International Journal of Engineering and Advanced Technology

ISSN: 2249 - 8958

Website: www.ijeat.org

Published by:

Blue Eyes Intelligence Engineering and Sciences Publication





International Journal of Engineering and Advanced Technology(TM)

Exploring Innovation | ISSN: 2249-8958 (Online) | Reg. No.: C/819981 | Published By BEIESP | B Impact Factor 5.97 | Scopus Journal



HOME AIMS AND SCOPE INSTRUCTIONS FOR AUTHORS EDITORIAL BOARD ARCHIVE SPECIAL ISSUE CONFERENCES DOWNLOAD ETHICS & POLICIES FAQ: CONTACT

Editorial Board

Home
Aims and Scope
Indexing
Call for Papers (Regular Issue)
Instructions for Authors
Editorial Board
Board of Referees (BoR)
Archive
Special Issue
Conferences
Download
Ethics & Policies
ublication Ethics and Publication
Malpractice Statement
Article Withdrawal Policy
Plagiarism Policy
Peer Review Policy
Copyright, Grants and Ownership
Declaration
Open Access Overview
Open Access License
Get Membership
FAQ
Feedback



Dr. Shiv Kumar (Editor In Chief)



Dr. Hitesh Kumar (Associate Editor-in-Chief)



Dr. Anil Singh Yadav (Associate Editor-In-Chief)



Dr. Gamal Abd El-Nasser Ahmed Mohamed Said (Associate Editor-in-Chief)

L 2019 L 2018 L 2017 L 2016 L 2015 L 2014 L 2013 L 2012 L 2011 L 2010

Editor-In-Chief

Dr. Shiv Kumar

Ph.D. (CSE), M.Tech. (IT, Honors), B.Tech. (IT), Senior Member of IEEE, Member of the Elsevier Advisory Panel Additional Director, Technocrats Institute of Technology and Science, Bhopal (MP), India

Associate Editor-In-Chief Chair

Dr. Hitesh Kumar

Ph.D.(ME), M.E.(ME), B.E. (ME)

Professor and Head, Department of Mechanical Engineering, Technocrats Institute of Technology, Bhopal (MP), India

Dr. Anil Singh Yadav

Ph.D(ME), ME(ME), BE(ME)

Professor, Department of Mechanical Engineering, LNCT Group of Colleges, Bhopal (M.P.), India

Dr. Gamal Abd El-Nasser Ahmed Mohamed Said

Ph.D(CSE), MS(CSE), BSc(EE)

Department of Computer and Information Technology, Port Training Institute, Arab Academy for Science, Technology and Maritime Transport, Egypt

Members of Associate Editor-In-Chief Chair

Dr. Hai Shanker Hota

Ph.D. (CSE), MCA, MSc (Mathematics)

Professor & Head, Department of CS, Bilaspur University, Bilaspur (C.G.), India

Dr. Mayank Singh

PDF (Purs), Ph.D(CSE), ME(Software Engineering), BE(CSE), SMACM, MIEEE, LMCSI, SMIACSIT

Department of Electrical, Electronic and Computer Engineering, School of Engineering, Howard College, University of KwaZulu-Natal, Durban, South Africa.

Scientific Editors

Prof. (Dr.) Hamid Saremi

Vice Chancellor of Islamic Azad University of Iran, Quchan Branch, Quchan-Iran

Dr. Moinuddin Sarker

Vice President of Research & Development, Head of Science Team, Natural State Research, Inc., 37 Brown House Road (2nd Floor) Stamford, USA.

Prof. (Dr.) Nishakant Ojha

Principal Advisor (Information & Technology) His Excellency Ambassador Republic of Sudan& Head of Mission in New Delhi,

Dr. Shanmugha Priya. Pon

Principal, Department of Commerce and Management, St. Joseph College of Management and Finance, Makambako, Tanzania, East Africa, Tanzania

Dr. Veronica Mc Gowan

Associate Professor, Department of Computer and Business Information Systems, Delaware Valley College, Doylestown, PA, Allman, China.

Dr. Fadiya Samson Oluwaseun

Assistant Professor, Girne American University, as a Lecturer & International Admission Officer (African Region) Girne, Northern Cyprus, Turkey.

Dr. Robert Brian Smith

International Development Assistance Consultant, Department of AEC Consultants Pty Ltd, AEC Consultants Pty Ltd, Macquarie Centre, North Ryde, New South Wales, Australia

Dr. Durgesh Mishra

Professor (CSE) and Director, Microsoft Innovation Centre, Sri Aurobindo Institute of Technology, Indore, Madhya Pradesh India

Prof. MPS Chawla

Member of IEEE, Professor-Incharge (head)-Library, Associate Professor in Electrical Engineering, G.S. Institute of Technology & Science Indore, Madhya Pradesh, India, Chairman, IEEE MP Sub-Section, India

Dr. Vinod Kumar Singh

 $Associate\ Professor\ and\ Head,\ Department\ of\ Electrical\ Engineering,\ S.R.Group\ of\ Institutions,\ Jhansi\ (U.P.),\ India and I$

Dr. Rachana Dubey

Ph.D.(CSE), MTech(CSE), B.E(CSE)

Professor, Department of Computer Science & Engineering, Lakshmi Narain College of Technology Excellence (LNCTE), Bhopal (M.P.), India

Executive Editor Chair

Dr. Deepak Garg

Professor, Department Of Computer Science And Engineering, Bennett University, Times Group, Greater Noida (UP), India

Members of Executive Editor Chair

Dr. Vahid Nourani

Professor, Faculty of Civil Engineering, University of Tabriz, Iran.

Dr. Saber Mohamed Abd-Allah

Associate Professor Denartment of Biochemistry Shanghai Institute of Biochemistry and Cell Biology Shanghai China

Dr. Xiaoguang Yue

Associate Professor, Department of Computer and Information, Southwest Forestry University, Kunming (Yunnan), China,

Dr. Labib Francis Gergis Rofaiel

Associate Professor, Department of Digital Communications and Electronics, Misr Academy for Engineering and Technology, Mansoura, Egypt.

Dr. Hugo A.F.A. Santos

ICES, Institute for Computational Engineering and Sciences, The University of Texas, Austin, USA.

Dr. Sunandan Bhunia

Associate Professor & Head, Department of Electronics & Communication Engineering, Haldia Institute of Technology, Haldia (Bengal), India.

Dr. Awatif Mohammed Ali Elsiddieg

Assistant Professor, Department of Mathematics, Faculty of Science and Humatarian Studies, Elniclain University, Khartoum Sudan, Saudi Arabia.

Technical Program Committee Chair

Dr. Mohd. Nazri Ismail

Associate Professor, Department of System and Networking, University of Kuala (UniKL), Kuala Lumpur, Malaysia.

Members of Technical Program Committee Chair

Dr. Haw Su Chens

Faculty of Information Technology, Multimedia University (MMU), Jalan Multimedia (Cyberjaya), Malaysia

Dr. Hasan, A. M Al Dabbas

Chairperson, Vice Dean Faculty of Engineering, Department of Mechanical Engineering, Philadelphia University, Amman, Jordan.

Dr. Gabil Adilov

Professor, Department of Mathematics, Akdeniz University, Konyaalti/Antalya, Turkey.

Dr.Ch.V. Raghavendran

Professor, Department of Computer Science & Engineering, Ideal College of Arts and Sciences Kakinada (Andhra Pradesh), India.

Dr. Thanhtrung Dang

Associate Professor & Vice-Dean, Department of Vehicle and Energy Engineering, HCMC University of Technology and Education, Hockiminh, Vistnam.

Dr. Wilson Udo Udofia

Associate Professor, Department of Technical Education, State College of Education, Afaha Nsit, Akwa Ibom, Nigeria.

Dr. Ch. Ravi Kumar

Dean and Professor, Department of Electronics and Communication Engineering, Prakasam Engineering College, Kandukur (Andhra Pradesh), India.

Dr. Sanjay Pande MB

FIE Dip. CSE., B.E, CSE., M.Tech.(BMI), Ph.D., MBA (HR)

Professor, Department of Computer Science and Engineering, G M Institute of Technology, Visvesvaraya Technological University Belganm (Karnataka), India

Dr. Hany Elazab

Assistant Professor and Program Director, Faculty of Engineering, Department of Chemical Engineering, British University, Egypt.

Dr. M. Varatha Vijayan

Principal, Department of Mechanical Engineering, Mother Terasa College of Engineering and Technology, Pudukkottai (Tamil Nadu) India.

Dr. S. Balamurugan

Director, Research and Development, Intelligent Research Consultancy Services (IRCS), Coimbatore (Tamii Nadu), India.

Dr. Rajalakshmi Rahul

FIE Dip. CSE., B.E., CSE., M.Tech.(BMI), Ph.D., MBA (HR)

Founder and CEO Talaash Research Consultants, Chennai (Tamil Nadu), India.

Editorial Chair

Dr. Arun Murlidhar Ingle

Director, Padmashree Dr. Vithalrao Vikhe Patil Foundation's Institute of Business Management and Rural Development, Ahmednagar (Maharashtra) India.

Members of Editorial Chair

Dr. J. Gladson Maria Britto

Professor, Department of Computer Science & Engineering, Malla Reddy College of Engineering, Secunderabad (Telangana), India.

Dr. Wameedh Riyadh Abdul-Adheem

Academic Lecturer, Almamoon University College/Engineering of Electrical Power Techniques, Baghdad, Iraq

Dr. T. Sheela

Associate Professor, Department of Electronics and Communication Engineering, Vinayaka Mission's Kirupananda Variyar Engineering College, Periyaseeragapadi (Tamil Nadu), India

Dr. Manavalan Hakkuvan

Veteran in Engineering Industry & Academics, Influence & Educator, Tamil University, Thanjavur, India

Dr. Shivanna S.

 $Associate\ Professor,\ Department\ of\ Civil\ Engineering,\ Sir\ M. Visvesvaraya\ Institute\ of\ Technology,\ Bengaluru\ (Karnataka),\ India$

Dr. H. Ravi Kuma

 $Associate\ Professor,\ Department\ of\ Civil\ Engineering,\ Sir\ M.\ Visvesvaraya\ Institute\ of\ Technology,\ Bengaluru\ (Karnataka),\ India$

Dr. Pratik Gite

Assistant Professor, Department of Computer Science and Engineering, Institute of Engineering and Science (IES-IPS), Indore (M.P.), India

Dr. S. Murugan

Professor, Department of Computer Science and Engineering, Alagappa University, Karaikudi (Tamil Nadu), India

Dr. S. Brilly Sangeetha

Associate Professor & Principal, Department of Computer Science and Engineering, IES College of Engineering, Thrissur (Kerala), India

Dr. P. Malyadri

Professor, ICSSR Senior Fellow Centre for Economic and Social Studies (CESS) Begumpet, Hyderabad (Telangana), India

Dr K Prahh

Assistant Professor, Department of English, Kongu Arts and Science College, Coimbatore (Tamil Nadu), India

Dr. Liladhar R. Rewatkar

Assistant Professor, Department of Computer Science, Prema College of Commerce, Nagpur (Maharashtra), India

Dr. Raja Praveen.N

Assistant Professor, Department of Computer Science and Engineering, Jain University, Bengaluru (Karnataka), India

Dr. Issa Atoum

Assistant Professor, Chairman of Software Engineering, Faculty of Information Technology, The World Islamic Sciences & Education University, Ammian-Jordan

Dr. Balachander K

Assistant Professor, Department of Electrical and Electronics Engineering, Karpagam Academy of Higher Education, Pollachi (Coimbatore), India

Dr. Sudhan M.B

Associate Professor & HOD, Department of Electronics and Communication Engineering, Vins Christian College of Engineering, Anna University, (Tamilnadu), India

Dr. T. Veluman

Assistant Professor, Department of Computer Science, Kongu Arts and Science College, Erode (Tamilnadu), India

Dr. Subramanya.G.Bhagwath

Professor and Coordinator, Department of Computer Science & Engineering, Anjuman Institute of Technology & Management Bhatkal (Kamataka), India

Dr. Mohan P. Thakre

Assistant Professor, Department of Electrical Engineering, K. K. Wagh Institute of Engineering Education & Research Hirabai Haridas Vidyanagari, Amrutdham, Panchavati, Nashik (Maharashtra), India

Dr. Umar Lawal Aliva

Lecturer, Department of Management, Texila American University Guyana USA.

Dr. K. Kannan

Professor & Head, Department of IT, Adhiparasakthi College of Engineering, Kalavai, Vellore, (Tamilnadu), India

Dr. Murthy S V N

Associate Professor, Department of Computer Science & Engineering, S J C Institute of Technology, Chickballapur (Karnataka), India

Dr. Vijayalakshmi Palaniappan

Associate Professor, Department of Computer Science & Engineering, Gnanamani College of Technology, Samuthiram, Pachal, Namakkal (Tamilnadu), India

Dr. Ashok G. Matani

Professor, Department of Mechanical Engineering, Govt. College of Engineering, Amravati (M.S), India

Dr. Ankam Raghavendra Rao

Associate Professor, Department of Physics, KKR & KSR Institute of Technology and Sciences, Guntur (A.P.), India

Dr. Safiqur Rahman

Assistant Professor, Department of Geography, Guwahati College Bamunimaidam Guwahati, Kamrup (Assam), India.

Dr. Priyanka Singh

Assistant Professor, Department of Civil Engineering, Amity University, Noida (U.P.), India.

Dr. Kumar Abhishek

Assistant Professor, Department of Mechanical Engineering, Institute of Infrastructure, Technology, Research and Management (IITRAM), Ahmedabad (Gujarat), India.

Dr. Suresh Vellingiri

Professor, Department of Mechanical Engineering, Holy Mary Institute of Technology & Science, Kondapur (Telangana), India.

Dr. Mohammad Mahdi Mansour

Associate Professor, Department of High Voltage Substation Design & Development, Yazd Regional Electric Co., Yazd Province, Iran.

Dr. Varaha Narasimha Raja CH

Associate Professor, Department of Electronics and Electrical Engineering, Anil Neerukonda Institute of Technology & Sciences, Sanghivalasa, Visakhapatnam (Andhra Pradesh), India.

