

# IEI

Volume 7 | Issue 10 | October 2022

# EPITOME

*A Century of Service to the Nation*

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## Published by :

The Institution of Engineers (India),  
8 Gokhale Road, Kolkata 700020

Telephone : 91-33-40106299/248

E-mail : newsletter@ieindia.org

Website : <http://www.ieindia.org>

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# Members in the News



**Mr Logesh Rajendran, MIE**  
Assistant Vice President – Cloud Infra  
CITI  
✉ srlogesh@gmail.com

Mr Logesh elevated to the grade of IEEE Senior Member by IEEE Society on 13 August 2022.



## 37<sup>th</sup> Indian Engineering Congress



December 16-18, 2022

Theme:

### Role of Engineers for Creating a Sustainable & Self-Reliant India

#### REGISTRATION DETAILS

##### Who will Attend

- Engineers from all sectors – state and central government, public enterprises, industries & services;
- Academia – Student, Faculty and Management;
- Researchers, Scientists and Engineers, Defense, Aerospace, Industrial & from R&D establishment;
- International participation;
- Members related to Engineering Profession.

##### Registration Fees

Description	Before 10 November 2022		From 10 November 2022	
	Without GST (Rs)	With GST (Rs)	Without GST (Rs)	With GST (Rs)
Corporate Members	4000/-	4720/-	4500/-	5310/-
Non-Corporate Members	5000/-	5900/-	5500/-	6490/-
Spouses of Participants	2000/-	2360/-	2500/-	2950/-
ST/T* Members/Students**	1500/-	1770/-	2000/-	2360/-
International Delegates		\$600		\$700

\*Attested copy of Identity card to be enclosed with the registration form

##### Payment Details

All payment by registered participants, collaborators, sponsors, advertisement providers, exhibition stall should be remitted in the form of Demand Draft / Cheque in favour of "The Institution of Engineers (India) Tamilnadu State Centre". The Bank details is given below.

Beneficiary Name : The Institution of Engineers (India), Tamilnadu State Centre  
Account Number : 0346000100049405  
Name of the Bank : Punjab National Bank  
IFSC Code : PUNB0034600  
GST No. : 33AAATT3439Q1Z1

\*The payment receipt to be enclosed with the **Registration Form**.

For more details, please visit <https://37iec.org/registration-details/>

The **Registration Form** along with **DD** shall be sent to the following address.

#### THE ORGANISING CHAIRMAN

37<sup>th</sup> IEC 2022

The Institution of Engineers (India)

Tamilnadu State Centre,

No. 19, Swami Sivananda Salai, Chepauk, Chennai 600 005

Phone: 044-25360614 / 9962950333 | e-mail: 37iecchennai@gmail.com, info@37iec.org | website: <http://www.37iec.org>

