



Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

SDG 1

**Research on Zero
Poverty**

SDG 1 REPORT 2021



THE CONTEXT

Centurion University conducts research in the area of “No Poverty” through its various schools and research centres. Faculty and students are engaged in and publish many research articles striving towards the standalone topic and others which are cross disciplinary. the University's production units, industry sponsored action learning laboratories and community engagement provide an excellent basis for research in this area.

In the year 2020, there were 15 research papers published in journals of national and international repute which increased to 45 and 31 in the year 2021 and 2022. The following section serves as a link to last three-year research endeavour in SDG 1.

Jaggannath Padhi

Director,
Centurion University



Research Articles

1. Yield stability under different agronomic situations in linseed (*Linum usitatissimum* L.)
2. Bioinoculants—Natural Biological Resources for Sustainable Plant Production
3. Role of molecular markers in improving abiotic stress tolerance in agricultural crops
4. Marker-Free Rice (*Oryza sativa* L. cv. IR 64) Overexpressing PDH45 Gene Confers Salinity Tolerance by Maintaining Photosynthesis and Antioxidant Machinery.
5. Advancement and Applications of Platelet inspired Nanoparticles: a Paradigm for Cancer Targetting
6. Tyrosine hydroxylase invloves in cuticle tanning and reproduction in the 28-spotted potato ladybeetle, *Henosepilachna vigintioctopunctata*
7. Tyrosine hydroxylase invloves in cuticle tanning and reproduction in the 28-spotted potato ladybeetle, *Henosepilachna vigintioctopunctata*
8. Adsorptive Sequestration of Toxic Congo Red Dye from Aqueous Solution Using Fe O /Sugarcane Bagasse Biochar Nanocomposite
9. Influence of weather factors on severity of yellow leaf disease of sugarcane
10. Control efficiency and mechanism of spinetoram seed-pelleting against the striped flea beetle *Phyllotreta striolata*
11. A review on selected pharmacological activities of *Curcuma longa* L.
12. Investigation on Thermokinetic Study and Optimization of Sugarcane Bagasse Thermal Pyrolysis
13. Need of booster vaccine doses to counteract the emergence of SARS-CoV-2 variants in the context of the Omicron variant and increasing COVID-19 cases: an update
14. Dependence of Cu Doping on Morphology, Magnetic Properties and Cytotoxicity Activity of ZnO Nanostructures
15. Diagnosis of Human Leptospirosis: Comparison of Microscopic Agglutination Test with Recombinant LigA/B Antigen-Based In-House IgM Dot ELISA Dipstick Test and Latex Agglutination Test Using Bayesian Latent Class Model and MAT as Gold Standard
16. Simulation estimation of levodopa and carbidopa in mice plasma by LC-MS/MS
17. Integrated Nutrient Management Improves the Growth and Yield of Rice and Greengram in a Rice—Greengram Cropping System under the Coastal Plain Agro-Climatic Condition
18. Weed Management and Crop Establishment Methods in Rice (*Oryza sativa* L.) Influence the Soil Microbial and Enzymatic Activity in Sub-Tropical Environment
19. Identification of bioactive molecules from Triphala (Ayurvedic herbal formulation) as potential inhibitors of SARS-CoV-2 main protease (Mpro) through computational investigations
20. Molecular mechanisms, genetic mapping, and genome editing for insect pest resistance in field crops
21. Study on the electronic band structure of ZnO–SnO₂ heterostructured nanocomposites with mechanistic investigation on the enhanced photoluminescence and photocatalytic properties
22. Genome Wide Analysis of the Potato Soft Rot Pathogen *Pectobacterium carotovorum* Strain ICMP 5702 to Predict Novel Insights into Its Genetic Features
23. Molecular characterization of Zn(II)2Cys₆ cluster gene family and their association with pathogenicity of the onion basal rot pathogen, *Fusarium oxysporum* f. sp. *cepae*