Dr. Khyati Chopra

Assistant Professor, Department of Electronics and Electrical Engineering, School of Engineering GD Goenka University, Gurgaon (Haryana), India

Dr. AR Pradeep Kumar

Professor and Head, Department of Mechanical Engineering, Dhanalakshmi College of Engineering, Chennai (Tamil Nadu), India.

Dr. Kaushik Pal

Youngest Scientist Faculty Fellow (Independent Researcher), (Physicist & Nano Technologist), Suite. 108 Wuhan University, Hubei, Republic of China.

Dr. H. Joseph Prabhakar Williams

Professor, Department of Electronics and Communication Engineering, Sri Indu College of Engineering and Technology, Sheriguda (V), Ibrahimpatnm (M), Hyderabad (Telangana), India.

Dr. Paul P. Mathai

Assistant Professor (Sr. Grade), Department of Computer Science & Engineering, Federal Institute of Science & Technology, Kottappady (Kerala), India.

Dr. Vejendia Lakshman Narayana

Associate Professor, Department of Computer Science & Engineering, Vignan's Nirula Institute of Technology and Science for Women, Guntur (A.P.), India.

Dr. Wan Aezwani Wan Abu Bakar

Lecturer, Faculty of Informatics & Computing, Universiti Sultan Zainal Abidin (Uni SZA), Terengganu, Malaysia.

Dr. P. Sumitra

Professor, Vivekanandha College of Arts and Sciences for Women (Autonomous), Elayampalayam, Namakkal(DT), Tiruchengode-637205, (Tamil Nadu), India.

Dr. H. R. Laska

Assistant Professor, Department of Business Administration, Assam (Central) University, Silchar, (Assam), India

Dr. Vaibhav R. Bhedi

Associate Professor, Department of MCA, VMV Commerce, JMT Arts and JJP Science College, Wardhaman Nagar, Nagpur, (M.H),

Dr. M. Ramajayam

Assistant Professor, Faculty of General & Adapted Physical Education and Yoga, Perivanaickenpalayam, Coimbatore (Tamilnadu),

India.

Dr. Vineet Shibe

Assistant Professor, Department of Mechanical Engineering, Baba Hira Singh Bhattal Institute of Engineering & Technology, Lehragaga (Punjab), India.

Dr. Sved Omar Ballari

Professor, Department of Civil Engineering, Anurag Group of Institutions An Autonomous Institution NAAC-A Grade Institute, Hyderabad, India.

Dr. Siamak Hosseinzadeh

Professor, Department of Mechanical and Aeronautical Engineering, University of Pretoria, South Africa.

Dr. Rahul Vishwanath Dandage

Assistant Professor, Department of Mechanical Engineering, Rajendra Mane College of Engineering and Technology, Ambay, Ratnagiri (Maharashtra), India

Dr. S. Devikala Rameshbabu

Principal & Professor, Department of Electronics and Electrical Engineering, Bharath College of Engineering and Technology for Women Kadapa, (Andra Pradesh), India.

Dr. V. Lakshman Narayana

Associate Professor, Department of Computer Science and Engineering, Vignan's Nirula Institute of Technology & Science for women, Guntur, (Andra Pradesh), India.

Dr. Ashok Matani

Professor, Department of Mechanical Engineering, Govt. College of Engineering, Amravati- (M.S.)- India.

Dr. K. Kannai

Professor, Department of Computer Science Engineering, Audi Sankara College of Engineering and Technology, Gudur – 524 101, Nellore (AP), India.

Dr. Vinod A. S.

Assistant Professor, Department of Commerce and Research Center, Mahatma Gandhi College Trivandrum (Kerala), India.

Dr Thulasi Bikku

Associate Professor, Department of Computer Science and Engineering, Vignan's Nirula Institute of Technology and Science for Women, Palakaluru (A.P.), India.

Dr. B. S. Krishnamoorthy

Assistant Professor, Department of Chemistry, Vivekanandha College of Arts and Sciences for Women (Autonomous) Elayampalayam, Tiruchengode, Namakal (Tamil Nadu), India.

Dr. Mangesh R.Phate

Associate Professor, Department of Mechanical Engineering, All India Shri Shivaji Memorial Society's, College of Engineering, Shivaji Nagar, Punc (M.H.), India.

Dr. Mangesh R.Phate

Associate Professor, Department of Mechanical Engineering, All India Shri Shivaji Memorial Society's, College of Engineering, Shivaji Nagar, Pune (M.H.), India

Dr. A. Ashok Kumar

Assistant Professor, Department of Computer Science, Alagappa Government Arts College, Karaikudi (Tamil Nadu), India.

Dr. Ramarao.M

Associate Professor, Department of Mechanical Engineering, Brilliant Institute of Engineering & Amp Technology Abdullapur (V), Hayathnagar, Hyderabad, India.

Dr. Mayanka Sharma

Professor and Head of Research Center, Sai Balaji International Institute of Management Sciences, Pune (Maharashtra), India.

Dr. T. Venkat Narayana Rao

Professor, Department of Computer Science and Engineering, Sreenidhi Institute of Science & Technology, Hyderabad (Telangana), India,

Dr. Vinay Dwived

Professor, Department of Biotechnology, Naraina Group of Institution, Kanpur (U.P.), India.

Dr. Priya Makhija

Associate Professor, Department of Commerce and Management, CMS-Jain University, Bangalore (Karnataka), India.

Dr. Dharmesh Kumar Srivastava

Associate Professor & Head, Department of Electronic Engineering, \$.R. Institute of Management and Technology, Lucknow (U.P.), India.

Dr. Vijay Kumaar Sinha

Professor, Department of Computer Science & Engineering, Chandigarh Engineering College, Landran, Mohali (Punjab), India.

Dr. Ganesh Babu Katam

Faculty, Department of Mechanical Engineering, National Institute of Technology, Andhra Pradesh, Tadepalligudem (A.P). India.

Dr. N. Chitradevi

Assistant Professor, Department of Management, School of Management Hindustan University, Chennai (Tamil Nadu), India.

Dr. P. Sriramakrishnan

Assistant Professor, Department of Computer Applications, Kalasalingam Academy of Research and Education (Deemed to be University), Krishnankoil, Virudhunagar, (Tamil Nadu), India

Dr. S. Ramkumar

Associate Professor, School of Computing, Department of Computer Applications, Kalasalingam Academy of Research and Education, Krishnankoil, Sirivilliputhur, (Tamil Nadu), India.

Dr. Rohit Bansal

Assistant Professor, Department of Management Studies, Vaish College of Engineering, Rohtak (Haryana), India.

Dr. Selvakumar R

Assistant Professor, Department of Electronics and Communication Engineering, Koneru Lakshmaiah Education Foundation, Vijayawada (A.P.), India.

Dr. T. Velumani

Assistant Professor, Department of Computer Science, Kongu Arts and Science College (Autonomous), Erode (Tamil Nadu), India.

Dr. Ramachandra C. G

Professor, Department of Mechanical Engineering, School of Engineering Presidency University, Itgalpur, Rajanakunte, Bengaluru(Karnataka), India.

Dr. Vishnu Narayan Mishra

Associate Professor & Head, Department of Mathematics, Indira Gandhi National Tribal University, Lalpur, Amarkantak (Madhya

Dr. B. Gopinath

Professor, Department of Electrical and Electronics Engineering, Vivekanandha College of Technology for Women, Tiruchengode, Salem (Tamil Nadu), India

Dr. Ho Soon Min.

Associate Professor, Department of Chemistry, INTI International University, Jln BBN 12/1, Bandar Baru Nilai, 71800 Negeri Sembilan, Malaysia.

Dr. K.V.L.N. Acharvulu

Associate Professor, Department of Mathematics, Bapatla Engineering College, Bapatla, Guntur (A.P.), India.

Dr. P. Uma

Faculty of Management Studies, Founder, Unique Research & Consutancy Services, Madurai (Tamil Nadu), India.

Dr. Chandan Medatwal

Assistant Professor, OB HR and Soft Skills, NIIT University, NH-8, Neemrana, Alwar (Rajasthan), India.

Dr. B. S. Sathish

Professor, Department of Electronics and Communication Engineering, Ramachandra College of Engineering, Vathuru (Andhra Pradesh), India.

Dr. Mehul Patel

Assistant Professor, Department of ACRIL, C P Patel & F H Shah Commerce College, Anand (Gujarat), India.

Dr. Yuriy Pyvovar

Professor, Head of Department, National Aviation University, Kyiv, Ukraine, Europe.

Dr. Saikat Gochhait

Sr. Assistant Professor, Department of Business Management, National Dong Hwa University, Taiwan

Dr Abhishek Das

Associate Professor and Head, Department of Computer Science Engineering, Aliah University, Kolkata, (West Bengal), India.

Dr. Umesh Sehgal

Associate Professor, Department of Computational Science, GNA University, Sri Hargobindgarh (Punjab), India.

Dr. Ayush Dogra

Senior Research, Department of Electronics and Communication Engineering, University Institute of Engineering and Technology, Panjab University (Punjab), India.

Dr. Sameer Babu M

Assistant Professor, Department of Education, University of Kerala, Trivandrum (Kerala), India.

Dr. B. Ramesl

Professor & Head, Department of Mechanical Engineering, Sri Muthukumaran Institute of Technology Chikkarayapuram Chennai (Tamil Nadu), India.

Dr. Nehru Kandasamy

Research Fellow, Department of Electrical and Computer Engineering, National University of Singapore, Singapore.

Dr. Ali Atef Masria

Assistant Professor, Department of Civil Engineering, College of Engineering, Jouf University, Kingdom of Saudi Arabia.

Dr. Sadashiv S. Mugali

Assistant Professor, Department of History, Rani Channamma University, Belagavi (Karnataka), India.

Dr. Pokkuluri Kiran Sree

Professor, Department of Computer Science and Engineering, Shri Vishnu Engineering College for Women Autonomous, Bhirnavaram (Andhra Pradesh), India.

Dr. Sreejith Vignesh B.P

Associate Professor and Head, Department of Management Studies, J.K.K. Nattraja Educational Institutions, Natarajapuram, Komarapalayam (Tamil Nadu), India.

Dr. Prathyusha Kuncha

Associate Professor and Head, Department of Electronics and Communication Engineering, Nri Institute of Technology, Pothavarappadu, Krishna, Vijayawada (A.P.), India

Dr. Mohankumar Namdeorao Bajad

Professor, Department of Civil Engineering, Sinhgad College of Engineering, Vadgaon (Budruk), Pune (Maharashtra), India.

Dr. P. Thimothy

Associate Professor & Head, Department of Mechanical Engineering, Miracle Educational Society Group of Institutions Bhogapuram, Vizianagaram (A.P.), India.

Dr. M V Bramhananda Reddy

Principal, Department of Computer Science & Engineering, Sai Rajeswari Institute of Technology, JNTUA, Anantapur (Andhra Pradesh), India.

Dr. Hao Y

Assistant Professor, Department of Mechanical Engineering, Chongqing University, China.

Dr. M.Rajmal Joshi

Associate Professor, Department of Electrical and Electronics Engineering, Panimalar Engineering College, Chennai (Tamil Nadu),

Dr. S. Hemalatha

Associate Professor, Department of Commerce, AMET University, Kanathur (Tamil Nadu), India.

Dr. Nageswara Rao Moparthi

Professor, Department of Computer Science and Engineering, K. L. University, Vaddeswaram, (Andhra Pradesh), India.

Dr. Jami Venkata Suman

Assistant Professor, Department of Electrical Communication Engineering, GMR Institute of Technology, Razam (Andhra Pradesh), India

Dr. M. Navaneetha Krishnan

Vice Principal and Head, Department of Computer Science and Engineering, St. Joseph College of Engineering, Chennai (Tamil Nadu), India.

Dr. Ajay B Gadicha

Assistant Professor, Department of Computer Science and Engineering, P. R. Pote College of Engineering and Management, Amravati (Maharashtra), India

Dr. S. Thanigaivel

Assistant Professor, Department of Biotechnology, Saveetha Institute of Medical and Technical Sciences (Saveetha University) Kuthambakkam (Tamil Nadu), India.

Dr. P. Rahul Reddy

Associate Professor, Department of Electronics and Communication Engineering, Geethaniali Institute of Science and Technology Gangavaram, Nellore (Andhra Pradesh), India,

Associate Professor and Head, Department of Electrical Engineering, Sharad Institute of Technology, College of Engineering, Yadrav (Maharashtra), India.

Dr. Satish Geeri

Associate Professor, Department of Mechanical Engineering, Pragati Engineering College, Surampalem (Andhra Pradesh), India.

Dr. Aqueel Ahmed A. Jalil

Principal, Department of Mechanical Engineering, Radhai Mahavidyalaya, Aurangabad (Maharashtra), India.

Dr. K. Sathiyasekar

Professor, Department of Electronics & Electrical Engineering, Prathyusha Engineering College, Chennai (Tamil Nadu), India

Dr. A Kishore Reddy

Associate Professor, Department of Electronics and Communication Engineering, Geetanjali Institute of Science and Technology, Gangavaram, Nellore (Tamil Nadu), India.

Professor, Department of Civil Engineering, K. N. Toosi University of Technology, Vali Asr Street, Mirdamad Intersection, Tehran,

Associate Professor, Department of Computer Science and Engineering, Shri Ram Swaroop Memorial Group of Professional Colleges Luknow (U.P), India.

Dr. C. Vijai

Assistant Professor, Department of Commerce, St.Peter's Institute of Higher Education and Research, Avadi, Chennai (Tamil Nadu), India.

Assistant Professor and Head, Department of Mechanical Engineering, Mangayarkarasi College of Engineering, Madurai (Tamil Nadu), India

Dr. M Vara Prasad Rao

Professor, Department of Computer Science and Engineering, CMR Technical Campus (Autonomous) Hyderabad (Telangana),

Dr. Manoi Sharma

Assistant Professor and Head, Department of Mathematics, Rustamji Institute of Technology, BSF Academy Tekanpur, Gwalior (MP) India

Assistant Professor, Department of Computer Science and Engineering, Panimalar Engineering College, Chennai (Tamil Nadu),

Dr M R Arun

Professor, Department of Computer Applications, PSG College of Technology, Pcelamedu, Coimbatore (Tamil Nadu), India.

Dr. V.D.N. Kumar Abbaraju

Assistant Professor, Department of Chemistry, Gitam Institute of Technology Gitam University Visakhapatnam (A.P.), India.