# Publication by Members

## Book

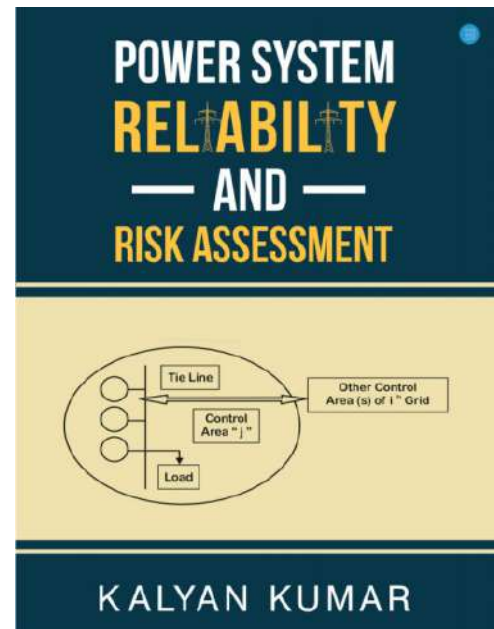


**Dr Kalyan Kumar**, FIE  
President  
National Industrial Corporation, Kolkata  
✉ kkumar.0420@gmail.com

### POWER SYSTEM RELIABILITY AND RISK ASSESSMENT

The book introduces reliability and risk assessment techniques for the successful operation of interconnected power system grids. The focus is on control [C] and reliability [R] factors. C-factors emphasize on key performance indicators [KPIs] as qualitative performance and risk measures of control area fulfilling its own commitments, and helping other areas of interconnection through the interface of turbine governor control [TGC], automatic generation control [AGC] and economic dispatch calculation [EDC]. In contrast, R-factors introduce key reliability indices [KRIs] as quantitative performance and risk measures ensuring power system reliability and security. Also, discussed is a micro-grid operation with solar energy backup towards enhanced grid reliability with security.

First Published : September 2022  
ISBN : 978-93-5628-497-5  
Publisher : Bluerose Publishers  
Price : Rs.640



## 37th Indian Engineering Congress



December 16-18, 2022

*Theme:*

### Role of Engineers for Creating a Sustainable & Self-Reliant India

#### EXHIBITION

An exhibition is being organized to provide ample opportunity to show case your products to your Stakeholders at congress premises.

For more details, please visit <https://37iec.org/registration-details/>

Application sent to the following address

#### CONGRESS SECRETARIAT

37th Indian Engineering Congress

The Institution of Engineers (India)

Tamilnadu State Centre

No. 19, Swami Sivananda Salai, Chepauk, Chennai 600 005.

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# Publication by Members

## Papers published in the Journals / Proceedings



### Dr Jitendra Mohan Giri, FIE

HoD

Department of Mechanical Engineering, Lloyd Institute of Engineering and Technology, Greater Noida, Uttar Pradesh

✉ [jmgiri.me@gmail.com](mailto:jmgiri.me@gmail.com)

#### Title of Paper: **Recent Progress in the Design of Sustainable Thermoelectric Cooling Systems**

Advances in Mechanical and Energy Technology, Lecture Notes in Mechanical Engineering, Springer, Singapore, June 2022, pp 375-385, Print ISBN: 978-981-19-1617-5, Online ISBN: 978-981-19-1618-2

DOI: [https://doi.org/10.1007/978-981-19-1618-2\\_37](https://doi.org/10.1007/978-981-19-1618-2_37)

Co-author: Pawan Kumar Singh Nain

**Abstract:** The thermoelectric cooling (TEC) modules are electronic components that work on the principle of the Peltier effect. It functions as a heat pump moving heat from one side of the device to the other. The growing adoption of electric vehicles, growing inclination toward renewable energy sources, and increase in demand for energy-efficient consumer electronics are the key factors driving the thermoelectric devices market. However, the high cost of thermoelectric modules, design complexity and heat dissipation issues restrain the market growth. The reduced size of the thermoelectric elements is one goal for TEC module manufacturers. Various benefits can be achieved if TEC is made lighter and smaller. When the size of a TEC is reduced, however, we run into issues with heat transfer. It is difficult to transfer heat (source to sink) when end plates are small in cross-section. Increasing the gap between the TE elements would almost certainly solve the issue. But conduction, convection, and radiation heat losses increase substantially. In recent years, new techniques to design thermoelectric coolers have made significant progress. We summarize recent progress in the design of sustainable thermoelectric cooling devices in this review, which have been established to enhance various performance requirements and add new functionality.

**Keywords:** Thermoelectric Cooling, Peltier Effect, Cooling Capacity, Coefficient of Performance, Exergy



## 37th Indian Engineering Congress



December 16-18, 2022

Theme:

### Role of Engineers for Creating a Sustainable & Self-Reliant India

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<https://37iec.org/sponsorships-and-advertisement-details/#sponsorshipopportunities>

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Chairman  
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**Dr T M Gunaraja**  
Organising Chairman  
Ph : 94440 26120

**Mr R Ramdoss**  
Organising Secretary  
Ph : 94440 19091

# Publication by Members



## Prof Balachandran Ruthramurthy, MIE

Professor

Department of Electronics and Communication Engineering, School of Electrical Engineering and Computing, Adama Science and Technology University, Adama, Ethiopia

