May 4:14421-8. (Scopus)
16. Panda NR, Kumar PJ, Mohanty JN, Bhuyan R. A Review on Logistic Regression in Medical Research. *Natl J Community Med* 2022;13(4):265-270. DOI: 10.55489/njcm.134202222
17. Behera KG, Samal S, Swain J, Mohanty JN*. Aspirin Resistance in Patients with Ischemic Stroke: Study at a Tertiary Care Teaching Hospital. *Annals of the Romanian Society for Cell Biology*. 2021 May 4:14486-94
18. Ananya Anurakta Pattanaik, Puspanjali Mishra, Jatindra Nath Mohanty, 2021. Pediatrics anemia, haemoglobin, infants, iron, management. *Jour. of Med. P'ceutical & Allied. Sci.* 10 - I 6, 1552, P- 3740 - 3742.
19. Sahoo D, Mohapatra A, Panigrahi R, Baral P, Mohanty JN, Pattnaik G, Bhat M. A Surveillance of Antimicrobial Resistance Pattern and Virulence Factor in Uropathogen *Escherichia Coli*. *Annals of the Romanian Society for Cell Biology*. 2021 May 4:14334-43.
20. Ananya Anurakta Pattanaik, Puspanjali Mishra*, Jatindra Nath Mohanty, 2021. DCLD, decompensate cirrhosis, potassium, haemoglobin, prevention and treatment. *Jour. of Med. P'ceutical & Allied. Sci.* V 10 - I 6, 1553, P- 3774 - 3776.
21. Rupali Das, Puspanjali Mishra, Jatindra Nath Mohanty, 2021. Dietary management, TBSA, T2DM with HTN, Insulin. *Jour. of Med. P'ceutical & Allied. Sci.* V 10 - I 6, 1554, P- 3827 – 3830
22. Acharya NC, Sahoo S, Routray SP, Mohanty JN*. Urinary Tract Infection Profile in Pediatric Patients: A Clinicobacteriological and Radiological Analysis. *Annals of the Romanian Society for Cell Biology*. 2021 May 4:14406-10.
23. Debasmita Das, Jatindra Nath Mohanty, Tapas Ranjan Behera, Puspanjali Mishra, 2021. Diabetic kidney disease, CKD, nutrition, diet & management. *Jour. of Med. P'ceutical & Allied. Sci.* V 10 - I 6, 1558, P- 3866 - 3869.
24. E. Shantanu Kumar Patra, Shakti Bedanta Mishra, Subhra Mallisha, Jatindra Nath Mohanty. Role of Health Care Infrastructure and Expenditure on COVID19 Pandemic: Scenario from Most Affected Countries. *Natl J Community Med* 2022;13(2):120-125. DOI: 10.5455/njcm.20211223095025
25. Bhuyan R, Bhuyan SK, Mohanty JN, Panda NR, Bhuyan V, Ojha P, Priyadarshini P, Sahoo G. A Preliminary Survey on the Oral Manifestation of COVID-19 in the First and Second Waves in Bhubaneswar, City of Odisha, India. *Natl J Community Med* 2022;13(5):294-297
26. Mohanty JN, Sahoo S, Routray SP, Bhuyan R. Does the diverse source of miRNAs affect human health? An approach towards diagnosis and therapeutic management. *Gene Reports*. 2022 Jul 28:101656.

27. Swayamprabha Sahoo, **Jatindra Nath Mohanty**, Sweta Padma Routray, Rekha Khandia, Jayashankar Das, Sejal Shah, Tripti Swarnkar. Colistin the last resort drug in 21st century antibiotics to combat Multidrug resistance superbugs. *Journal of Experimental Biology and Agricultural Sciences*, December - 2023; Volume – 11(6) page 919 – 929.
28. Ruchi Bhuyan, Sanat Kumar Bhuyan, Nihar Ranjan Panda, **Jatindra Nath Mohanty***. Age and gender demographic and statistical analysis in oral squamous cell carcinoma in Eastern India. *J Ass. Med. Sci.* 2023, 56(1): 35-41.
29. Madhusmita Barik, Animesh Pattnaik, Goutam Kumar Dash, Elssa Pandit, Sushanta Kumar Dash, Mirza Jaynul Baig, **Jatindra Nath Mohanty**, Padmini Swain. Root attributes governing drought stress adaptation and the associated molecular markers in chromosome segment substitution lines in rice (*Oryza sativa L.*). *Journal of Experimental Biology and Agricultural Sciences*, December - 2023; Volume – 11(6) page 947 – 963.
30. Moumita Das, **Jatindra Nath Mohanty**, Sanat Kumar Bhuyan , Ruchi Bhuyan. Exploring the untargeted metabolites of *Moringa oleifera* Lam seed oil using two-dimensional gas chromatography with time of flight mass spectrometry for therapeutic application. *Journal of Experimental Biology and Agricultural Sciences*, December - 2023; Volume – 11(6) page 930 – 939.
31. Swayamprabha Sahoo, **Jatindra Nath Mohanty**, Sweta Padma Routray, Sejal Shah, Jayashankar Das and Tripti Swarnkar. Identification and Exploration of Transcripts Involved in Antibiotic Resistance Mechanism of Two Critical Superbugs. *Gene expression, Gene Expression* Jan 22, 2024. doi: 10.14218/GE.2023.00022.
32. Moumita Das, **Jatindra Nath Mohanty**, Sanat Kumar Bhuyan, Ruchi Bhuyan. Anti-cancer activity of *Moringa oleifera* Lams seed oil on oral cancer. *Beni-Suef Univ J Basic Appl Sci* 2024, 13 (25): 1-10.
33. Bhuyan R, Panda NR, Das A, Kundu A, Bhuyan SK, **Mohanty JN**. A cross-sectional study of nicotine intoxication among medical graduates: Recognition of tobacco utilization patterns. *J Datta Meghe Inst Med Sci Univ* 2024;19:35-9

