Centurion University

Shaping Lives...
Empowering Communities...

SDG 11 | Research on Sustainable Cities and Communities

SDG 11 REPORT 2021

THE CONTEXT

Centurion University conducts research in the area of “Sustainable Cities and Communities” 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 60 research papers published in journals of national and international repute. The year 2020 and 2021 witnessed 27 and 14 research papers respectively. The following section serves as a link to last three-year research endeavour in SDG 11.

Jaggannath Padhi

Director,

Centurion University

Research Articles

1. Experimental Investigation of EDM Process Parameters by Using Pongamia Pinnata Osil blends as Dielectric Medium
2. Effect of crusher dust on geotechnical properties and strength parameters of highly plastic clay
3. Suitability of urban intersection design
4. Corridor wide Traffic Signal Optimization-A Case Study
5. Pedestrian safety in mixed traffic condition A case study
6. Mechanical Properties of Green High- Performance Concrete Using Fly Ash and Alccofine
7. From Squatter Slums to Modelled Dwellings in Anthropocene: Bhubaneswar, India
8. Geopolymer Concrete: An Emerging Green Material for Modern Construction
9. Bluetooth Control A.C. Load
10. Authorised Car Parking System Using RFID
11. Classroom Attendance System with IoT Notification
12. RBC Classification in Blood Smear Image using Neural Network
13. Implementation of Hand Gesture System for Speech Impaired People
14. IOT Based Smart Garbage System for Efficient Waste Management
15. Information Retrieval on Annals of Photovoltaic Cell
16. Fragmented GGBS Replacement of Cement in Concrete for Utilization of Industrial waste
17. Design Techniques of EAA (Elliptical Antenna Array) using Evolutionary Algorithm
18. Local content deliver in terrestrial digital TV SFN Environment Using Three-layer LDM
19. FPGA design for implementation of the 2 D discrete cosine transformation for image processing
20. Generation of Spreading Codes with Minimum Correlation using Sorting Genetic Algorithm-II
21. Situational Awareness Enhancement in Transmission Lines using NI Based PMU
22. Different Fractal Antenna Structure Analysis using ANN
23. Channel Estimation Techniques for OFDM and GFDM: A Review
24. Design, Analysis and Controller design of ZETA Converter
25. Trends in IoT Antenna Design-A Brief Review
26. Techniques of optimizing circular array using novel evolutionary computing tools
27. Element Failure Correction Techniques of Linear Array Antenna- A Short Review
28. Transmission Line Fault Analysis Using Synchronized Phasor Measurements
29. Cattle Activity and Health Monitoring System Using Accelerometer Sensor
30. Bioconversion of Lignocellulosic Materials into Ethanol
31. Satellite-Based Characterization of Phytoplankton Blooms in Coastal Waters of the Northwestern Bay of Bengal.
32. Noise pollution effect on composition of avian structure in different urban gradients

33. Novel method for chromatographic determination of Ulipristal Acetate in pure form and formulation by using RP-HPLC.
34. Emerging novel sub-lineage BA.2.75: The next dominant omicron variant?
35. Understanding the impact of Gd3þ substitutions on the enhancement of dielectric and electrical behaviour of lead-free Ba0.85Ca0.15Zr0.1Ti0.9O3 ceramics
36. Measuring the Impact of Social Media Advertising on Buying Behavior of Millennials, An Empirical Study in Sambalpur and Paralakhemundi District.
37. Deep Learning Based Business Application Model for Stock Forecasting
38. Electromagnetic Radiation in Sintered Metal during Plastic Deformation under Unregulated Quasi-static Stress
39. Impact analysis of odisha electricity sector before & after reforms
40. Factors Influencing Job Stress in Sales-force: An Exploratory Study
41. Enhancing the Skills of Short-Presentations through Self-Evaluation.
42. Development of a Sophisticated Prototype Detection System for Fission Measurement
43. An unified control of grid interactive of board EV battery charger with improved Power Quality
44. Genetic programming approach to predict the performance characteristics of WEDM taper cutting process
45. Genome Editing Strategies towards Enhancement of Rice Disease Resistance
46. Genome wide identification and expression analysis of pepper C2H2 zinc finger transcription factors in response to anthracnose pathogen Colletotrichum truncatum
47. Next generation sequencing technologies towards exploration of medicinal plants
48. Medicinal uses of few edible tuber crops by “Dongria Kandha” tribes of Kandhamal district of Odisha, India
49. Effect of rare earth orthoferrite GdFeO3 on the band gap modulation and magnetic switching in Bi0.5Na0.5TiO3 ceramics
50. Potential natural polymer-based nanofibres for the development of facemasks in countering viral outbreak
51. Fire behavior of 3D printed polymeric composites
52. Exhibition of Novel Photocatalytic Activity and Photoluminescence Properties with High Inhibition Towards Bacterial Growth byHydrothermally Grown ZnO Nanorods
53. Electrospun magnetic polyacrylonitrile-GO hybrid nanofibers for removing Cr(VI) from water
54. Assessment of EnergyBudgeting and Its Indicator forSustainable Nutrient and WeedManagement in a Rice-Maize-GreenGram Cropping System.
55. Nutritional evaluation of protein isolate from neem seed cake in Labeo rohita (Hamilton, 1822) fingerlings concomitant with oil extraction processing industry
56. Consequences and Mitigation Strategies of Abiotic Stresses in Wheat (Triticum aestivum L.) under the Changing Climate