✉ [balachandran.ruthramurthy@astu.edu.et](mailto:balachandran.ruthramurthy@astu.edu.et)

### **Title of Paper: Phyto-mediated Synthesis of Copper Oxide Nanoparticles using Artemisia Abyssinica Leaf Extract and its Antioxidant, Antimicrobial and DNA Binding Activities**

Green Chemistry Letters and Reviews, 15(3), 2022, pp 598-614, ISSN: 1751-8253

DOI: <https://doi.org/10.1080/17518253.2022.2121620>

**Co-authors:** Temesgen Achamo, Enyew Amare Zereffa, H C Ananda Murthy & Venkatesha Perumal Ramachandran

**Abstract:** Copper oxide nanoparticles (CONPs) are one of the most important metal oxide nanoparticles (MONPs) in the emerging field of nanomedicine due to their remarkable features. Novel CONPs were synthesized using ethanolic (50%, v/v) leaf extract of the indigenous plant Artemisia abyssinica for the first time. The precursor salt concentration, extract volume, pH of the solution, and synthesis temperature were optimized with the UV-Vis spectrophotometer. Using UV-visible spectroscopy, the SPR peaks were observed at 408 nm, and the band gap was found to be 3.039 eV, revealing its semiconductor nature. The presence of phytochemicals on the surface of CONPs was confirmed by FTIR, TGA/DTA, and EDX analysis. The spherical nature and average crystal sizes of the particle 18.4 and 24.6 nm were determined using TEM and XRD analysis. CONPs showed promising antimicrobial activity against selected drug-resistant pathogenic bacterial and fungal strains. The highest inhibition zone was exhibited on Staphylococcus aureus ( $32.5 \pm 0.02$  mm with MIC value  $10 \mu\text{g/mL}$ ) among bacterial strains and Aspergillus flavus ( $22 \pm 0.34$  mm with MIC value  $25 \mu\text{g/mL}$ ) in fungal strains. CONPs revealed the strong antioxidant potential ( $88.81 \pm 0.02\%$ , at  $200 \mu\text{g/mL}$ ) with an IC<sub>50</sub> value of  $5.75 \mu\text{g/mL}$ . Furthermore, CONPs remarkably exhibited DNA binding activity with CT-DNA.

**Keywords:** Artemisia Abyssinica, CONPs, Antimicrobial, Antioxidant, DNA Binding

### **Title of Paper: The Microstructural and Morphological Effects of Doping Barium Strontium Titanate Nanocrystalline with Selenium**

Inorganic Chemistry Communications, 145, 2022, Elsevier, ISSN: 1387-7003

DOI: <https://doi.org/10.1016/j.inoche.2022.109954>

**Co-authors:** Kiflom Gebremedhn Kelele, H C Ananda Murthy, Aschalew Tadesse, Yosef Nikodimos, Lema Teshome Tufa & Jaebeom Lee

**Abstract:** Both the barium strontium titanate as well as its respective selenium doped sample were synthesized through a slow injection sol-gel method which is calcined at  $800^\circ\text{C}$ . The microstructural and morphological effects have been explored using XRD, BET, FE-SEM, TEM, EDS, XPS and FT-IR. The existence of Se in Se-doped BST was initially confirmed by EDS which was later firmly established by the XPS. Se was found in the BST base material as  $\text{Se}^{6+}3d_{5/2}$  with a binding energy of 61.0 eV. The wave numbers of Ba-O, Ti-O, Sr-O bonds of Se-doped BST shifted from the respective values for the BST nanopowders. The addition of Se into  $\text{Ba}_x\text{Sr}_{1-x}\text{TiO}_3$  led to the reduction of an average crystal size from 23.97 nm to 20.68 nm and lattice parameter from  $3.97 \text{ \AA}$  to  $3.93 \text{ \AA}$ . On the other hand, the particle size of BST has been lowered from 40.125 nm to 16.806 nm after doping. The specific surface area has also been lowered from  $557.9 \text{ m}^2/\text{g}$  to  $539.5 \text{ m}^2/\text{g}$  leading to the reduction of pore size and pore volume along with elevation of aggregates of particles from  $6.42 \times 10^{-4}$  to  $1.1 \times 10^{-3}$ . The morphology of Se-doped BST was found with increased surface roughness as compared to the BST. Hence, the Se-doped  $\text{Ba}_{0.6}\text{Sr}_{0.4}\text{TiO}_3$  has shown varied structural and morphological properties from the  $\text{Ba}_{0.6}\text{Sr}_{0.4}\text{TiO}_3$ .