Dr. Mallikarjuna Reddy Doodipala

Professor, Department of Mathematics, GITAM University-Hyderabad Campus Rudraram Village, Patan Cheru Mandal Medak Hyderabad (Telangana), India.

Dr. B. Venkata Prasanth

Professor and Principal, Department of Electronics & Electrical Engineering, Sree Dattha Group of Institutions, Sheriguda (Telangana), India.

Associate Professor, Department of Electronics & Electrical Engineering, Velalar College of Engineering and Technology, Erode (Tamil Nadu), India.

Dr. Lakshmi Narayana Thalluri

Assistant Professor, Department of Electrical Communication Engineering, Andhra Loyola Institute of Engineering and Technology, Vijavawada (A.P), India.

Dr. Kshirod Sarmah

Assistant Professor & HOD, Department of Computer Science, Pandit Deendayal Upadhaya Adarsha Mahavidyalaya, Amjonga, Goalpara (Assam), India.

Dr. Ramu Nagarajapillai

Professor, Department of Commerce, Annamalai University Chidambaram (Tamil Nadu), India.

Dr. Anand Kishore Kola

Professor, Department of Chemical Engineering, National Institute of Technology, Warangal (Telangana), India.

Assistant Professor, Department of Civil Engineering, Prof Ram Meghe College of Engineering & Management, Amravati (Maharashtra), India

Dr. T. Phani Madhavi

Associate Professor & Head, Department of Civil Engineering, Narasaraopeta Engineering College (Autonomous) Narasaraopet, Guntur (A.P), India.

Dr. B. Anil Kumar

Associate Professor, Department of Electrical Communication Engineering, Gokaraju Rangaraju Institute of Engineering & Technology (Autonomous), Hyderabad (Telangana), India.

Assistant Professor, Department of Mechanical Engineering, University of Petroleum and Energy Studies Bidholi, Dehradun (Uttarakhand), India.

Associate Professor, Department of Mechanical Engineering, Vaish College of Engineering, Rohtak (Haryana), India.

Professor & Principal, Department of Civil Engineering, Yenepoya Institute of Technology Mijar, Thodar Moodbidri (Karnataka), India

Associate Professor, Department of Computer Science & Engineering, Alliance college of Engineering and Design, Alliance University, Bangalore (Karnataka), India.

DI. DI. EAVIIII

Associate Professor, Department of Mathematics, KPR Institute of Engineering and Technology, Coimbatore (Tamil Nadu), India.

Dr. G. K. Awari

Professor & Head, Department of Automobile Engineering, Government Polytechnic, Nagpur, (Maharashtra), India.

Dr. K. S. Meenakshisundaram

Former Director, Cresent School of Business, Crescent University, Chennai (Tamil Nadu), India.

Dr. Karthikeyan Parthasarathy

Assistant Professor, School of Management Studies, Kongu Engineering College Erode (Tamil Nadu), India.

Dr. Ramani Kannai

Senior Lecturer, Department of Electrical and Electronics Engineering, Center for Smart Grid Energy Research, Institute of Autonomous system. Universiti Teknologi PETRONAS (UTP). Malaysia.

Dr. Somnath Thigale

Assistant Professor, Department of Computer Science and Engineering, SKN Sinhgad COE Korti-Pandharpur (Maharashtra), India.

Dr. Giriraj Kumar Prajapati

Professor, Department of Electronics Communication Engineering, Sree Chaitanya Institute of Technological Sciences, Karimnagar (Telangana), India

Dr. M. Madhiarasar

Assistant Professor, Department of Electrical and Electronics Engineering, Bharat Institute of Engineering and Technology, Hyderabad, (Telangana), India.

Dr R K Bathle

Professor, Department of Computer Science & Engineering, Madhay University, Rajasthan, India.

Dr. G. Venkata Rama Subbarao

Associate Professor, Department of Civil Engineering, Velagapudi Ramakrishna Siddhartha Engineering College, Kanuru, Vijayawada (Andhra Pradesh), India.

Dr. Vijav Kumar Sinha

Associate Professor, Department of Computer Science & Engineering, Chandigarh Engineering College, Landran, Mohal (Punjab), India

Dr. T. Muthumanickam

Professor and Head, Department of Electronics and Communication Engineering, Vinayaka Mission's Kirupananda Variyar Engineering College, Periyaseeragapadi (Tamil Nadu), India.

Dr. Suneel Kumar Singh

Associate Professor & Controller of Examination & Nodal Officer, Red Ribbon Club, Department of Science Modern Institute of Technology Dhaiwala, Rishikesh (Uttarakhand), India.

Dr. M. Vamshi Krishna

Associate Dean SOET & H.O.D., Department of Electronics & Communication Engineering, Centurion University of Technology & Management Paralakhemundi, Odisha, India.

Dr. R. Padmavathi

Assistant Professor, Department of Chemistry, Sree Sastha Institute of Engineering and Technology, Chennai (Tamil Nadu), India.

Dr. B. Kavitha Ran

Professor, Department of Computer Science & Engineering, CMR Technical Campus Kandlakoya (V), Medchal (M), Hyderabad (Telensana), India

Dr. Srinivas Konda

Professor, Department of Computer Science & Engineering, CMR Technical Campus Kandlakoya (V). Medchal (M), Hyderabad (Telengana), India.

Dr. Keyur D. Bhatt

Professor & Head, Department of Chemistry, Mehsana Urban Institute of Sciences, Ganpat University, Kherva (Gujarat), India

Dr. Appala Srinuvasu Mutipati

Associate Professor, Department of Computer Science and Engineering, Raghu Institute of Technology, Dakamarri, Visakhapatnam (A.P.). India

Dr. Freilan D. Mobe

Associate Professor, Designated Assistant Unit Head for General Education Unit, Philippine Merchant Marine Academy, San Narciso, Zambales

Dr. Jaya Christiyan K.G

Professor, Department of Mechanical Engineering, Ramaiah Institute of Technology, Bangalore (Karnataka), India

Dr. Dipti Ranjan Malik

Assistant Professor, Department of Sociology, NIMS University, Jaipur (Rajasthan), India

Dr. Vijaya Lakshmi Pothuraju

Associate Professor, Department of MBA, CMR College of Engineering & Technology, (Autonomous) Kandlakoya, Hyderabad, India

Dr. Ahmmed S. Ibrehem

Assistant Professor, Department of Chemical Engineering, Dhofar University, Salalah, Oman

Dr. K. G. Durga Prasad

Professor & Head, Department of Mechanical Engineering, Technical Campus, GVP College for Degree & P.G.Courses, Rushikonda, Visakahapamam (Andhra Pradesh), India

Dr. Sucheta Ghorai Giri

Assistant Professor, Department of Microbiology, Parul Institute of Applied Sciences, Parul University, Limda, Vadodara (Gujarat), India

Dr. K. Narendra Kumar

Associate Professor, Department of Computer Science & Engineering, Chalapathi Institute of Engineering and Technology, Lam, (Andhra Pradesh), India

Dr. B. Suresh Babu

Professor, Department of Electrical & Electronics Engineering, Shri Vishnu Engineering College for Women Vishnupur, Bhimavaram (Andhra Pradesh), India

Dr. A. Akil

Assistant Professor, Department of Computer Engineering, Vels Institute of Science, Technology & Advanced Sciences, Pallavaram, Chennai (Tamil Nadu), India

Dr. R. Parameswar

Associate Professor, Department of Computer Engineering, Vels Institute of Science, Technology & Advanced Sciences, Pallavaram, Chennai (Tamil Nadu), India

Dr. Dipak Gade

Program Manager, Department of Computer Engineering, IGATE Solutions Ltd., Pune (Maharashtra), India

Dr. K. Mohan Das

Professor & Head, Department of Civil Engineering, Ashoka Institute of Engineering and Technology, Hyderabad (Telangana), India

Dr. Hitesh V. Paghadar

Associate Professor, Department of Electrical Engineering, OM Engineering College, Chokli (Gujarat), India

Dr. P. Prathap

Professor, Department of Mechanical Engineering, Hindusthan Institute of Technology, Malumichampatty (Tamil Nadu), India

Dr. A. V. Senthil Kumar

Director, Department of Masters in Computer Application, Hindusthan College of Arts and Science, Coimbatore (Tamil Nadu), India

Dr. Rishi Kumar

Assistant Professor, Department of Science, Guru Nanak College, Budhlada (Punjab), India

Dr. Surya Nagendra Pentakota

Associate Professor, Department of Mechanical Engineering, Nadimpalli Satyanarayana Raju Institute of Technology, VIsakhapatna, (Andhra Pradesh), India

Dr. Santanu Koley

Associate Professor, Department of Computer Science and Engineering, Budge Budge Institute of Technology, Nischinta Pur, (West Bengal), India

Dr. Madhuri C. Hingane

Assistant Professor, Department of Computer Science, Pune District Education Association's College of Engineering, Pune (Maharashtra), India

Dr. M. M. Bagal

Professor and Head, Department of MBA, Acharya Institute of Technology, Bangalore (Karnataka), India

Dr. Mayank Jain

Professor, Department of Electronics and Communication Engineering, Sri Indu College of Engineering & Technology, Sheriguda (Telangana), India

Dr. Sharanappa Chapi

Assistant Professor, Department of Physics, K.L.E. Society's J.T. College, Gadag-Betgeri, (Karnataka), India

Dr. A. Vamshi Krishna Reddy

Lecturer, Centre for Environment, Institute of Science & Technology, Jawaharlal Nehru Technological University, Hyderabad (Telangana), India

Dr. Amit Bindaj Karpurapu

Professor, Department of Electronics and Communication Engineering, Swarna Bharathi Institute of Science and Technology (SBIT), Khammam (Telangana), India

Dr. Atul Ramdas Kolhe

Associate Professor, Department of Civil Engineering, Dr. D Y Patil Institute of Engineering Management & Research, Pimpri-Chinchwad (Maharashtra), India

Dr. B. Bazeer Ahame

Associate Professor, Department of Computer Science and Engineering, Balaji Institute of Technology & Science, Laknepally (Telangana), India

Dr. C. Arunabala

Professor, Department of Electronics and Communication Engineering, KITS (KKR & KSR Institute of Technology & Sciences) Vinjanampadu, Vatticherukuru Mandal, Guntur (Andhra Pradesh), India

Dr. A. Swarupa Ran

Associate Professor, Department of Computer Science, Siddharth institute of Engineering & Technology, Narayanavanam (Andhra Pradesh), India

Dr. S. A. Mohan Krishna

Associate Professor, Department of Information Science and Engineering, Vidyavardhaka College of Engineering, Mysuru (Kamataka), India

Dr. Ashok Koujalagi

Assistant Professor & Postdoctoral Researcher, Department of Computer Science, Basaveshwar Science College, Bagalkot (Kamataka), India

Dr. A. Baradeswaran

Principal, Department of Electronics & Communication Engineering, Madha Engineering College, Chennai (Tamil Nadu), India

Dr. R. Padma Priya

Professor, Department of Electronics & Communication Engineering, Madha Engineering College, Chennai (Tamil Nadu), India

Dr. Raghunath Satpathy

Assistant Professor, Department of Biotechnology, Majhighariani Institute of Technology and Science, Odisha, India

Dr. Hema Chandran K.

Professor & HOD, Department of Electronics & Communication Engineering, Ashoka Institute of Engineering and Technology, Hyderabad (Telangana), India

Dr. M. Rakesh

Assistant Professor, Department of Electronics and Communication Engineering, Vignan's Institute of Management and Technology for Women, Ghatkeser (Hyderabad), India

Dr. Parul Mishra

Assistant Professor, Department of English, GD Goenka University Gurugram, Gurgaon (Haryana), India

Dr. Sunil Kumar Mishra

Associate Professor, Department of Communication Skills (English), Amity University, Gurgaon (Haryana), India

Dr. Kaushik Mukherjee

Faculty of Management Studies, Assistant Professor, AKS University, Satna(MP), India

Dr. Siva Reddy Sheri

Associate Professor, Department of Mathematics, School of Technology Hyderabad Campus, GITAM University, Visakhapatham (Andhra Pradesh), India.

Dr. Nitasha Soni

Assistant Professor, Department of Computer Science, Manay Rachna International Institute of Research and Studies, Faridabad (Haryana), India.

Dr. Pushpender Sara

Professor, Department of Computer Science & Engineering, Hyderabad Institute of Technology and Management, Hyderabad (Telangana), India.

Dr. K. Priva

Professor & Head, Department of Commerce, Vivekanandha College of Arts & Sciences for Women (Autonomous, Elayampalayam, Namakkal (Tamil Nadu), India.

Dr. Sunil Tekale

Professor, Dean Academics, Department of Computer Science & Engineering, Malla Reddy College of Engineering, Secunderabad (Telangana), India.

Dr. Brijesh Singh

Senior Yoga Expert and Head, Department of Yoga, Samutakarsha Academy of Yoga, Music & Holistic Living, Prahladnagar, Ahmedabad (Gujarat), India.

Dr. Vinita Kumar

Department of Physics, Dr. D. Ram D A V Public School, Danapur, Patna(Bihar), India

Dr. Rama Shanker

Professor & Head, Department of Statistics, Eritrea Institute of Technology, Asmara, Eritrea

Dr. Subhash Laxman Gadhave

Professor, Department of Mechanical Engineering, Shri Jagdishprasad Jhabarmal Tibrewala University, (Rajasthan) India.

Dr. Raja Mohammad Latif

Professor, Department of Mathematics and Natural Sciences, University of Alberta Edmonton, Canada

Dr. S.N. Ramaswamy

Professor, Department of Civil Engineering, Kalasalingam University, (Krishnankoil) India.

Dr. G.Mallesh

Professor, Department of Mechanical Engineering, VTU, (karnataka) India

Dr. G.Kiruthiga

Professor, Department of Computer Science and Engineering, Karpagam Academy of Higher Education, (Chitilappilly) Kerala, India.

Dr. Kalpana Chauhan

Professor, Department of Electrical Engineering, IIT Roorkee, (Uttarakhand) India.

Dr. K. Vijaya Kumar

Professor, Department of Library and Information Science, Annamalai University, (Chidambaram) Tamil Nadu, India.

Dr. Ravi K N

Professor, Department of High voltage Engineering. Indian Institute of Science, (Bengaluru) Kamataka, India.