Book Chapter

1. Satyabrata Nanda, **Jatindra Nath Mohanty**, Rukmini Mishra and Raj Kumar Joshi (2016). *Metabolic Engineering of PhenylPropanoids in Plants*, Springer International Publishing AG S. Jha (ed.), *Transgenesis and Secondary Metabolism*, Reference Series in Phytochemistry, DOI 10.1007/978-3-319-27490-4_30-1.
2. Rukmini Mishra, **Jatindra Nath Mohanty**, Deepak Kumar Verma, Raj Kumar Joshi and Prem Prakash Srivastav (2018). *Molecular Markers and Marker Assisted Selection (MAS) Towards*

- Yield and Quality Improvement in Rice. Rice Science Biotechnological and Molecular Advancements, Apple Academic Press. ISBN: 9781351136587.
3. **Jatindra Nath Mohanty***, Smrutipragnya Samal, Swayamprabha Sahoo, Poonamrani Mishra, Akankshya Sahu. Therapeutic activity of bioactive compound found in family Cucurbitaceae. Recent progress in medicinal plants, Vol 51, Antimicrobial resistance and bioactive natural products ISBN: 0-9656038-5-7.
 4. Debasmita Dubey*, Mahesh Chandra Sahu, Priya Cheruvanachari, **Jatindra Nath Mohanty**, Pradeep Kumar Naik Recent advances in medicinal plants: An alternative for treating drug resistant microorganisms. Recent progress in medicinal plantsvol51 antimicrobial resistance and bioactive natural products. ISBN: 0-9656038-5-7.
 5. Ananya Nayak , Maheswata Sahoo, Swayamprabha Sahoo, Ayushman Gadnayak, **Jatindra Nath Mohanty**, Shivani Dave, Padmaja Mohanty, Sushma Dave, and Jayashankar Das (2022). Role of bioinformatics tools in microbial prospectives and its future. Bioprospecting of Microbial Diversity. Doi.org/10.1016/B978-0-323-90958-7.00001-7.
 6. Swayamprabha Sahoo, Ananya Nayak, Ayushman Gadnayak, Maheswata Sahoo, Sushma Dave, Padmaja Mohanty, **Jatindra Nath Mohanty** and Jayashankar Das (2022). Quantum dots enabled point-of- care diagnostics: A new dimension to the nanodiagnostics. Advanced Nanomaterials for Point of Care Diagnosis and Therapy. ISBN-978-0-323-85725-3.
 7. Mahanty B, Bharat SS, **Mohanty JN**, Mishra R, Joshi RK. MicroRNA-Mediated Insect Resistance in Field Crops. Molecular Advances in Insect Resistance of Field Crops: Modern and Applied Approaches.:369.

Patents (3)

1. Joshi, Raj Kumar; Mishra, Rukmini; Mohanty, Jatindra Nath and Mahanty, Bijayalaxmi. A method for creating novel anthracnose resistant pepper plants using genome modification technique. 27 October 2021, **Patent number:** 2021105189.
2. Mishra, Rukmini; Joshi, Raj Kumar; Rout, Ellojita **Mohanty and Jatindra Nath**. Method for Molecular mapping and developing diagnostics marker for detecting anthracnose resistant in chili pepper. 14 July 2021, **Patent number:** 2021104155.
3. Joshi Raj Kumar, Mishra Rukmini, **Mohanty Jatindra Nath**, Mahanty Bijaylaxmi. A System for an Efficient Identification of Purple Blotch Resistance in Onion. 2022, **Patent number:** G11282DE.