**Keywords:** Barium Strontium Titanate, Se, Doping, Morphology, Microstructure

### **Title of Paper: Synthesis and Characterization of Mo-Doped Barium Strontium Titanate Nanopowder via Slow Injection Sol-Gel Processing**

Chemical Papers, 2022, Springer, Print ISSN: 0366-6352, Electronic ISSN: 2585-7290

# Publication by Members

DOI: <https://doi.org/10.1007/s11696-022-02458-9>

**Co-authors:** Kifom Gebremedhn Kelele, H C Ananda Murthy, Aschalew Tadesse, Yosef Nikodimos, Lemma Teshome Tufa & Jaebeom Lee

**Abstract:** Barium strontium titanate (BST) is a perovskite utilized in a variety of applications. Hence, the main aim of this research was synthesizing and characterizing BST and Mo-doped BST nanopowders so that the effect of Mo on some properties of BST was investigated. They were synthesized through a slow injection sol-gel method calcined at 800 °C. The SEM image of BST and Mo-doped BST nanopowders revealed that more agglomerated particles with the respective grain size of 40.13 and 27.00 nm, respectively, were obtained. Incorporation of Mo to BST has resulted in lowering of average crystal sizes from 23.97 to 17.84 nm, from the XRD data. The particle size of Mo-BST was also obtained from the TEM as 24.591 nm. The BET data revealed that lowering of the specific surface area from 557.9 to 54.2 m<sup>2</sup>/g was accompanied by reduction of pore volume with almost constant porous size, after the incorporation of Mo<sup>6+</sup> to BST. From the XPS data, the binding energy of Mo<sub>3d</sub> in the BST powder was found as Mo<sup>6+</sup> 3d<sub>5/2</sub> (232 eV) and Mo<sup>6+</sup> 3d<sub>3/2</sub> (235 eV) confirming the existence of Mo on the BST perovskite which has been further supported by the EDS spectrum and Raman spectroscopy data, while the functional groups such as Mo–O, Ti–O, Ba–O, Sr–O were revealed by the FTIR spectrum in the range 400–600 cm<sup>-1</sup>. All the data supported the conclusion that Mo-doped BST has been effectively synthesized through a slow injection sol–gel method with varied properties from the pure BST.

**Keywords:** Barium Strontium Titanate, Molybdenum Dopant, Slow Injection Sol–gel



## Project Management Associates Weekend Programme



### International Project Management Association

IPMA is a federation of about 72 Member Associations (MAs) who develop project management competences in their geographic areas of influence. Through IPMA, project management practitioners from all parts of the world can network, share ideas through effective collaboration and cooperation.

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- The registration fee does not include travel and hotel accommodation.

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**Exam Dates for Level C: 26 November 2022 and 2 & 3 December 2022**

**Exam Dates for Level D: 26 November 2022**

**Exam Venue: Secure and Seamless Online Exam & Assessment**

**For more details, please contact:**

Arvind Agarwal, Head, PMA Cert (Certification Body)

Project Management Associates

FC-33, Plot No. 1 & 2, Periyar Centre, 3rd Floor, Institutional Area, Jasola, New Delhi – 110025

Tel: 011 41421511 Mob: +91 9711631534-35/39, 9840432229, Website: [www.pma-india.org](http://www.pma-india.org), Email: [info@pma-india.org](mailto:info@pma-india.org)