57. Selenium Biofortification: Roles, Mechanisms, Responses and Pro-spects
58. Zeolites Enhance Soil Health, Crop Productivity and Envi-ronmental Safety
59. Frequency control in hybrid distributed power systems via type-2 fuzzy PID controller
60. A Novel Sine Augmented Scaled Sine Cosine Algorithm for Frequency Control Issues of a Hybrid Distributed Two-Area Power System
61. Frequency control in hybrid distributed power systems via type-2 fuzzy PID controller
62. A Novel Sine Augmented Scaled Sine Cosine Algorithm for Frequency Control Issues of a Hybrid Distributed Two-Area Power System
63. Unveiling the Urease Like Intrinsic Catalytic Activities of Two Dinuclear Nickel Complexes towards in-situ Syntheses of Aminocyanopyridines
64. Functional Role of miRNAs: Key Players in Soybean Improvement
65. The Productivity and Nutrient Use Efficiency of Rice–Rice–Black Gram Cropping Sequence Are Influenced by Location Specific Nutrient Management
66. Enhanced dielectric & electrical properties and percolation behavior of PVDF-BiFeO3-Carbon Black (CB) Tri-Phase Composite film
67. Preparation and properties of Benzoxazine (BA) based BiFeO3-Poly (vinylidene fluoride) (PVDF) Composites: Enhanced Dielectric Constant and Suppressed Loss
68. Intercropping–A Low Input Agricultural Strategy for Food and Environmental Security
69. Verification of corrosion inhibition of Mild steel by some 4-Aminoantipyrine-based Schiff bases – Impact of adsorbate substituent and cross-conjugation
70. Alleviating Cr (VI) stress in horse gram (Macrotyloma uniflorum Var. Madhu) by native Cr-tolerant nodule endophytes isolated from contaminated site of Sukinda
71. Tuning surface wettability of molybdenum oxide nanorod mesh by low energy ion beam irradiation
72. Vibrational and electronic properties of (5, 0) zigzag and (5, 5) armchair carbon and SiC nanotubes using density functional theory
73. Structural and Electrical Properties of Magnesium-Doped CoFe 2 O 4
74. Synthesis and Transport Properties of Cobalt Ferrite: A Systematic Overview
75. A Comprehensive Review on Epigenetic Mechanisms and Application of Epigenetic Modifications for Crop Improvement
76. Real-time Identification of Fuzzy-PID controlled Maglev System using TLBO based Functional Link Artificial Neural Network
77. Study of the threshold anomaly effect in the reaction 7Li+208Pb at energies around the Coulomb barrier
78. A Series Connected Photovoltaic Distributed Generator for Voltage Quality Improvement With a Non-linear Load

79. HDPE based polymeric nanodiamond nanocomposite for total knee arthoplasty: A finite element based approach
80. An EOQ Model for Items having Fuzzy Amelioration and Deterioration
81. Investigating the impact of calibration timescales on streamflow simulation, parameter sensitivity and model performance for Indian catchments
82. A Modified Local Input Signal for SSSC-Based Damping Controller Design
83. An Improved Parasitism Predation Algorithm for Frequency Regulation of a Virtual Inertia Control Based AC Microgrid
84. A Modified Local Input Signal for SSSC-Based Damping Controller Design
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86. A Modified Local Input Signal for SSSC-Based Damping Controller Design
87. Response of coastal phytoplankton pigment composition to tropical cyclone Fani
88. Cardaic signal acquisition and processing on Android smart phones
89. Back to the wild: mining maize (Zea mays L.) disease resistance using advanced breeding tools
90. Corrosion Behaviour of Abradable Aluminum Based Coating
91. Characterization of Pure Rutile Titania Nanoparticle Prepared by Feasible Method for Coatings and Visible Light-Driven Dye Removal Application
92. Magnetic property applications of microwave method prepared zinc ion modified CoAl2O4 nanoparticles
93. Study of physical and magnetic properties of Mg: Co3O4 spinels using L-Arginine as fuel
94. Reinforce Modified Equilibrium Optimization Technique based MS-PID Frequency Regulator for a Hybrid Power System with Renewable Energy Sources, Soft Computing, Springer,
95. Harmonic Profile Enhancement of Grid Connected Fuel Cell through Cascaded H-Bridge Multi-Level Inverter and Improved Squirrel Search Optimization Technique. Energies
96. WRAPPER-Based Metaheuristic Optimization Algorithms for Android Malware Detection: A Correlative Analysis of Firefly, BAT & WHALE Optimization
97. Lithium-Ion Battery and Battery Management System for an Electric Vehicle
98. Renewable Energy Sources,Technologies and Protection Challenges in Indian Context:A Comprehensive Review
99. Quality Assessment Of Groundwater in the Western Parts Of Chhattisgarh (Rajnandgaon District), India
100. Earth Observation Technique-Based Coastal Vulnerability Assessment of Northern Odisha, East Coast of India
101. Effect of Sr 2+ Ion–Substituted Nickel Ferrite Nanoparticles Prepared by a Simple Microwave Combustion Method