Dr. Pabitra Kumar Biswas

Professor, Department of Electrical Engineering, NIT Durgapur, (West Bengal) India.

Dr. Awari Mahesh Babu

Professor, Department of Civil Engineering, JNTUH Hyderabad, (Telangana) India.

Dr. Outubuddin S.M.

Professor, Department of Mechanical Engineering, JNTU Hyderabad, (Telangana) India.

Dr. G Komarasamy

Professor, Department of Computer Science and Engineering, Anna University, (Chennai) Tamil Nadu, India.

Dr. Krupal Prabahakar Pawar

Professor, Department of Mechanical Engineering, Sri Satya Sai University of Technology and Medical Sciences, (Madhya Pradesh) India.

Dr. Shasanka Sekhar Rout

Professor, Department of Electronics & Telecommunication Engineering, Veer Surendra Sai University of Technology, (Burla) Odisha, India.

Dr. Dipti Chauhan

Professor, Department of Computer Applications, Maulana Azad National Institute of Technology, Bhopal (M.P.) India.

Dr. Hakim S. Sultan Aljibori

Professor, Department of Mechanical Engineering, University of Warith Alanbiyaa, Iraq

Dr. Suneev Anil Bansal Professor, Department of

Professor, Department of Mechanical Engineering, Maharaja Agrasen University, Baddi (HP), India.

Dr. Ujwal Lanjewar

Professor, Department of Computer Science and Engineering, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur (Maharashtra), India.

Dr. J. Prakash Arul Jose

Professor and Head , Department of Civil Engineering, Noorul Islam Centre for Higher Education, Kanyakumari (Tamilnadu), India.

Dr. P. Sreenivasulu Reddy

Professor, Department of English language and Literature, Sri Venkateswara University, Tirupati (Andhra Pradesh), India.

Dr. P. Harish N

Professor, Department of Economics, Tumkur University, Tumakuru (Karnataka), India.

Dr. S. Saranya

Professor, Department of Computer Science and Engineering, Bharathidasan University, Tiruchirappalli (Tamil Nadu), India.

Dr. T. Muthumanickam

Professor, Department of Electronics and Communication Engineering, Vinayaka Mission's Research Foundation, Salem (Tamil Nadu), India.

Dr. Vairave

Professor, Department of Mechanical Engineering, VELS UNIVERSITY, Pallavaram, Chennai (Tamil Nadu), India.

Dr. Kolla Bhanu Prakash

Professor, Department of Computer Science and Engineering, Sathyabama university, Chennai (Tamil Nadu), India.

Dr. Mallapuram Bala Chennaiah

Professor, Department of Mechanical Engineering, Jawaharlai Nehru Technological University Anantapuramu (Andhra Pradesh), India

Dr. Yellamma Pachipala

Professor, Department of Computer Science and Engineering, Bharathiar University, Coimbatore (Tamil Nadu), India.

Dr. Neeta Saxena

Professor, Department of Applied Mathematics, Amity University, Gwalior (Madhya Pradesh), India.

Dr. G. Mallesh

Dr. G. Mallesh

Penfasear Department of Machanical Funincering Visitestrates Technological University Relagaty (Variataly) India

a rorosoo, popularent va meenumen engheering, varrosunara avennoregien omressiy, penagari (mananana), mora

Dr. Sandeep Chaware

Professor, Department of Computer Science and Engineering, NMIMS, Vile Parle (West), Mumbai (Maharashtra), India.

Dr. A Sri vani

Professor, Department of Physics, Rayalseema University, Kurnool (AP), India.

Dr. Murali Muniraj

Professor, Department of Electrical and Electronics Engineering, Sona College of Technology, Salem (Tamil Nadu), India.

Dr. TS Nanjundeswaraswamy

Associate Professor, Department of Mechanical Engineering, JSS Academy of Technical Education, Bangalore (Karnataka), India.

Dr. BS Santhosh

Professor, Department of Civil Engineering, Visvesvaraya Technological University, Belagavi (Karnataka), India.

Dr. A. Sulthan Mohideen

Professor, Department of Commerce, Hajee karutha Rowther Howdia College, Utharnapalayam, Theni District, Utharnapalayam (Tamil Nadu), India.

Dr. Vaibhay R. Bhedi

Professor, Department of Computer Science and Engineering, Sant Gadge Baba Amravati University, Amravati (Maharashtra), India

Dr. Ayad Hameed Mousa

Professor, Department of Computer Science and Engineering, University Utara Malaysia, Changlin, Malaysia.

Dr. M Chrispin Das

Professor, Department of Mechanical Engineering, Anna University, Chennai (Tamil Nadu), India.

Dr. Kammara Bharath Kumar

Professor, Department of Electronics and Communication Engineering, Pondicherry University, Pondicherry (Andhra Pradesh), India.

Dr. Manjunatha N

Professor, Department of Mathematics, Bharathiar University, Coimbatore (Tamil Nadu), India

Dr. M. Ramajayam

Assistant Professor, Department of General & Adapted Physical Education and Yoga, Periyanaickenpalayam, Coimbatore (Tamil Nadu), India.

Dr. Mohammad Arshad

Professor, Department of Computer Science and Engineering, Koneru Lakshmaiah University, Guntur (Andhra Pradesh), India.

Dr. Maidul Islam

Professor, Department of Management Information Systems, Ajou University, Suwon, South Korea.

Dr. Arup Kumar Hazarika

Professor, Department of Zoology, Cotton University, Panbazar, Guwahati (Assam), India

Dr. P Venkata Subbareddy

Professor, Department of Computer Science and Engineering, Annamalai University (Tamil Nadu), India.

Dr. Muttipati Appala Srinuvasu

Professor, Department of Computer Science and Engineering, Gitam Deemed To Be University, Gandhi Nagar, Rushikonda Visakhapatnam (Andhra Pradesh), India.

Dr. Namita Gupta

Professor, Department of Economics, MG Kashi Vidyapeeth, Varanasi (Uttar Pradesh), India.

Dr. Chandan Medatwal

Professor, Department of Management, University Of Kota, MBS Marg, Kota (Rajasthan), India.

Dr. Narasimhan D

Professor, Department of Mathematics, Srinivasa Ramanujan Centre Sastra Deemed University Kumbakonam (Tamil Nadu), India.

Dr. Yuriy Pyvovar

Professor, Department of Constitutional and Administrative Law, National Aviation University, Kiev, Ukraine.

Dr. Asim K. Mandal

Professor, Department of Agriculture, Bidhan Chandra Krishi Viswavidyalaya (BCKV), Mohanpur, Nadia (West Bengal), India.

Dr. Lokesh P Gagnani

Professor, Department of Computer Science and Engineering, C U Shah University, Nr. Kothariya Village, Dist. Surendranagar, Wadhwan (Gujarat), India.

Dr. Trilochan Jena

Professor, Department of Civil Engineering, Siksha O Anusandhan (Deemed to be University), ITER, Bhubaneswar (Odisha), India.

Dr. S. Ismail Kalilulah

Professor, Department of Computer Science and Engineering, St. Peter's Engineering College, Avadi, Chennai (Tamil Nadu), India

Dr. S Vijayakumar

Professor, Department of Computer Science and Engineering, Vellore Institute of Technology, Vellore (Tamil Nadu), India

Dr. Serhii Kozlovskyi

Professor, Department of Economics, Vasyl' Stus Donetsk National University, Vinnytsia, Ukraine.

Dr. V. Jaiganesh

Professor, Department of Mechanical Engineering, Anna University Chennai (Tamil Nadu), India.

Dr. Mohankumar Namdeorao Bajad

Professor, Department of Civil Engineering, Sardar Vallabhbhai National Institute of Technology, Surat (Gujarat), India.

Dr. G. Purushotham Professor, Department of Mechanical Engineering Sciences, Visvesvaraya Technological University, Belagavi (Karnataka), India.

Dr. Rajendiran Muthusamy

Professor, Department of Computer Science and Engineering, Sathyabama University, Chennai (Tamil Nadu), India.

Professor, Department of Mechanical Engineering, Osmania University, Hyderabad (Telangana), India.

Dr. Siddhartha Choubev

Professor, Department of Computer Science and Engineering, MATS University, Aarang, Raipur (Chhattisgarh), India.

Dr. Ebissa

Professor, Department of Civil Engineering, IIT Roorkee, Roorkee (Uttarakhand), India

Dr. R. Dhanasekaran

Professor Denortment of Mechanical Engineering Anna University Chennai (Tamil Nadu) India

Dr. Kajal Chaudhary

Professor, Department of Commerce, Chaudhary Charan Singh University, Meerut (Uttar Pradesh), India

Dr. Sivasankari

Assistant Professor, Department of Chemistry, Cauvery College for Women, Tiruchirappalli (Tamil Nadu), India.

© Copyright - 2010-2024; Blue Eyes Intelligence Engineering & Sciences Publication | All Rights Reserved

.

International Journal of Engineering and Advanced Technology(TM)

Exploring Innovation | ISSN: 2249-8958 (Online) | Reg. No.: C/819981 | Published By BEIESP | B Impact Factor: 5.97 | Scopus Journal



HOME: AIMS AND SCOPE: INSTRUCTIONS FOR AUTHORS: EDITORIAL BOARD: ARCHIVE SPECIAL ISSUE CONFERENCES DOWNLOAD: ETHICS & POLICIES FAQ: CONTACT

Blog - Latest News

Volume-9 Issue-3

February 7, 2020 / in / by ijeat

Download	407
File Size	4.00 KB
Create Date	February 7, 2020
	DOWN DAD

Download Souvenir

Total Received Papers: 8542 | Total Accepted Papers: 746 Total Rejected Papers: 7796 | Acceptance Rate: 08.73%

S. No		Volume-9 Issue-3, February 2020, ISSN: 2249-8958 (Online) Published By: Blue Eyes Intelligence Engineering & Sciences Publication	Page No.
1.	Authors:	Probit Bhowmik, Abdus Sattar	1-4
	Paper Title:	Recognizing Fake News using Machine Learning and Natural Language Processing	
2.	Authors:	Abbazov Ilkhom, Kodjiev Muksin, Makhkamov Iqbol	5-8
	Paper Title:	Fiber Waste From Cotton Process Technological Processes	3
3.	Authors:	M. H. M. Zin, M. Jamil, N. L. N. Ibrahim, A. S. M. Tazilan	9-15
	Paper Title:	Passive Double Skin Façade (DSF) Basic Components and Functions	
4.	Authors:	C. Talukdar, A. Hazarika, A. Singh, N. Das, M. Bhuyan	16-2
	Paper Title:	A Biofeedback Based Auto-Controlled Neurostimulator Design for Proper NCS Signal Acquisition	
		and Measurement	
5.	Authors:	Poornima G. Naik, Kavita S. Oza	26-30
	Paper Title:	Role of SPARQL in Leveraging Sematic Web Technology	
6.	Authors:	Sandeep Yadav, Rituraj Raghuvanshi	31-34
	Paper Title:	Mechanical Designing of Acoustic Chamber Based Muffler for Sound Reduction	
7.	Authors:	Rakesh Kumar, Yogesh Kumar	35-38
	Paper Title:	Characterization of Convective Transfer of Heat by Air Impingement using Single Swirling Jet	
		with Insertion of Twisted Tapes by Computational Fluid Dynamics	
8.	Authors:	Veeranna Kalkori, Santosh Kori, Shweta C. R. Rawat	39-43
	Paper Title:	Resistivity of Fe/Al Multilayered Thin Films from Low Temperature to Room Temperature	
9.	Authors:	Adil Kadyrov, Sabit Amanbayev, Aleksandr Ganyukov, Kyrmyzy Balabekova, Bahyt Kurmasheva	44-48
	Paper Title:	Solving Traffic Congestion Problems and Definition Stress-Strain State of Curvilinear Overpass	
		Module Sector-Ring Slab	
10.	Authors	Gayathri A, Thanga Revathi S , Christy S, Pramila P.V	49-53
	Paper Title:	An Improved Discrete Patch Based Reversible Data Hiding for Encoded Color Images	
11.	Authors:	Roni Bhowmik, B.C.M. Patnaik, Gouranga Chandra Debnath, Ipseeta Satpathy	54-6.
	Paper Title:	Impact of Carbon Tax Scheme and CO2 Control Technologies on Bangladesh Aviation Industry	
12.	Authors:	Farida Smolnikova, Nadezhda Kenijz, Igor Nikitin, Valentina Feshchenko, Yulia Zubtsova	63-6
	Paper Title:	Using of Dried Fruits and Wheat Gluten in the Production of Bread	
10	1020020	en la compania de compania de la compania del compania del compania de la compania del la compania de la compan	22.70