# Published Articles in IEI Journals



## Journal of The Institution of Engineers (India): Series C

Mechanical, Production, Aerospace and Marine Engineering

Electronic ISSN: 2250-0553; Print ISSN: 2250-0545

SCOPUS Indexed & UGC-CARE (India) listed

For download, use Membership ID through: [www.ieindia.org](http://www.ieindia.org)

### Volume 103, Issue 5, October 2022

- Title:** **A Study of Tensile Characteristics for Glass and Carbon Fiber Along with Sandwiched Reinforced ABS Composites**
- Authors:** **Vijaykumar A Radadiya**  
Gujarat Technological University, Ahmedabad, Gujarat  
**Anish H Gandhi**  
C K Pithawala College of Engineering & Technology, Surat, Gujarat
- DOI:** <https://doi.org/10.1007/s40032-022-00848-2>
- Publication Date:** 13 June 2022
- Pages:** 1049 - 1057
- Title:** **An Experimental–Numerical Investigation for Layer-Wise-Heat-Input Management in GMA-Based Additive Manufacturing**
- Authors:** **Shekhar Srivastava, Rajiv Kumar Garg & Anish Sachdeva**  
Department of Industrial and Production Engineering, Dr B R Ambedkar National Institute of Technology, Jalandhar, Punjab  
**Vishal S Sharma**  
Department of Industrial and Production Engineering, Dr B R Ambedkar National Institute of Technology, Jalandhar, Punjab  
Department of Mechanical, Industrial and Aeronautical Engineering, University of Witwatersrand, Johannesburg, South Africa  
**Sehijpal Singh**  
Department of Mechanical Engineering, Guru Nanak Dev Engineering College, Ludhiana, Punjab
- DOI:** <https://doi.org/10.1007/s40032-022-00868-y>
- Publication Date:** 16 August 2022
- Pages:** 1059 - 1070
- Title:** **Blind-Spot Monitoring System using Lidar**
- Authors:** **Kuldeep S Pawar, Shivanand N Teli, Prasad Shetye, Saukshit Shetty, Vedant Satam & Atul Sahani**  
Department of Mechanical Engineering, Bharati Vidyapeeth College of Engineering Navi Mumbai Affiliated to University of Mumbai, Navi Mumbai, Maharashtra
- DOI:** <https://doi.org/10.1007/s40032-022-00856-2>
- Publication Date:** 18 June 2022
- Pages:** 1071 - 1082

# Published Articles in IEI Journals

Title: **Calibrating a Synthesized 3-PRS Manipulator by Minimizing the Errors in Positions of Revolute Joints**

Author: **Pundru Srinivasa Rao**

Department of Mechanical Engineering, Mahatma Gandhi Institute of Technology, Gandipet, Hyderabad, Telangana

DOI: <https://doi.org/10.1007/s40032-022-00866-0>

Publication Date: 08 August 2022

Pages: 1083 - 1093

Title: **Designing Engineering Solutions to Surgical Problems: How to Translate Physiology to Biomechanics**

Authors: **Orit Braun Benyamin & Adham Salih**

Mechanical Engineering, Braude College, Karmiel, Galilee, Israel

**David Juvinao & Tzach Berlinsky**

Braude College, Karmiel, Galilee, Israel

**Evgeny Solomonov**

General Surgery, Ziv Medical Center, Karmiel, Galilee, Israel

**Igor Waksman & Seema Biswas**

General Surgery, Galilee Medical Center, Nahariya, Galilee, Israel

DOI: <https://doi.org/10.1007/s40032-022-00865-1>

Publication Date: 06 August 2022

Pages: 1095 - 1102

Title: **Development and Characterization of Cu-Al<sub>2</sub>O<sub>3</sub> Nanocomposite Coating using Electrodeposition Process on Copper Substrate**

Authors: **Ashish Mogra**

Department of Mechanical Engineering, Mukesh Patel School of Technology Management & Engineering, SVKM's Narsee Monjee Institute of Management Studies, Shirpur Campus, Mumbai, Maharashtra