24. Targeting Microbial Bio-film: an Update on MDR Gram-Negative Bio-film Producers Causing Catheter-Associated Urinary Tract Infections
25. Fuelwood species diversity and consumption pattern in the homegardens from foothills of Indian Eastern Himalayas
26. Twin combination of Omicron and Delta variants triggering a tsunami wave of ever high surges in COVID-19 cases: A challenging global threat with a special focus on the Indian subcontinent
27. Omicron (B.1.1.529) variant of SARS-CoV-2: Concerns, challenges, and recent updates
28. SARS-CoV-2 and its variants of concern including Omicron: A never ending pandemic
29. Synthesis, Characterization and In Vitro Cytotoxic Effects of Cu: Co₃O₄ Nanoparticles Via Microwave Combustion Method
30. Folklore use of Wild fruits by the Oraon tribe of Sarguja district of Chhattisgarh, India
31. Linkage disequilibrium mapping: a journey from traditional breeding to molecular breeding in crop plants
32. DNA barcoding of insects from India: Current status and future perspectives
33. Study on the Effects of Kandhamal Haladi in Benzo [a]Pyrene-Induced Behavioral Changes in Adult Zebrafish (*Danio rerio*)
34. Habitat heterogeneity influences avian feeding guild composition in urban landscapes: evidence from Bhubaneswar, India
35. Salicylic acid modulates ACS, NHX1, sos1 and HKT1;2 expression to regulate ethylene overproduction and Na⁺ ions toxicity that leads to improved physiological status and enhanced salinity stress tolerance in tomato plants cv. Pusa Ruby,
36. Effect of Organic Manure on Growth and Development of Amur Carp
37. Enteric dissolution enhancement of engineered gastro resistant omeprazole tablets using hydroxypropyl methylcellulose acetate succinate
38. Effect of pH and temperature on swelling behaviour of tamarind gum
39. An Overview on Ethnopharmacology Of different medicinal plants of Odisha in the management of Diabetes Mellitus
40. Functional relationship of vegetable colors and bioactive compounds: implications in human health
41. The promising role of oleanolic acid in the management of diabetes mellitus: A review
42. Effect of Nanoparticle Electrification on the Heat and Mass Transfer of Nanofluid Flow over an Inclined Flat Plate with Active Boundary Conditions
43. Turbulent Flow Simulation over Two- Dimensional Simplified Car in Dusty Fluid Medium
44. Measurement of Effect of Volatility in Crude Oil Prices on Share Prices of Major Petroleum Companies in the Indian Stock Market
45. Prioritized Energy Efficient Task Scheduling Algorithm in Cloud Computing Using Whale Optimization Algorithm
46. Multi Objective Task Scheduling in Cloud Computing using Cat Swarm Optimization algorithm
47. Yield and quality response of turmeric (*Curcuma longa*) under drip irrigation and plastic mulch
48. Assessing Capability of Chemical Ameliorants to Reduce the Bioavailability of Heavy Metals in Bulk Fly Ash Contaminated Soil
49. Adapted Facial Recognition And Spoofing Detection For Management Decision Making System: A Visually Impaired People Perspective
50. Influence of Demographic Factors on the Mobile Banking Technology Adoption by Customers: A Case of Few Nationalized Banks of Odisha