	Paper Title:	Assorted Techniques for Defining Image Descriptors to Augment Content Based Classification Accuracy	201
37.	Authors:	A. Subashini, M. Karthikeyan	209
	Paper Title:	Deriving Frequent Itemsets from Lossless Condensed Representation	214
38.	Authors:	Surbhi Agrawal, Santosh K. Vishwakarma	215
	Paper Title:	Predicting Student's Academic Performance using Data Mining Techniques	219
39.	Authors:	P. Sinthamani	220
	Paper Title:	Microscopic Examinations of the Elements on the Behaviour of Group of Fellow Men using Fuzzy Graph	220
10.	Authors	Jisha M.V., D.Vimal Kumar	227
	Paper Title:	Fuzzy Particle Swarm Optimization Feature Selection and Aggrandized Classifier for Uncovering	23
	Taper Title.	Frauds in Credit Card Deals	
11.	Authors:	Wisam Hazim Gwad Gwad, Imad Mahmood Ismael Ismael, Yasemin Gültepe	235
	Paper Title:	Twitter Sentiment Analysis Classification in the Arabic Language using Long Short-Term Memory Neural Networks	23
2.	Authors:	Sumant Kumar Mohapatra, Madhusmita Mohanty, Biswa Ranjan Swain	240
	Paper Title:	Automated Epileptic Seizure Detection Model using WPT, CFS and KNN-based Multiclass TSVM	24
3.	Authors:	Pooja Chaturvedi, A. K. Daniel	24
	Paper Title:	Energy Efficient Communication Framework for Target Coverage using Trust Concepts	25
4.	Authors:	Uma Shankar Rao Erothi, Sireesha Rodda	251
•	100000000000000000000000000000000000000		26
-	Paper Title:	Reduct ECOC Framework for Network Intrusion Detection System	0.0
5.	Authors:	S. S. Gurav, B. B. Godbole, M. S. Sonale	26
	Paper Title:	Improved Accuracy of Suspicious Activity Detection in Surveillance Video	
6.	Authors:	Anupam Sharma, Suman Agrawal, Charul Bhatnagar, D. S. Chauhan	27
	Paper Title:	Estimating Location Accuracy of Stationary Emitter in Presence of Biasing in Receiver Position	-
		and Velocity by Exploiting Cross Ambiguity Function	
7.	Authors:	Revathy R., P. R. Saseendran Pillai	27
	Paper Title:	Bit Error Rate Performance of Spread Spectrum Communication Systems for AWGN Channels	28
8.	Authors:	Md Farid Shah, Aheibam Dinamani Singh	28
	Paper Title:	Design and Analysis of Microstrip Patch Antenna Arrays for Millimeter Wave Wireless Communication	28
9	Authors:	Ranjitha V.	28
	Paper Title:	RRR Concept and unknown Facts of Ransomware	29
0.	Authors:	Saheel Arshad, Abhay Kumar Chaubey	29-
	Paper Title:	Buckling Behavior of Sandwich Panel with Isotropic Core and Orthotropic Faces	29
1.	Authors:	K. Thiyagarajan, K. Mohan Kumar	29
	Paper Title:	Patient Monitoring System for Smart Multi Speciality Healthcare Centre using Internet of Things (IoT)	30
2.	Authors:	Hermawan, Eddy Prianto, Erni Setyowati	30.
	Paper Title:	The Relation between Effective Temperature and Thermal Sensation Vote in Tropical Vernacular Houses	31
53.	Authors:	Jung-sub Ahn. Tac-ho Cho	31
		FBCFFS-Based Authentication Method for Node Privacy Message in WSN	31
4.	Paper Title:		31
17.	Authors:	Yaman Hooda, Haobam Derit Singh	32
	Paper Title:	Rheodynamic Concrete as a Progressive Viability in the field of Concrete Technology	22
5.	Authors:	K. Veeranjaneyulu, T. Venksteswara Rao	32
	Paper Title:	Effect of Nozzle Hole Diameter on Performance, Combustion and Emission in a Diesel Engine	
		Kavita V. Bhosle, Vijaya Musande	33
6.	Authors:		33
	Paper Title:	Agricultural Stress Monitoring using Remote Sensing Data	, , , , , , , , , , , , , , , , , , ,
		Agricultural Stress Monitoring using Remote Sensing Data Prafulla B. Bafna, Jatinderkumar R. Saini	
	Paper Title:		
7.	Paper Title: Authors:	Prafulla B. Bafna, Jatinderkumar R. Saini	34
57.	Paper Title: Authors: Paper Title:	Prafulla B. Bafna, Jatinderkumar R. Saini Marathi Text Analysis using Unsupervised Learning and Word Cloud	334 34 34 34
56. 57.	Paper Title: Authors: Paper Title: Authors:	Prafulla B. Bafna, Jatinderkumar R. Saini Marathi Text Analysis using Unsupervised Learning and Word Cloud K. Jayanthi, L. R. Sudha	34 34 34 350
57.	Paper Title: Authors: Paper Title: Authors: Paper Title:	Prafulla B. Bafna, Jatinderkumar R. Saini Marathi Text Analysis using Unsupervised Learning and Word Cloud K. Jayanthi, L. R. Sudha Optimal Feature Subset Selection for Imbalanced Class Data using SMOTE and Binary ALO Algorithm	34 34 34

D		362
Paper Title:	A Gamification Framework for Energy Conservation and Customer Engagement in Smart Cities	- 1200
Authors:	Pramod Singh	362
Paper Title:	Three Layer Security Model for Distributed Relational Database	362
Authors:	Pramod Singh, Raghvendra Patel, D. P. Singh	362
Paper Title:	Digital Addiction Level of Students and Teachers of Different Teaching Institutes of Jagdalpur	363
Authors:	Ch. Lokeshwar Reddy, G. Janardhan	363
Paper Title:	Enhancing the Performance of Multilevel Inverters using Modified SVPWM Techniques	364
Authors:	V. Saidulu	364
Paper Title:	Design, Simulation and Experimental Analysis on Rectangular Microstrip Patch Antenna with Superstrates	36
Authors:	Shanthi Kumara Guru, M. R. Ebenezar Jebarani	364
Paper Title:	Secured Human Health Monitoring using Wireless Medical Sensor Networks	36
Authors:	M. Kalpana Devi, M. Mary Shanthi Rani	365
Paper Title:	Control of the contro	36
ON HER PARTY LINES AND A	AND BY AND SOUND DETERMINENT PRODUCTION OF THE TOTAL WILLIAMS.	36:
2000/00000		36
VII.		26
		36
110001111		
Authors:	Sankar Padmanabhan, Manjunath K. M., Madhurima V	36
Paper Title:	Diagnosis of Type-2 Diabetes using Classification and Mining Techniques	
Authors:	B. Mabu Sarif, D. V. Ashok Kumar, M. Venu Gopala Rao	36
Paper Title:	Design of IMC Tuned PID Controller for First Order Process with Right Hand Side Zeros	- 30
Authors:	Kuldeep Singh, Sunila, Sanjeev Kumar	36
Paper Title:	Crop Yield Prediction Techniques using Remote Sensing Data	36
Authors:	M.Thusleem Furjana, M.Bhanumathi	36
Paper Title:	Fuzzy Metric Dimension of Fuzzy Hypercube Qn and Fuzzy Boolean Graphs	36
Authors:	Shalini S, Kalaiselvi S, Logeshwari M, Pavithra P	36
Paper Title:	Implementation of Farm Weeding and Soil Moisturization Techniques using Agribot	37
Authors:	Anitha A. Mathivanan R. Sundarraj R. Indhulekha J	37
Paper Title	Knowledge Extraction for Business Information System using C5.0 Tree Algorithm	37
88		27
100000000000000000000000000000000000000		37
5		1
Authors:	Mohd Fadlullah Gimat, Mohd Khairul Azhar Mat Sulaiman	37
Paper Title:	Effect on Thermal Performance by Different Types of Fixed Sun Shading Devices	-
Authors:	Fcuad Youssouf Osman, Mchammad Ali Tareq	37
Paper Title:	Empirical Data on Mobile Money Hesitation Factors in Somalia	37
Authors:	Abhilasha Akkala, Avinash Seckoli	37:
Paper Title:	Identify Occurrence of Substance Object of a Certain Classification in Fractional Videos and Pictures	37
Authors:	Sandeep Kaur, Raja Singh Khela	37
Paper Title:	Stability Analysis of Power System using FACT Controller	37
Authors:	Ravi Babu.S, Sambasiva Rao.G, Ramesh Babu.P	37
Paper Title:	Computational Analysis of Natural Convection Heat Transfer on a Vertical Plate with Discrete Heat Sources	- 37
Authors:	Abraham K Samuel, J. Vinolin, D. S. T. Ramesh	37
Paper Title:	Relaxed Skolem Mean Labeling of Four Star Graphs K1.9 UK1.2 UK1.8 UK1.4 Where $9 \le 9 \le 9$ with $9 - 9 - 9 = 9$	37
. 18		37-
		37
	AND THE RESERVE OF THE STANDARD CONTROL OF THE STANDAR	37
20-10-01-00-00-00-00-00-00-00-00-00-00-00		37
CECCESCO CONTRACTO		0.000
Authors:	Manas Ranjan Padhi, Chitta Ranjan Routray	37.
Paper Title:	Effect of Pouring Temperature on Mechanical Properties of Semisolid Cast A319 Aluminum Alloy	
	Paper Title: Authors:	Authors Pracod Singh Paper Tole Three Layer Security Model for Distributed Relational Database Authors Display Additional Pracod Singh, Ragdovedor Pard, D. P. Singh Paper Tole Display Addition Level of Staders and Enders of Distributed Teaching Sinstitute of Englisher Authors Ck. Lecknolous Reddy, G. Incontinue Paper Title Display Security Security Committed States of Distributed Systems and Systems

<

	_	Korrapati Jaganeesn, vemiiia kaviteja	
	Paper Title:	Design of Optimal Scheduler for Process Scheduling	=
629.	Authors:	Bagus Mulyawan, Meyliana, Achmad Nizar Hidayanto, Harjanto Prabowo	3762
	Paper Title:	Ontological Base Information System in Higher Education	3767
630.	Authors:	Anil Kumar Pandey, Tulika Pandey	3768
	Paper Title:	Solving Component Identification Problem by using Evolutionary Method	3772
631.	Authors:	Ogunyebi S.N., Adedowole A., Ogunlade T.O., Oyedele A. A.	3773
	Paper Title:	Flexural Motions of Beams on Foundation Subjected to Moving Concentrated Force	3779
632.	Authors:	Shweta Chaku, Amrita Bhatnagar	3780
	Paper Title:	2D Transformations Analyzed by Both Column Vector and Row Vector Synthesis	3782
533.	Authors:	Divya D, Balasaraswathi R, Harini kalyani M, Vivek Anand I	3783
	Paper Title:	Modeling and Execution of Floating Point Parallel Processing Operation for RISC Processor	3789
634.	Authors:	Karim Sidibe, Cheick Tidjane Kone, Tchimou N'takpe, Boko Aka, Michel Babri	3790
	Paper Title:	Wireless Sensor Node Performance Analysis Under Mac Protocol IEEE 802.15.4	3802
635.	Authors	155 - 4449 (155 - 155 -	3803
033.		K. Chockalingam, L. Velmurugan	3800
	Paper Title:	Secured Cloud Data Transmission using Cross ABE Algorithm	
636.	Authors	V. M. Turdaliev, B. Igrashev, G. U. Makhkamov, A. A. Qosimov	3807 3811
	Paper Title:	Theoretical Research on the Flight of Onion Seeds under Discharge from the Seeding Unit	3611
637.	Authors:	A. T. Majidov, N. M. Safarov	3812
	Paper Title:	Statistical Research and Efficiency in the Process of Direct-Flow Ginning	3816
638.	Authors.	Omnia Saidani Neffati, Oumaima Saidani, Devi Mani, Pooja Dixikha G.	3817
	Paper Title:	Internet of Things for Smart Cities: Current Issues and Research Challenges	3822
639.	Authors:	Gaurav Vishnu Londhe, Dilendra Hiren	3823
	Paper Title:	Feasibility of Hybrid Energy Aware Routing for Ad-hoc Network	3828
640.	Authors:	Jampani Ravi, M. Gowri Sri Durga, Y. D. R. Ch. Kartheck, MD. Shabeena Begum, T. Raju, T. V. Syamala Raju	3829
	Paper Title:	Image Fusion using Non Subsampled Contourlet Transform in Medical Field	3832
641.	Authors:	Deepti C., Arjit Jindai, Prudhvi Reddy, Amrutha D.	3833
	Paper Title:	A Consumer-Friendly Machine Learning Based Mechanism to Recognize the Quality of Commercially Available Fruits	3839
642.	Authors:	L. Amudha, R. Pushpalakshmi	3840
	Paper Title:	Scalable and Reliable Deep Learning Model to handle real-time Streaming Data	3844
643.	Authors:	Blessington J., Komban B., Lakshmiprabha M., Monisha A., Subramanian K.	3845
	Paper Title:	A Voronoi Based Coverage Enhancement for Wireless Sensor Networks	3850
644.	Authors:	Duckki Lee	3851
	Paper Title:	Bluetooth-Based Smart Attendance System	3854
645.	Authors:	Rashid A. Ganaie, V. Rajagopalan	3855
	Paper Title:	A New Generalization of Quasi Gamma Distribution with Properties and Applications	3861
646.	Authors:	Habibulla Mohammad, Katta Bhavana, Gajula Trilok, Dugginapalli Sirisha, Konkimalla Rohith Sai	3862
	Paper Title:	Voice Controlled Notice Board Display with Android Application	3850
547.	Authors	M. Purusothaman, Nama Sai Teja, Muddarapu Jaswanth Reddy, Oduri Pavan Ram, Meka Surya Saketh	3867
	Paper Title:	Structural Analysis of Mechanical Seal Holding for Mixer Pumps	3872
548.	Authors:	Mark Anthony A. Castro, Sherwin V. Mallari, Russell John M. Torres, Romy A. Manese, Lorinda E. Pascual	3873
	Paper Title:	Arduino-Based Control and Monitoring System of Household Appliances Status using Android Application	3879
549.	Authors:	N. V. V. Satyanarayana, J. M. S. V. Ravi Kumar, M. Babu Reddy, N. Leelavathi, B. Sujatha	3880
	Paper Title:	A Symmetric Searchable Encryption Identification of Data on Probabilistic Trapdoors	3883
550.	Authors:	THE BERLINAL OPENSATE CONTROL OF THE SERVEY SERVE AND THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF	3884
aad:		Sharma Dinesh, Sharma Devinder, Vikram Singh Derformance Assaument of 1.10 MLD Servings Treatment Plant	3887
651	Paper Title:	Performance Assessment of 1.20 MLD Sewage Treatment Plant	200-
651.	Authors:	K. Rohit Kumar, M. Ravishankar, R. Harish	3888
	Paper Title:	Design of Semi-Submersible Platform using Computational Fluid Dynamics	
652.	Authors:	V. Sharan, D. Bhuvaneshwar, R. Harish	3893
	Paper Title:	Turbulent Flow Behavior of Mixing Process Inside a Pharmaceutical Stirred Tank	