**Pankaj Kumar Pandey**

Department of Chemical Engineering, AMITY University, Jaipur, Rajasthan

**Krishna Kumar Gupta**

Department of Mechanical Engineering, Malwa Institute of Science & Technology, Indore, Madhya Pradesh

**Sugam Shivhare & Vivekanand Bagal**

Department of Applied Science and Humanities, Mukesh Patel School of Technology Management & Engineering, SVKM's Narsee Monjee Institute of Management Studies, Shirpur Campus, Mumbai, Maharashtra

DOI: <https://doi.org/10.1007/s40032-022-00863-3>

Publication Date: 16 August 2022

Pages: 1103 - 1109

Title: **Eco-Friendly Machining of Ti-6Al-4V Alloy: Optimization Using a Hybrid Algorithm (Grey Wolf Algorithm and VIKOR Algorithm)**



# Published Articles in IEI Journals

Authors: **V V K Lakshmi, K Arun Vikram, Shabana, K Suresh & R D V Prasad**  
GITAM Deemed to Be University, Visakhapatnam, Andhra Pradesh  
**K Venkata Subbaiah**  
Andhra University, Visakhapatnam, Andhra Pradesh

DOI: <https://doi.org/10.1007/s40032-022-00871-3>

Publication Date: 24 August 2022

Pages: 1111 - 1124

Title: **Evaluation of the Efficacy in Ergonomically Designed Handsaw to Minimize the Muscular Load on Arm and Shoulder Muscles among Carpenters**

Authors: **R Naveenkumar, D Hariprasath & G Moulidaman**

Department of Mechanical Engineering, Kongu Engineering College, Erode, Tamil Nadu

**S Shankar & R Nithyaprakash**

Department of Mechatronics Engineering, Kongu Engineering College, Erode, Tamil Nadu

**C Prakash**

School of Mechanical Engineering, Lovely Professional University, Phagwara, Punjab

DOI: <https://doi.org/10.1007/s40032-022-00858-0>

Publication Date: 04 July 2022

Pages: 1125 - 1132

Title: **Improvement in Ride Comfort and Vehicle Stability using Hybrid Semi — Active Suspension System**

Authors: **Jitender Kumar & Gian Bhushan**

Department of Mechanical Engineering, National Institute of Technology, Kurukshetra,

DOI: <https://doi.org/10.1007/s40032-022-00855-3>

Publication Date: 16 June 2022

Pages: 1133 - 1142

Title: **Influence of Particle Size on Microstructure and Sliding Wear Response of Fly Ash and Rice Husk Ash Reinforced Al6061 MMCs**

Authors: **Sasank Shekhar Panda**

Centurion University of Technology and Management, Parlakhemundi, Odisha

GIET University, Gunupur, Odisha

**Ajit Kumar Senapati**

GIET University, Gunupur, Odisha

**P Srinivasa Rao**

Centurion University of Technology and Management, Parlakhemundi, Odisha

DOI: <https://doi.org/10.1007/s40032-022-00849-1>

Publication Date: 18 June 2022

Pages: 1143 - 1154

Title: **Investigation of the Performance of a 660-MW Supercritical Boiler in Terms of Nox Emission and Enhancing the Thermal Efficiency by Optimizing the Air Distribution System**