51. Impact of phosphorus and sulphur on the growth and productivity of green gram (*Vigna radiata*)
52. Advances and trends on the utilization of multi-parent advanced generation intercross (MAGIC) for crop improvement
53. Genome-Wide Identification of the Gata Transcription Factor Family in *Dichanthelium Oligosanthes*
54. Morphological and biochemical responses of *Macrotyloma uniflorum* (Lam.) Verdc. to allelopathic effects of *Mikania micrantha* Kunth extracts *Spathodea campanulata* P. Beauv. —A review of its ethnomedicinal, phytochemical, and pharmacological profile
55. Productivity and Nutrient Balance of an Intensive Rice-Rice Cropping System Are Influenced by Different Nutrient Management in the Red and Lateritic Belt of West Bengal, India
56. Crop Establishment Methods and Integrated Nutrient Management Improve: Part II. Nutrient Uptake and Use Efficiency and Soil Health in Rice (*Oryza sativa* L.) Field in the Lower Indo-Gangetic Plain, India
57. Herbicide in Weed Management of Wheat (*Triticum aestivum* L.) and Rainy Season Rice (*Oryza sativa* L.) under Conservation Agricultural System
58. A single transcript CRISPR/Cas9 mediated mutagenesis of CaERF28 confers anthracnose resistance in chilli pepper (*Capsicum annum* L.)
59. Quality Assessment of Groundwater in the Western Parts of Chhattisgarh (Rajnandgaon District), India
60. Earth Observation Technique-Based Coastal Vulnerability Assessment of Northern Odisha, East Coast of India
61. Effect of Sr²⁺ Ion-Substituted Nickel Ferrite Nanoparticles Prepared by a Simple Microwave Combustion Method
62. Relation of change in geometrical parameters in the thermal performance of solar chimney
63. Characterization of Pure Rutile Titania Nanoparticle Prepared by Feasible Method for Coatings and Visible Light-Driven Dye Removal Application
64. Magnetic property applications of microwave method prepared zinc ion modified CoAl₂O₄ nanoparticles
65. Study of physical and magnetic properties of Mg: Co₃O₄ spinels using L-Arginine as fuel
66. Reinforce Modified Equilibrium Optimization Technique based MS-PID Frequency Regulator for a Hybrid Power System with Renewable Energy Sources, Soft Computing, Springer,
67. Harmonic Profile Enhancement of Grid Connected Fuel Cell through Cascaded H-Bridge Multi-Level Inverter and Improved Squirrel Search Optimization Technique. Energies
68. WRAPPER-Based Metaheuristic Optimization Algorithms for Android Malware Detection: A Correlative Analysis of Firefly, BAT & WHALE Optimization
69. In silico studies on phytochemicals to combat the emerging COVID-19 infection
70. Repurposing benzimidazole and benzothiazole derivatives as potential inhibitors of SARS-CoV-2: DFT, QSAR, molecular docking, molecular dynamics simulation, and in-silico pharmacokinetic and toxicity studies
71. Transition Metal-Catalyzed Carboamination of Alkenes and Allenes: Recent Progress
72. Rice husk and Rice straw based materials for toxic metals and dyes removal: a comprehensive and critical review

73. Performance analysis of Variable Compression Ratio Engine using Argemone Mexicana Biodiesel
74. A Deep Learning Method to Forecast COVID-19 Outbreak
75. GIS based saltwater vulnerability mapping of the northern coast of Odisha, East coast of India
76. Long-Run Market Performance of Acquiring Companies Using Bhar Approach: Evidence from India
77. A Model for Disease Control and Combat Mapping using Geospatial Technology –A Case Study for Selected Tribal Blocks of Gajapati District, Odisha
78. Lean Labour in AEC Industry: From Theory to Implementation
79. Confronting and Coping with Resilient Environment by Fishermen community of Penthakata, Puri during Fani
80. Isolation, Identification and role of novel endosymbiotic bacterium Rhizobium pusence in root nodule of green gram cv. OUM-11-15 (Vignaradiata L) under salinity stress
81. Improving software reliability using fault estimation techniques & software metrics
82. Fly Ash Amendment for Sustainable Agriculture through Vermicomposting
83. Cross-genera amplification of Cajanus spp. specific SSR markers in Clitoria ternatea (L.) and their application in genetic diversity studies
84. Impact of mining activities on odonates diversity in adjacent villages of Balaram open cast project, Talcher, Angul, Odisha, India
85. Habitat Use of Urban and Periurban Birds in a densely populated City of Eastern India
86. Relationship among physico-chemical parameters of soil and water in different wetland ecosystem
87. Acute Toxicity Assessment and Behavioral Responses Induced by Kandhamal haladi in Adult Zebrafish (Danio rerio)
88. Vitamin-C Treated Haematology Assessment of Swiss Albino Mice (Mus musculus)
89. Quantitation of Total Protein Content in Some Common Edible Food Sources by Lowry Protein Assay
90. Formation of Arabidopsis Poly(A)-Specific Ribonuclease Associated Processing Bodies in Response to Pathogenic Infection
91. Expression of plant alpha-amylase inhibitor gene(s) revealing bruchid resistance in legume crops