	Paper Title:	Estimation of Water Balance Components of Watersheds in the Manjira River Basin using SWAT Model and GIS	3907
654.	Authors:	Rafidah Hasan, Nur Ameelia Rosli, Shafizal Mat, Mohd Rizal Alkahari	3908
	Paper Title:	Failure Behaviour of 3D-Printed ABS Lattice Structure under Compression	3912
555.	Authors:	Anil Kumar Yadava, Syed Aqeel Ahmad	3913
	Paper Title:	Characterization of Classified Indian Reclaimed Asphalt Pavement (RAP): Aggregate Impact Value and Aggregate	3921
556.	Authors:	Abrasion Value of Rap Aggregates	3922
30.	500 SW07030	R. Bhuvanapriya, Menakadevi T.	3933
	Paper Title:	Design and Implementation of FPU for Optimised Speed	2024
557.	Authors:	C.V.Thejashwini, A.Sumathi	3934 3943
	Paper Title:	Design and Implementation of FFT IP using Pipelined Hybrid Adder and Distributed Arithmetic Based Complex Multiplier	
558.	Authors:	Nguyen Thi Nu, Do Minh Ngoc	3944
	Paper Title:	Effect of Salt Solution on Plasticity and Permeability of Vietnam's Soil Liners	
559.	Authors:	Norsyazwana Jenuwa, Mohd Saidin Misnan, Mat Naim Abdullah	3949
	Paper Title:	The Framework of Competency Facilities Manager in Pre-Construction Hospital in Malaysia	3921
560.	Authors	Sai Sindhuri Nasina, A. Rama Mohan Reddy	3953 3960
	Paper Title:	Efficient Machine Learning Techniques to Diagnose and Predict Alzheimer's disease	3900
561.	Authors:	Dekka Satish, K.Narasimha Raju, Bonu Satish, Koduru Suresh, Dasari Manendra Sai	3961
	Paper Title:	Fuzzy Logic Based Alert on Cochliobolus Miyabeanus to Control the Rice Crop Loss	396-
662.	Authors:	K.Narasimha Raju, Dekka Satish, Koduru Suresh, Bonu Satish, Dasari Manendra Sai	3965
	Paper Title:	Design and Development of Secured Data Transfer System in Li-Fi	396
63.	Authors:	Elsa Maria Jose, P. Jagannathan, S. Venkatesh	3968
	Paper Title:	An Effective Safety Handling System for Construction Industry in Kerala	397
64.	Authors:	V. G. Smilin Shali, S. Asha	3973
	Paper Title:	Power of 2 Decomposition of a Complete Tripartite Graph K2,4,M and a Special Butterfly Graph	397
65.	Authors:	Babloo, Devendra Singh, Ajay Kumar Sharma	3977
	Paper Title:	Upgraded Service Oriented Architecture for Smart Injection Molding.	398
66.	Authors:		3984
00.		Satria Gunawan Zain, Nirwana, Andi Baso Kaswar, Suhartene, Abd. Rahman Patta	399
	Paper Title:	Implementation of Text Compression using Adaptive Shannon-Fano Algorithm	
67.	Authors:	Balamurugan. R, Sivahari. R, Aravindh. B, Shoba U. S, Sathishkumar. T.	3991
	Paper Title:	Bio-Metrological Assessment of Shelf-life of Azadirachta Indica	3,7,7
68.	Authors:	Pankti P. Bhatt, Jeegar A. Trivedi	3995
	Paper Title:	IR Remote Control and Eye Blink Sensor based Implementation of Driver Drowsiness Detection	399
69.	Authors:	Prathyusha Chalasani, S. Rajesh	3998
	Paper Title:	Lung CT Image Classification using Deep Neural Networks for Lung Cancer Detection	400
70.	Authors	Saaniya Qaiser, Anurag Sharma, Harini Murugan	4003
	Paper Title:	Fire Safety in Indian Coal Mines using Machine Learning Techniques	400
71.	Authors:	Divya, Saurabh Mukherjee	4000
	Paper Title:	Simulation of Sparse Model for Fmri Signal with Brain Activation During Hunger Regulation Process	401
72.	Authors:	Santhy P. Kuruvilla, N. M. Renukappa	4012
	Paper Title:	Role of Micro and Nano Filler Combination in Hydrophobic Recovery of Glass Fiber Reinforced Epoxy Composites under	401
73.	Authors:	Various Contaminants Dinesh Kumar, Rajiv Kumar, Neeru Sharma	4018
	Paper Title:	A Proactive Link Based Fast Recovery Strategy for Survival Elastic Optical Networks	402
7.1	7.5 T. ST. ST. ST. ST. ST. ST. ST. ST. ST. S		102
74.		Shailendra Deva, Anil Kumar, Ravindra Kumar	4023
-	Paper Title:	Microstructure Design for Artificial Superhydrophobic Surfaces	19-
75.	Authors:	Mamatha Balipa, Balasubramani R.	4029
	Paper Title:	Online Healthcare Medium for Disease-Treatment using Modified ANN based Classification and Ranking	133
76.	Authors:	Sasmita Padhy, Akash Kumar Sahu, Susanta Kumar Das	4037
	Paper Title:	Concurrent Defects, Methodologies and Recommendations	104
577.	Authors:	D. Madhavi, N. Jyothi, Md. K. M. Chisti	4042
	Paper Title:	Composite Method for Image Retrieval	404
78.	Authors:	Ritupanna Panda, Sagarika Panda, A. M. Mohant	404

	Paper Title:	Geopolymer Concrete, an Emerging Green Material for Modern Construction	,,,,,
679.	Authors:	Gautam Acharyya, Sridhar Reddy E, Pralhad Pawar	4051
	Paper Title:	Sensitivity Assessment using Genetic Algorithm for Optimal Design of RC Ring Wall Foundation of Liquid Storage Tanks	4058
680.	Authors:	K. Venkateswariu, G.V.K. Murthy, D. Prasad, K.V. Narayana	4059
	Paper Title:	Fuzzy with Hysteresis Controller for Power-Quality Improvement of Grid Interconnected System	4062
681.	Authors	S. Nagaraj, R. Ranihemamalini, L. Rajaji, K. Srividya, A. Mohandoss	4063
	Paper Title:	LLC Resonant Tank based Converter for EV Charging Application	4056
682.	Authors:	Ranjandeep Kaur Khera, V. K. Banga	4067
	Paper Title:	An Energy Efficient Hybrid PSO Algorithm in Cloud Environment	4071
683.	Authors:	Ravindra Kannojiya, Akshat Shukla, Mohit Jain, Sarthak Kaintura, Aditya Bachchan	4072-
	Paper Title:	Performance Assessment of Stress Concentration Reduction Methods in Mild Steel Transmission Shaft	4076
684.	Authors	Mujahid Tabassum, Mohab Gabr, Saju Mohanan, Kuruvilla Mathew	4077-
	Paper Title:	Development of Smart Vehicle Security and Entertainment System (SSES) using Raspberry Pi	4083
685.	Authors:	K. Sai Manoj, P. S. Aithal	4084-
	Paper Title:	Data Mining and Machine Learning Techniques for Cyber Security Intrusion Detection	4090
686.	Authors:	Abdul Nazeer. Mir Safiulla	4091-
	Paper Title:	Mechanical and Wear Properties of Cold Extruded Al6063 Metal Matrix Alloy Reinforced with Silicon Carbide, Alumina	4097
		and Cerium Oxide	
687.	Authors:	Sabah Shehabudheen A. S. S. Periyar Selvam, Anushka Mitra, Priscilla Mercy Anitha. D. M. Mahesh Kumar	4098-
	Paper Title:	Postharvest Application of Moringa Gum and Cinnamon Essential Oil as Edible Herbal Coating for Extending Shelf Life	4103
688.	Authors:	and Quality of Guava (Psidium Guajava) Sumitra Nuanmeesri, Lap Poomhiran	4106-
	Paper Title:	Development of Low-Cost Auto Robot Collecting Floating Garbage using Shortest One-Way Path of Energy Saving	4111
689.	Authors:	G , Vara Prasad Babu, M. Pramila Devi	4112-
	Paper Title:	Protection of Port and Yard Equipment's 2nd Back to Operational Effectiveness under Abnormal Cyclonic Conditions	4116
690.	Authors:	Jyoti, Neetu Gupta	4117-
	Paper Title:	The Commercial Impacts of Reverse Logistics in E-Commerce in India	4121
691.	10	Muhter	4122-
38.5	Paper Title:	The Flexural Strength of Concrete Panels with Crystalline Ceramic Waste Aggregates	4126
692.	Authors:	K. Prithivi, S. Thenmozhi, K. R. Vanathi, R. Gokulakrishnan, N. Praveen, M. Sivachitra	4127-
072.	Paper Title:	Automatic Yam Cut Detection in Power Loom using Tot	4130
693.	Authors:	Debasis Behera, Asutosh Painaik, Prabhat Kumar Barik, Girija Sankar Rath	4131-
093.	Paper Title:	VLSI Implementation of Digital Filter using Novel RTSD Adder and Booth Multiplier	4139
604			1116
694.	Authors:	Greeshma Arya, D. S. Chauhan	4140- 4144
	Paper Title:	A Novel Energy Efficient Multi Level Leach Protocol with Multi Grouping at Various Levels	
695.	Authors:	Greeshma Arya, D. S. Chauhan	4145-
	Paper Title:	Realization of Various Gate level Combinational Circuits using Reversible Fredkin Gate	1000000
595.	Authors:	V. Baby Shalini, K. Nagasujatha	4151-
	Paper Title:	Energy Optimization of Buildings through Sustainable Materials	15.56.0076
697.	Authors:	Dipen Deka	4154-
	Paper Title:	Detection of Congestive Heart Failure using Naive Bayes Classifier	
698.	Authors:	Ashitha Ebrahim, Fathimathul Harshima P. T., Aby Abahai T.	4160-
	Paper Title:	Driver State Alert Control using Head Shoulder Inclination and Facial Landmarks	7101
699.	Authors:	Prafull Tiwari, Kunal Jain, Kushagra Dubey, Mohammed Ali, Manish Thakur	4165-
	Paper Title:	Feasibility of Fuel Synthesized from Solid Plastic Wastage	1109
700.	Authors.	Arijit Das, Diganta Saha	4170-
	Paper Title:	Enhancing the Performance of Semantic Search in Bengali using Neural Net and other Classification Techniques	4176
701.	Authors:	Jampani Ravi, R. Narmadha	4177-
	Paper Title:	Image Fusion Based on Nonsubsampled Shearlet Transform	4180
702.	Authors:	M. Z. Shaikh, Sulakshana B. Mane	4181
	Paper Title:	Injection, Execution and Infection Working of Ransom ware	4183
703.	Authors:	Pramil, Prateek, Parashuram	4184-
			4186



704.	Authors:	Pratibha Bhadhane, R. K. Jain, Deepa A. Joshi, Radhika Menon	4187
	Paper Title:	Zoning Strategies for Urban Land Use Planning	4190
05.	Authors:	S. Sobana, S. Alagumanian, R. Dinesh Kumar, P. Sakthivel, P. Sivakumar	4191
	Paper Title:	Effect Of Al3 + Inclusion on Characterization Exploration, Magnetic and Anti-Cancer Properties of Cobalt Ferrite	419
	- aper - mac-	Nanoparticles Synthesised by Co-Precipitation Process	
06.	Authors:	K. Punishotam Naidu, P. Krishna Subba Rao, MHM Krishna Prasad	4199
	Paper Title:	IoT Based Atmosphere Menitoring System using Hadoop Map Reduce Paradigm	420
07.	Authors:	K. Sentamilselvan, D. Aneri, A. C. Athithiya, P. Kani Kumar	420:
	Paper Title:	Twitter Sentiment Analysis using Machine Learning Techniques	420
08.	Authors:	Vishnu Prasad S, T. Shanmuganantham	4210
	Paper Title:	Robot Assisted Routing and Navigation System for Visually Impaired People	421
09.	Authors:	M. Balal Siddiqui, M. T. Beg, S. N. Ahmad	421
	Paper Title:	Implementation of GA with Position Based Crossover-PX Technique for Size Optimization of BDD Mapped Adder Circuits	421
10.	Authors:	Josna Raphael P.	4219
	Paper Title:	Conceptual Model for Urban Interventions in Historic Cities based on Space Syntax	422
11.	Authors:	Chetana Tukkoji, Mahidhar R, Mahesh Krishna V, Shashank D, Vedanth S	4220
	Paper Title:	Prevention of Accidents using Automated Railway Crossing System	422
12.	Authors:	Harini M, Harini T, Roxanna Samuel	4230
12.			423
	Paper Title:	Design and Implementation of Air Selection based Augmented Reality Serious Game for Learning Capability Analysis	To a section of the s
13.	Authors:	Nitin Jain, Surendra Singh Chauhan, Alok Raj	423
	Paper Title:	Security Enhancement of RSA Algorithm using Increased Prime Number Set	
14.	Authors	Ramachandran N, Ajay Aravind J, Ajithkumar M, Dhivakar M, Dinesh Krishna M	424
	Paper Title:	Design and Fabrication of Steam Sanitiser	424
15.	Authors:	J. Jayashree, Ch. J. V. S. Snehith, K. Venkat, P. Chaitanya, J. Vijayashree	424
	Paper Title:	CROWDBC: A Blockchain-Base Decentralized Framework for Crowdsourcing	424
16.	Authors:	Manisha Talware, Sanjay Koli	424
	Paper Title:	Video-Based Person Re-Identification; Methods, Datasets, and Deep Learning	425
17.	Authors.	K. Yazhini, D. Loganathan	425
	Paper Title:	Gradient Descent Based Hyparameter Tuning of Xception Architecture for Diabetic Retinopathy Segmentation and	420
		Classification	
18.	Authors:	Panchi Kattil Susheel Kumar S, D. J. Pete	426
	Paper Title:	Spatial Correlation Based Clustering with dynamic CH Selection Scheme towards Enhanced QoS Metrics in Wireless Sensor Networks	
19.	Authors:	Ramesh Krishnan, K. Gnanasekaran, M. Thayumanavan, R. Suganthini Rekha, D. Murali	427
	Paper Title:	Optimization of Truck Chassis Frame using Ansys	427
20	SINCE CONTROL	2004/02/1010-000/03/04/05/05/05/05/05/05/05/05/05/05/05/05/05/	427
20.	Authors:	Karchung, Zepa Tenzin, Sonam Tenzin, Sonam Tobgay, Dorji Gyeltshen	428
	Paper Title:	Smart Street Lighting Detecting Vehicle and Pedestrian Movement Aiming for Sustainable Bhutan	
21.	Authors:	Shilpa Jahagirdar, Sanjay Koli	428
	Paper Title:	Automatic Accident Detection Techniques using CCTV Surveillance Videos: Methods, Data sets and Learning Strategies	428
22.	Authors:	Karthika S, Marshia Theras S, Mukesh K	428
	Paper Title:	Integrated Query Data Communication using Arti-Q System for Placement Cell Automation	428
23.	Authors:	Gurvinder Singh, Gulshan Taneja	429
	Paper Title:	Stochastic Modelling of an Aircraft Considering the Possibility of Precautionary Landing Due to Fuel - Filter Clogging	429
24.	Authors:	MSA Srivatsava, T. Ramashri, K Soundararajan	429
	Paper Title:	Statistical Goodness Factor 'T' for Image Fusion Algorithm Based on UGGD Parameters	429
25.	Authors:	Eman Nabil Alkholy, Amai Elsayed Aboutabl, Mohamed Hassan Haggag	430
	Paper Title:	A Proposed Fuzzy Model for Diseases Diagnosis	430
26.	Authors:	Swapnil Dadabhau Daphal, S. M. Koli	430
20.	2774/02/2006		430
2.7	Paper Title:	Identification of Sugarcane Foliar Diseases: Methods and Datasets	240
27.	Authors:	S.Vijayalakshmi, J. Uma Maheswari, G.R. Karpagam, M. Visalakshi	431
	Paper Title:	Using Petri-Net for Modeling and Formal Verification of Crypto-security in Driverless Vehicles	
28.	Authors:	Rameez Muneer, S. M. Koli	4319