# Published Articles in IEI Journals

- Authors: **Naveen Kumar Gavirineni**  
School of Mechanical Engineering, Vellore Institute of Technology (VIT), Vellore, Tamil Nadu
- Authors: **Edison Gundabattini**  
Department of Thermal and Energy Engineering, School of Mechanical Engineering, Vellore Institute of Technology (VIT), Vellore, Tamil Nadu
- DOI: <https://doi.org/10.1007/s40032-022-00833-9>
- Publication Date: 18 June 2022
- Pages: 1155 - 1168
- Title: **Machinability Aspects of Nano MMT Deposited GFRP Composites to Minimize the Drilling Induced Delaminations**
- Authors: **Simhadri Raju Juvvala, Kodanda RamaRao Chebattina, V S N Venkata Ramana & Divakar Bommana**  
Department of Mechanical Engineering, GITAM (Deemed to Be University), Visakhapatnam, Andhra Pradesh
- Authors: **Uma Chaithanya Pathem**  
Department of Mechanical Engineering, Baba Institute of Technology and Sciences, Visakhapatnam, Andhra Pradesh
- DOI: <https://doi.org/10.1007/s40032-022-00861-5>
- Publication Date: 15 June 2022
- Pages: 1169 - 1175
- Title: **Microstructural, Strength and Residual Stress Studies on Single- and Double-Side Single-Pass Submerged Arc Welding of 9Cr-1Mo-V Steel Plate**
- Authors: **Saurav Suman**  
Department of Mechanical Engineering, National Institute of Technology, Mizoram, Chaltlang, Aizawl, Mizoram
- Authors: **Pankaj Biswas**  
Department of Mechanical Engineering, Indian Institute of Technology Guwahati, Kamrup, Guwahati, Assam
- DOI: <https://doi.org/10.1007/s40032-022-00870-4>
- Publication Date: 11 August 2022
- Pages: 1177 - 1191
- Title: **Microstructural Study and Mechanical Characterization of ECAP Processed C70600 Alloy**
- Authors: **S Sachin & H Shivananda Nayaka**  
Department of Mechanical Engineering, National Institute of Technology, Surathkal, Karnataka
- DOI: <https://doi.org/10.1007/s40032-022-00854-4>
- Publication Date: 18 June 2022
- Pages: 1193 - 1201
- Title: **Natural Convection Inside a Square Enclosure with an Array of Cylinders of Different Geometrical Configurations**
- Authors: **Sukumar Pati, Navneet Goswami, Dipankul Bhattacharya, Prakashjyoti Kalita & Pitambar R Randive**

# Published Articles in IEI Journals

- DOI: <https://doi.org/10.1007/s40032-022-00875-z>  
 Publication Date: 05 September 2022  
 Pages: 1203 - 1215
- Title: **Network-of-Things (NoT) in Avionic Systems**  
 Authors: **Sreelal Sreedharan Pillai, Bibin Varghese, Sreekumar Sankarattil, Vinod Padmanabha Rao & M Narayanan Namboodiripad**  
 Vikram Sarabhai Space Centre, Indian Space Research Organization, Trivandrum, Kerala
- DOI: <https://doi.org/10.1007/s40032-022-00869-x>  
 Publication Date: 22 August 2022  
 Pages: 1217 - 1222
- Title: **Study of the Polishing Performance of YAG Crystals through the Balance between Chemical and Mechanical Actions**  
 Authors: **Nguyen Minh Quang, Nguyen Tien Tung & Le Thi Phuong Thanh**  
 Faculty of Mechanical Engineering, Hanoi University of Industry, 298 Cau Dien, Bac Tu Liem District, Ha Noi, Vietnam
- DOI: <https://doi.org/10.1007/s40032-022-00846-4>  
 Publication Date: 12 June 2022  
 Pages: 1223 - 1233
- Title: **Study on the Cost Control of Enterprise Activity Chain Based on Big Data**  
 Author: **Xiaoyan Wang**  
 Anhui Finance and Trade Vocational College, No. 900, Feicui Road, Jingkai District, Hefei, 230601, Anhui, China
- DOI: <https://doi.org/10.1007/s40032-022-00845-5>  
 Publication Date: 18 June 2022  
 Pages: 1235 - 1242
- Title: **Suitable CFRP Patches to Arrest Crack Growth in Thin Alloy Aluminium Panels**  
 Authors: **H P Shinde, P Kumar, M G Karnik & S D Shinde**  
 Department of Mechanical Engineering, College of Engineering Pune, Pune, Maharashtra
- DOI: <https://doi.org/10.1007/s40032-022-00860-6>  
 Publication Date: 13 July 2022  
 Pages: 1243 - 1249
- Title: **Transition to Electric Mobility in India: Barriers Exploration and Pathways to Powertrain Shift through MCDM Approach**  
 Authors: **B Ashok**  
 School of Mechanical Engineering, Vellore Institute of Technology, Vellore, Tamil Nadu  
 Department of Mechanical Engineering, Ahmadu Bello University, Zaria, Nigeria  
**C Kannan, R Vignesh, Chirag Deepak, Rathan Ramesh & Tharun M V Narendhra**  
 School of Mechanical Engineering, Vellore Institute of Technology, Vellore, Tamil Nadu  
**Kaisan Muhammad Usman**

