



Centurion
UNIVERSITY

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

SDG 2

**Research on Zero
Hunger**

SDG 2

REPORT 2021



THE CONTEXT

Centurion University conducts research in the area of “Zero Hunger” 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 12 research papers published in journals of national and international repute which increased to 25 in the year 2021. There were 18 published papers in the year 2022 excluding the papers under review and in-process. The following section serves as a link to last three-year research endeavour in SDG 2.

Jaggannath Padhi

Director,
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Research Articles

1. Conventional treatments and non-PEGylated liposome encapsulated doxorubicin for visceral leishmaniasis: A scoping review
2. Recent re-emergence of Marburg virus disease in an African country Ghana after Guinea amid the ongoing COVID-19 pandemic: another global threat? Current knowledge and strategies to tackle this highly deadly disease having feasible pandemic potential – Correspondence
3. DNA barcoding of insects from India: Current status and future perspectives
4. GC-MS analysis of methanolic extract of *Urochloa distachya* (L.) T. Q. Nguyen, leave
5. Experimentally investigating the influence of static mixers on the performance of a solar water heater
6. Effect of grade and heating rate on the thermal degradation behaviour, kinetics and thermodynamics of pyrolysis of low rank coal
7. Development of a Three-Source Remote Sensing Model for Estimation of Urban Evapotranspiration
8. Assessing the impact of urbanization on urban evapotranspiration and its components using a novel four-source energy balance model
9. A Hybrid Deep Learning Framework with Physical Process Description for Simulation of Evapotranspiration
10. 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
11. Prediction of the Effect of Nutrients on Plant Parameters of Rice by Artificial Neural Network
12. Weed Management and Crop Establishment Methods in Rice (*Oryza sativa* L.) Influence the Soil Microbial and Enzymatic Activity in Sub-Tropical Environment
13. Identification of bioactive molecules from Triphala (Ayurvedic herbal formulation) as potential inhibitors of SARS-CoV-2 main protease (Mpro) through computational investigations
14. Cerebroprotective effect of Aloe Emodin: In silico and in vivo studies
15. Molecular mechanisms, genetic mapping, and genome editing for insect pest resistance in field crops
16. A Survey on the Ethnomedicinal plants and Antimicrobial activity of *Tridax procumbens* L.
17. Traditional plants utilized for the viral disease treatment
18. Global-scale application of the RUSLE model: A Comprehensive Review
19. Food-Drug Interactions: Updates and Prospective
20. Design innovation and industrial utilization of bamboo: a prospective base of income for rural livelihoods
21. *Periplaneta americana* L. a potential source of traditional medicine: chemometric analysis, in vitro and in silico study
22. Design innovation and industrial utilization of bamboo: a prospective base of income for rural livelihoods
23. *Periplaneta americana* L. a potential source of traditional medicine: chemometric analysis, in vitro and in silico study
24. Identifying Most Promising Agronomic Adaptation Strategies to Close Rainfed Rice Yield Gap in Future - A Model-based Assessment

25. Impact and Contribution of Forest in Mitigating Global Climate Change
26. An Overview of Ethnopharmacology, phytochemical and Pharmacology of *Eleusine indica*
27. Phytic acid: Blessing in disguise, a prime compound required for both plant and human nutrition
28. A Comprehensive Review on Promising Phytopharmacological Applications of Chamomile Flower
29. Green synthesized ZnO nanoparticles for sustainable production and nutritional biofortification of greengram
30. Role of biotechnology in vegetable breeding
31. Impact of Rural Activities on Biodiversity and Ecosystem Services
32. Molecular basis of insect resistance in plants: current updates and future prospects
33. Auxin and Cytokinin Interplay during Leaf Morphogenesis and Phyllotaxy
34. Modeling of an Electric Vehicle's Powertrain with a 1KW BLDC Motor and STM Controller
35. Natural Preservative Efficacy of Cured Betel Leaf Essential Oil in Sapota Juice: Effect on Physicochemical, Microbial and Sensory Properties
36. Impact of phosphorus and sulphur on the growth and productivity of green gram (*Vigna radiata*)
37. Assessing the effects of end-members determination on regional latent heat flux simulation in trapezoidal framework based model
38. Advances and trends on the utilization of multi-parent advanced generation intercross (MAGIC) for crop improvement
39. Genome-Wide Identification of the Gata Transcription Factor Family in *Dichanthelium Oligosanthes*
40. Oral RNAi toxicity assay suggests clathrin heavy chain as a promising molecular target for controlling the 28-spotted potato ladybird, *Henosepilachna vigintioctopunctata*
41. Microbe-Assisted Alleviation of Heavy Metal Toxicity in Plants: A Review
42. Morphological and biochemical responses of *Macrotyloma uniflorum* (Lam.) Verdc. to allelopathic effects of *Mikania micrantha* Kunth extracts
43. *Spathodea campanulata* P. Beauv. —A review of its ethnomedicinal, phytochemical, and pharmacological profile
44. Spatio-Temporal Limnological Analyses Resulting to Sustainable Development
45. "Effect on Production of Seed through Induced Breeding by using *Labeo rohita* and *Cyprinus carpio* in Fish Hatchery"
46. Enhancement and Segmentation of Brain Tumor from MR Image Using Modified Water Cycle Algorithm and Relevance Vector Machine Algorithm
47. Breast Cancer Detection and Classification Using a novel Fast and Robust FCM Segmentation and MWCA based LLRBFNN Machine Learning Model
48. Non-Stationary signal Frequency Identification using Frequency improved Fast S-Transform
49. Feathers of *Bulbulcus ibis* (L.) as a non-destructive biomonitoring tool for assessment of lead pollution: A case study from various severely contaminated wetland habitats
50. Exploration, Distribution and Identification of Mushroom Species in Khurda District of Odisha, India

51. Innovative Farming of Edible Micro Greens at Home and their Nutritional Composition
52. Plants used in the preparation of traditional rice-beer “Handia” by tribes of Mayurbhanj district, Odisha
53. Modeling and evaluation of Aqua Crop for maize (zea mays L.) under full and deficit irrigation: A case study in semi-arid tropics
54. Effect of Application of Different Quality Water through Pitcher Irrigation and Tillage Types on Tomato Production and Soil Properties of Coastal Saline Soil of West Bengal
55. 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