	Paper Title:	Emergence and Functionality of 3D Videos	.,,,,
729.	Authors:	Praveen Kumar Gahlot, Suresh Singh Sankhla, Krishan Kumar Saini	4323-
	Paper Title:	Use of GGBS as Partial Replacement of Cement in Concrete While using Master REHO Build 823PQ	4329
730.	Authors:	Umashankar Pandey, Ashok Bhansali	4330-
	Paper Title:	Efficient Routing Protocols and Coverage Issues in Wsn	4336
731.	Authors:	Sukanya, Gaurav Dubey	4337-
	Paper Title:	Road Detection from Satellite Images using Matlab	4340
732.	Authors:	S. Priya Dharshini, M. Revathy, A. Soundharya, R. Manjula Devi	4341-
	Paper Title:	Non-Invasive Blood Glucose Measurement Technique for Diabetic Patients	4345
733.	Authors:	B. M. Kalbande, A. I. Dhatrak, S. W. Thakare	4346-
	Paper Title:	Experimental Assessment of Performance of XCC Pile in Sand	4351
734.	Authors	Leena Jain, Satinderjit Singh	4352-
	Paper Title:	Underlying Mental Factors Contributing to Software Complexity	4358
735.	Authors:	Phani Rama Krishna, M. Venu Bhargavi, P. G. S. Sundeep, M. L. P. Bindu, Lakshmi Pravalika	4359-
	Paper Title:	Advanced Energy-Efficient Clustering Routing Protocol using Centralized Scheme	4363
736.	Authors:	J. Jayashree, Harsha T, Anil Kumar C, J. Vijayashree	4364-
	Paper Title:	Enhanced Optimal Feature Selection Techniques for Fetal Risk Prediction using Machine Learning Algorithms	4370
737.	Authors:	Renjitha R, Rubashree D, Priya V, Preetha C	4371-
	Paper Title:	Generating an Audio and Text for Indian Sign Language	4374
738.	Authors	J. Jayashree, G. Maheswar Reddy, M. Sai Pradyumna Reddy, M. Sai Balaram Reddy, J. Vijayashree	4375-
	Paper Title:	Enhanced Optimal Feature Selection Techniques for Parkinson's disease Detection using Machine Learning Algorithms	4384
739.	Authors:	Walaa Mahmoud Shehata, Ahmad Mohamed Mokhtar	4385-
	Paper Title:	Modeling, Analysis and Optimization for the Biodiesel Production Process from Waste Cooking Oil	4394
740.	Authors:	Sarath Chandran, Kochumol Abraham	4395-
/TV.	100000000000000000000000000000000000000	Control of the Second Section (Section Section	4404
741	Paper Title:	Correlative Scrutiny on two Programming Dialects: RUBY Vs PYTHON	4405-
741.	Authors:	K. Zelensky, Ev. Nastenko, V. Bolhovitin, O. Pavlov	4411
740	Paper Title:	Mathematical Modeling of Polymer Loading Process in Extruders	
742.	Authors:	P. Oliver Jayaprakash, C.Mekala, M.Vishnu Priyan	4412-
	Paper Title:	Subsurface based Contaminant Transport Modelling of SDS (NaC ₁₂ H ₂₅ SO ₄)	
743.	Authors:	Shubham Pandey, Gulab Singh Bura	4418-
	Paper Title:	Prioritization of Black Spots in Hilly Road Segment using Road Engineering Data	
744.	Authors:	Ankit Singh, Gulab Singh Bura	4423-
	Paper Title:	Estimation of Economic Loss Due to Road Traffic Injuries using Human Capital Method	
745.	Authors:	C P Mallikarjuna Gowda, Raju Hajare, Shubha V Jois, Pavana, Srinivas M	4428-
	Paper Title:	Design and Development of Internet of Things Based Smart Ration Dispensing System	7432
746.	Authors:	Kailas V. Gurav, V. M. Kale, Akash Sah	4433-
	Paper Title:	Epoxy-Granite Properties using Indian Origin Granite	4436

Share this entry

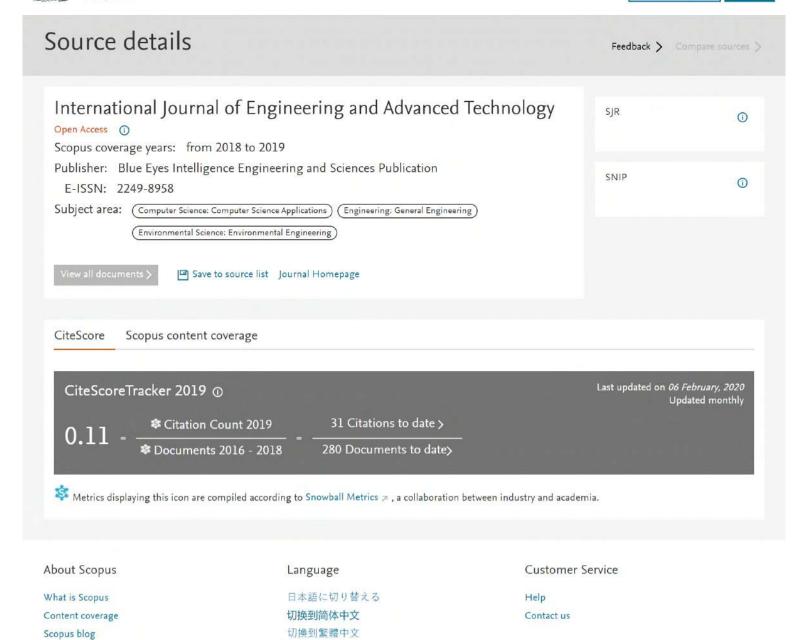






血





ELSEVIER

Scopus API Privacy matters

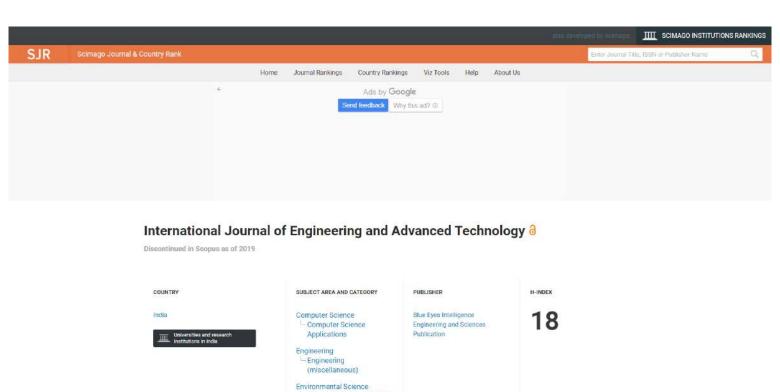
Terms and conditions > Privacy policy >

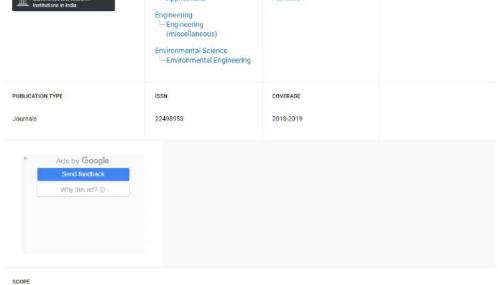
Русский язык

Copyright © Elsevier B.V ≈. All rights reserved. Scopus® is a registered trademark of Elsevier B.V.

We use cookies to help provide and enhance our service and tailor content. By continuing, you agree to the use of cookies.

RELX



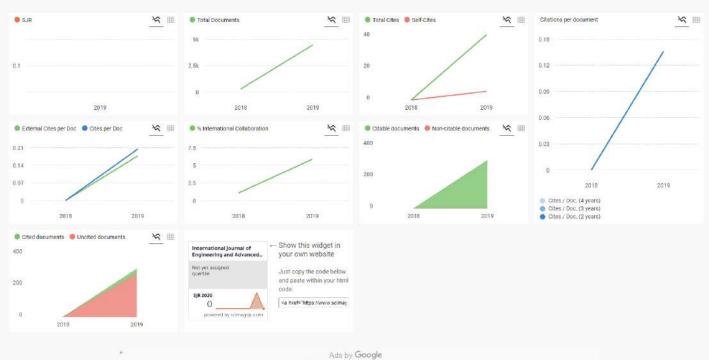


Q Join the conversation about this journal

Information not localized

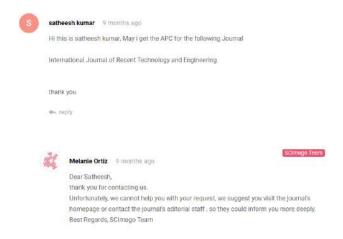






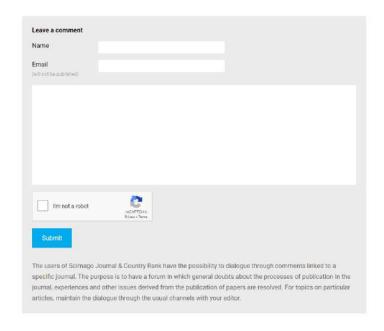
Send feedback Why this ad7 ①

Metrics based on Scopus® data as of April 2021



example, if the coverage in Scopus is 2014-2016, the papers published in 2017 will not be indexed as the Journal is not indexed in Scopus anymore. For this reason, we always recommend to consult the Scopus database directly to see the current status of a journal. Best Regards, SCImago Team







The Flexural Strength of Concrete Panels with Crystalline Ceramic Waste Aggregates

Muhtar

Abstract: Increased development has an impact on increasing material requirements and environmental pollution due to waste. Material needs must consider the energy-saving aspects and the thought of useless material to be useful, one of which is a crystalline ceramic waste. The crystalline ceramic waste is very sharp and hard. The utilization of crystalline ceramic waste as a concrete panel material is very important to reduce environmental pollution. The purpose of this research was to utilize crystalline ceramic waste as a concrete panel material and test its flexural capacity. Panel testing was carried out on specimens measuring 30 mm x 400 mm x 800 mm assuming the panel as a deep beam on simple support. Testing is done by a three-point bending flexural test method. Loading is carried out monotonically until the panel collapses. From the results of the ceramic concrete panel test showed that the flexural strength increased by 31.89% compared to the flexural strength of normal concrete panels.

Keywords: Ceramic concrete panel (CCP), waste aggregate, flexural strength.

I. INTRODUCTION

Crystalline ceramic waste is an environmental problem that we must pay attention to because, in addition to being dangerous environmental pollution, it is also increasingly increasing. Therefore it is necessary to have a solution to use it as useful material, including concrete material. Given the large negative impact of crystalline ceramic waste on humans and the environment, the use and utilization of waste as building materials is a must. Utilization and use of renewable energy has been widely studied by researchers to reduce environmental pollution, for example, bamboo as reinforced concrete [1], [2], [3], [4], [17] and the use of crystalline ceramic waste as concrete material [5], [6], [7], [8], [9].

The development of building materials must be energy efficient and think of the use of alternative materials such as crystalline ceramic waste materials. Crystalline ceramic waste is difficult to recycle. The material for making crystalline ceramics consists of several basic ingredients such as silica (SiO2), feldspar (Kal3O8), kaolin, clay, and others. All the forming elements are processed starting from mixing the ingredients, processing, printing, until burning with a certain temperature. Fragments of crystalline ceramics are very sharp on the sides, difficult to react with the soil, and can carry out radiation. This is very dangerous for humans and the environment.

Revised Manuscript Received on February 15, 2020.

* Correspondence Author

Muhtar*, Department of Civil Engineering, Faculty of Engineering, University of Muhammadiyah Jember, Jember, 68121, Indonesia. Email: muhtar@unmuhjember.ac.id

The utilization of waste of building materials that are harmful to the environment has been widely done, such as powder from grinding stone waste as a substitute for cement [10] and crystalline ceramic waste powder as a substitute for cement [11], [12], [13], and [14]. Lasseuguette et al. (2019) [11] conclude mortar of results of partial cement replacement with ceramic powder can increase CSH concentration, high CSH content shows an increase in mechanical performance such as compressive strength.

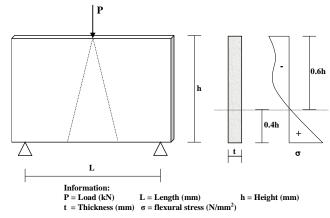


Fig. 1. The crack pattern and flexural stress of deep beam [15]

The concrete compressive strength is linear with a percentage of the amount of ceramic waste aggregate in concrete but has an optimum value both from the availability of material and from its mechanical properties. The optimum proportion of replacing conventional aggregates with ceramic waste aggregates of 30% is the best proportion [6]. The durability of concrete with aggregate crystalline ceramic waste is proven to be more durable [7]. Accurate and control of material properties are very important to improve the mechanical properties of concrete such as concrete compressive strength [8]. The substitution of normal aggregate with CWA aggregate of 55% obtained the most optimal results [5]. Siddique et al. (2019) [9] concluded that for structural concrete the replacement of fine aggregate by 40% with ceramic waste aggregate provides a characteristic compressive strength and considerable durability. Rashid et al. (2017) [6] the highest compressive strength can be achieved by replacing conventional aggregates with ceramic waste aggregates of 30%. In this study, it was tried to see the potential of ceramic waste to replace a portion of the concrete panel aggregate material. Here it will be observed how flexural strength of the panel when using the aggregate of ceramic waste.