# Published Articles in IEI Journals

Department of Mechanical Engineering, Ahmadu Bello University, Zaria, Nigeria

**C Kavitha**

Sreenivasa Institute of Technology and Management Studies, Chittoor, Andhra Pradesh

DOI: <https://doi.org/10.1007/s40032-022-00852-6>

Publication Date: 19 July 2022

Pages: 1251 - 1277

Title: **Experimental Analysis of Modified Refrigeration Air Dryer for Performance Improvement**

Authors: **Dipakkumar Chimangiri Gosai & Siddhrajsinh Mahendrasinh Raj**

Mechanical Engineering Department, Shri S'ad Vidya Mandal Institute of Technology, Bharuch, Gujarat

**Anil Kumar Gillawat**

Mechanical Engineering Department, National Institute of Technology Andhra Pradesh, Tadepalligudem, Andhra Pradesh

DOI: <https://doi.org/10.1007/s40032-022-00864-2>

Publication Date: 08 August 2022

Pages: 1279 - 1284

Title: **3D Printing of Glass Fiber-Reinforced Polymeric Composites: A Review**

Authors: **Ketan Badogu, Raman Kumar & Ranvijay Kumar**

Department of Mechanical Engineering, University Center for Research and Development, Chandigarh University, Punjab

DOI: <https://doi.org/10.1007/s40032-022-00873-1>

Publication Date: 29 August 2022

Pages: 1285 - 1301

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# Published Articles in IEI Journals

- Title:** Bone Tissue Regeneration: Rapid Prototyping Technology in Scaffold Design  
**Authors:** Ali Imran Ansari & Nazir Ahmad Sheikh  
 Department of Mechanical Engineering, National Institute of Technology, Srinagar, Jammu and Kashmir  
**DOI:** <https://doi.org/10.1007/s40032-022-00872-2>  
**Publication Date:** 06 September 2022  
**Pages:** 1303 - 1324
- Title:** Processing Techniques, Microstructural and Mechanical Properties of Wire Arc Additive Manufactured Stainless Steel: A Review  
**Authors:** Sumit K Sharma & Chaitanya Sharma  
 Department of Metallurgical Engineering, Birsa Institute of Technology (BIT), Sindri, Jharkhand  
**DOI:** <https://doi.org/10.1007/s40032-022-00853-5>  
**Publication Date:** 14 June 2022  
**Pages:** 1325 - 1339
- Title:** Flare Piping Material Selection for the Offshore Oil and Gas Industry  
**Author:** Karan Sotoodeh  
 Valve Engineering, Baker Hughes, Oslo, Norway  
**DOI:** <https://doi.org/10.1007/s40032-022-00862-4>  
**Publication Date:** 25 July 2022  
**Pages:** 1341 - 1348



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(xii) Issue No (Not required for Indian Engineering Congress/Annual Technical Volumes of IEI)	
(xiii) Theme (Only for Technical Volumes of IEI)	
(xiv) DOI: (Not required for Indian Engineering Congress/Annual Technical Volumes of IEI)	
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(x) Title of Book Chapter	
(xi) Book Chapter Number	
(xii) Publisher Details	
(xiii) ISBN	
(xiv) Date of Publication (Date-Month-Year)	
(xv) Co-authors (if any)	
(xvi) About the book (100-150 words)	
(xvii) Supporting Documents (complimentary copies for IEI Headquarters)/links [which are clearly indicative of the incumbent's achievement(s)]	

*\* accommodate works published in journals/reputed conference proceedings/books for the last one year*

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The Institution of Engineers (India)  
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