The Flexural Strength of Concrete Panels with Crystalline Ceramic Waste Aggregates

The panel flexural stress distribution is assumed to be a deep beam bending stress distribution based on the ratio of the net span to height ratio (L/h) [15]. Based on the size of ceramic concrete panels for L/h = 700/400 = 1.75 and h = 350, the flexural stress of ceramic concrete panels can be included as in Fig. 1. The flexural stress equation is shown in Eq. (1) and Eq. (2). The benefit of this research is to provide hazardous waste utilization solutions without overriding the strength aspects and economic aspects.

$$\sigma = \frac{Mc}{I}(N/mm^2) \tag{1}$$

$$\sigma = \frac{1.2PL}{h^2t} (N/mm^2) \tag{2}$$

II. MATERIAL AND METHODS

A. Ceramic Waste Aggregate (CWA)

Crystal ceramic waste is taken from industrial waste that cannot be reprocessed. Crystalline ceramic waste has a thickness that varies between 5 mm to 15 mm. The types and forms of crystalline ceramic waste used in this study are shown in Fig. 2. Then, crystalline ceramic waste is broken down according to the aggregate size of the plan with a stone grinding machine. The planned size of crystalline ceramic waste aggregate is a maximum of 5 mm for fine aggregate and for the coarse aggregate of the maximum of 10 mm.



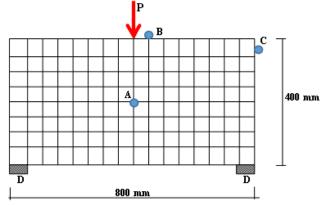
Fig. 2. The types and forms of crystalline ceramic waste

B. Testing Methods

The research method used is True Experimental Research. Tests consist of testing of ceramic concrete and testing of ceramic concrete panels (CCP). The size of the concrete panel specimen is 800 mm x 400 mm x 30 mm. The ceramic concrete panels (CCP) are made as many as 29 pieces, consisting of 5 variations. The variation of normal partial aggregate replacement with crystalline ceramic waste aggregate is 0%, 25%, 50%, 75%, and 100%.

The panel bending test is done by a three-point bending flexural test method base on ASTM-D790 [16]. The load is a centralized load spaced ½L from the support. The deflection that occurs in the test block is detected using Linear Variable Displacement Transducers (LVDT) at ½L distance from the

support. The loading on the panel is provided using a hydraulic jack and 200 kN capacity load-cell connected to the load indicator tool. The load readings on the load indicator are used as deflection reading controllers and hydraulic jacks according to the planned loading stage. After the test object reaches its ultimate load the deflection readings become the controller of the load reading. The arrangement of panels testing and load scheme applied are shown in Fig. 3. The process of making panel test specimens is shown in Fig. 4.



Information:

A, B, C = LVDT (Linear Variable Displacement Transducers)

D = Support from steel

P = Centralized load

Fig. 3. Arrangement of testing of panels



Fig. 4. Manufacture of panel test specimens

III. RESULTS AND DISCUSSION

A. Panel Flexural Strength

Panel flexural strength testing was carried out on five variations of ceramic concrete panels (CCP) with a thickness of 30 mm, a width of 400 mm, and a length of 800 mm. The number of panel test items is 29 pieces consisting of 10 panels 0% CWA, 10 panels 75% CWA, 3 panels 25% CWA, 3 panels 50% CWA, and 3 panels 100% CWA. Panels 0% CWA and panels 75% CWA more than other variations, intended to obtain accurate data, because from CWA concrete test data shows that concrete with a variation of 75% CWA is higher in compressive strength.



From the test results show that the flexural strength of ceramic concrete panels is greater than the flexural strength of normal concrete panels, the more variations in the distribution of CWA aggregates, the greater the flexural strength. The flexural strength of ceramic concrete panels is higher in a row of 9.25%, 14.45%, 31.89%, 23.47% of the flexural strength of normal concrete panels.

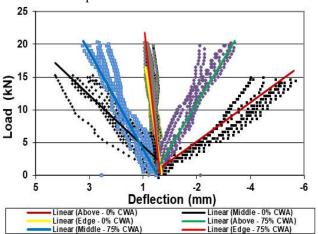


Fig. 5. The relationship of load-displacement of ceramic concrete panels (CCP)

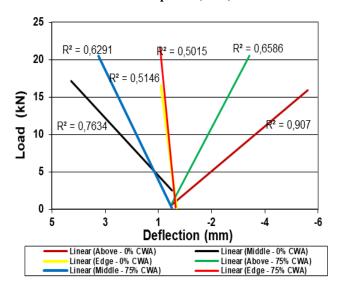


Fig. 6. The regression of load-displacement relations of ceramic concrete panels (CCP)

Fig. 5 and Fig. 6 shows that the displacement of ceramic concrete panels is smaller than the displacement of normal concrete panels, while crack and failure patterns are caused by flexural, however, interval the failure occurs of ceramic concrete panels 75% CWA longer than normal concrete panels 0% CWA, this is caused by the CWA aggregate properties that are harder and uniformity of CWA aggregate with normal aggregates, so that the density is better. The spread of the load is better, so the cracks are more diffuse and the ability to accept greater loads. This is evidenced by the crack pattern of the laboratory test results as shown in Fig. 7 and Fig. 8 and the deflection of the results of the finite element method simulation as shown in Fig. 9 and Fig. 10 of the 0% CWA normal concrete panel and the 75% CWA ceramic concrete panel. The crack pattern of the 75% CWA ceramic concrete is more overspread and approaching the crack

pattern of Park and Paulay (1975) [15] as shown in Fig. 1, while the normal concrete panel crack pattern of 0% CWA shows a straight line down as shown in Fig. 7.

B. The Verification with Finite Element Method (FEM)

The numerical verification is done to control the suitability of the crack pattern of CCP panels with the stress contour that occurs. The program developed in the FEM analysis was written with the Fortran PowerStation 4.0 program. The analysis of theoretical to calculate the load that causes the initial crack using elastic theory with the section of transformation. For linear analysis, the material data included are the Poisson ratio (v) and the elastic modulus (E). The constitutive relationship of finite element method (FEM) analysis, the problem-solving method has used the theory of plane-stress. The quadrilateral elements are used to model plane-stress elements with two-way primary displacement at each point so that the element has eight degrees of freedom. The stress-strain relationship for plane-stress problems has the form of an equation like Eq. (3).

where E is the elasticity modulus and v is Poisson's ratio. And the principal stress in two dimensions is be calculated with Eq. (4).

$$\sigma_{1,2} = \frac{\sigma_x + \sigma_y}{2} \pm \sqrt{\left(\frac{\sigma_x - \sigma_y}{2}\right)^2 + \tau_{xy}^2} = \sigma_{\text{max}}$$
 (4)

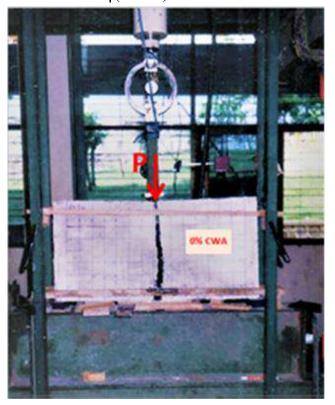


Fig. 7. The crack pattern of normal concrete panels (0% CWA)



The Flexural Strength of Concrete Panels with Crystalline Ceramic Waste Aggregates



Fig. 8. The crack pattern of ceramic concrete panels (75% CWA)

Fig. 11 shows the stress and stress contours at the center point of the panel 0% CWA and 75% CWA from the finite element method simulation. As the performance control of the 0% CWA normal concrete panels and the 75% CWA ceramic concrete panels, shown the stress at the center point of the panel is as shown in Fig. 11. The stress σ_{11} and the stress σ_{22} of ceramic concrete panels are larger than normal concrete panels, this proves that ceramic concrete panels have better performance and capacity.

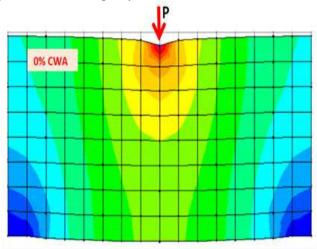


Fig. 9. The deflection contour of normal concrete panels from the FEM simulation (50% CWA)

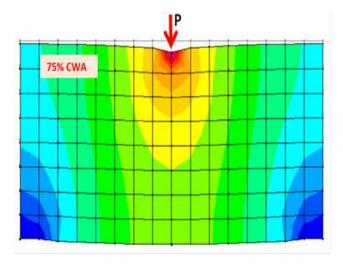


Fig. 10. The deflection contour of ceramic concrete panels from the FEM simulation (75% CWA)

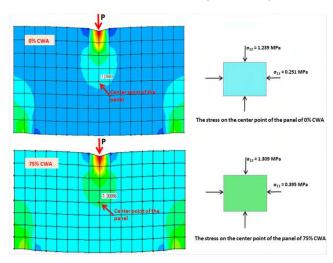


Fig. 11. The stress contour on the center point of the panel of 0% CWA and 75% CWA of the FEM simulation results

IV. CONCLUSIONS

From the testing results of the performance of ceramic concrete panels (CCP) obtained several conclusions:

- From the results of flexural testing and the finite element methods (FEM) simulation show that ceramic concrete panels have better performance and greater flexural capacity of up to 31.89% of the flexural strength of normal concrete panels with 0% CWA.
- Based on the image of the load and deflection relationship, ceramic concrete panels have a greater stiffness than the normal concrete panel stiffness.

ACKNOWLEDGMENT

This research and publication were funded fully supported by University of Muhammadiyah Jember through a community service program with a clean environment theme, located at University of Muhammadiyah Jember, Indonesia.



REFERENCES

- A. Agarwal, B. Nanda, D. Maity, Experimental investigation on chemically treated bamboo reinforced concrete beams and columns, Construction and Building Materials. 71 (2014) 610–617. https://doi.org/10.1016/j.conbuildmat.2014.09.011.
- Muhtar, S.M. Dewi, Wisnumurti, A. Munawir, The stiffness and cracked pattern of bamboo reinforced concrete beams using a hose clamp, International Journal of Civil Engineering and Technology. 9 (2018) 273–284. http://www.iaeme.com/MasterAdmin/uploadfolder/IJCIET_09_08_02 8/IJCIET_09_08_028.pdf.
- Muhtar, S.M. Dewi, Wisnumurti, A. Munawir, Enhancing bamboo reinforcement using a hose-clamp to increase bond- stress and slip resistance, Journal of Building Engineering. 26 (2019) 100896. https://doi.org/10.1016/j.jobe.2019.100896.
- Muhtar, Experimental data from strengthening bamboo reinforcement using adhesives and hose-clamps, Data in Brief. 27 (2019) 104827. https://doi.org/10.1016/j.dib.2019.104827.
- Muhtar, Effect of Ceramic Waste Aggregate in Concrete to Reduce Environmental Pollution, International Journal of Innovative Technology and Exploring Engineering. 9 (2019) 3112–3117. doi:10.35940/ijitee.B7530.129219.
- K. Rashid, A. Razzaq, M. Ahmad, T. Rashid, S. Tariq, Experimental and analytical selection of sustainable recycled concrete with ceramic waste aggregate, Construction and Building Materials. 154 (2017) 829–840. doi:10.1016/j.conbuildmat.2017.07.219.
- C. Medina, M.I. Sánchez De Rojas, C. Thomas, J.A. Polanco, M. Frías, Durability of recycled concrete made with recycled ceramic sanitary ware aggregate. Inter-indicator relationships, Construction and Building Materials. 105 (2016) 480–486. doi:10.1016/j.conbuildmat.2015.12.176.
- D.J. Anderson, S.T. Smith, F.T.K. Au, Mechanical properties of concrete utilising waste ceramic as coarse aggregate, Construction and Building Materials. 117 (2016) 20–28. doi:10.1016/j.conbuildmat.2016.04.153.
- S. Siddique, S. Chaudhary, S. Shrivastava, T. Gupta, Sustainable utilisation of ceramic waste in concrete: Exposure to adverse conditions, Journal of Cleaner Production. 210 (2019) 246–255. doi:10.1016/J.JCLEPRO.2018.10.231.
- H. Alsharie, O. Alayed, The Effect of Replacing Fine Silica with Stone Cuttings 'Powder on the Compressive Strength of Concrete: A Case Study in Jordan, Jordan Journal of Civil Engineering. 13 (2019) 124–135.
- E. Lasseuguette, S. Burns, D. Simmons, E. Francis, H.K. Chai, V. Koutsos, Y. Huang, Chemical, microstructural and mechanical properties of ceramic waste blended cementitious systems, Journal of Cleaner Production. 211 (2019) 1228–1238. doi:10.1016/j.jclepro.2018.11.240.
- A.S. El-Dieb, D.M. Kanaan, Ceramic waste powder an alternative cement replacement – Characterization and evaluation, Sustainable Materials and Technologies. 17 (2018). doi:10.1016/j.susmat.2018.e00063.
- M. Samadi, M.W. Hussin, H. Lee, Properties Of Mortar Containing Ceramic Powder Waste As Cement Replacement, Jurnal Teknologi. 77:12 (2015) 93–97.
- 14. M. Cristiano, The use of ceramic waste aggregates in concrete: a literary review, in Concrete 2014 Progetto e Tecnologia per Il Costruito Tra Xx e Xxi Secolo, 2014. doi:10.13140/2.1.2349.1846.
- R. Park, T. Paulay, Reinforced Concrete Structures, in John Wiley & Sons, New York, 1975: pp. 1–769.
- ASTM-D790, Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials 1, ASTM International, West Conshohocken, PA, 2003.
- Muhtar, Numerical validation data of tensile stress zones and crack zones in bamboo reinforced concrete beams using the Fortran PowerStation 4.0 program, Data in Brief. (2020) 105332. https://doi.org/10.1016/j.dib.2020.105332.

AUTHORS PROFILE



Muhtar, working as a Lecturer in Civil Engineering at the University of Muhammadiyah Jember, Indonesia. Doctor in Structural Engineering from Brawijaya University, Indonesia. Research works in bamboo construction and concrete technology.

Published By:
Blue Eyes Intelligence Engineering
& Sciences Publication

