17.2.4 Collaboration for SDG best practice

International Colloboration Events

S.No	Name of the University/ Organization	International faculty in contact with details	Date of Interaction	Event Name	SDG
1.	Kyungpook National Univeristy, South Korea	Dr.Anand Paul	19.01.2024 to 20.01.2024	An International FDP on “Recent Trends in Innovative Applications of AI Technologies”	4,9
2.	Kyungpook National Univeristy, South Korea	Dr.Barathi Subramiam	19.01.2024 to 20.01.2024	An International FDP on “Recent Trends in Innovative Applications of AI Technologies”	4,9
3.	The University of Hertfordshire, Hatfield, United Kingdom,	Sikiru Oluwarotimi Ismail	Paper pulished in 2023	International Publication	9,12,13
4.	Qassim University, Saudi Arabia	S.Sivasankaran	25.04.2024	International Publication	9,12,13
5.	Qassim University, Saudi Arabia	S.Sivasankaran	22.09.2023	International Publication	9,12,7
6.	Qassim University, Saudi Arabia	S.Sivasankaran	October 2023	International Publication	9,12,13

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DEPARTMENT OF MECHATRONICS ENGINEERING
ACADEMIC YEAR 2023 – 2024
EVENTS CIRCULAR

Circular No: SKCET/MCT/EVENTS/2023-2024/012

10.01.2024

The Department of Mechatronics Engineering has planned to organize An International FDP on "Recent Trends in Innovative Applications of AI Technologies" from 19.01.2024 to 20.01.2024. during this Academic Year 2023-2024.

Interested faculty members can register for the FDP through the google form https://forms.gle/nbjCswV9PFAqfzxb7 on or before 17.01.2024.

Event Coordinator

Head of the Department

Head of the Department
Mechatronics Engineering
Sri Krishna College of Engineering and Technology
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To

1. To Department notice board
2. To be read in all classes
3. Department file
4. IQAC

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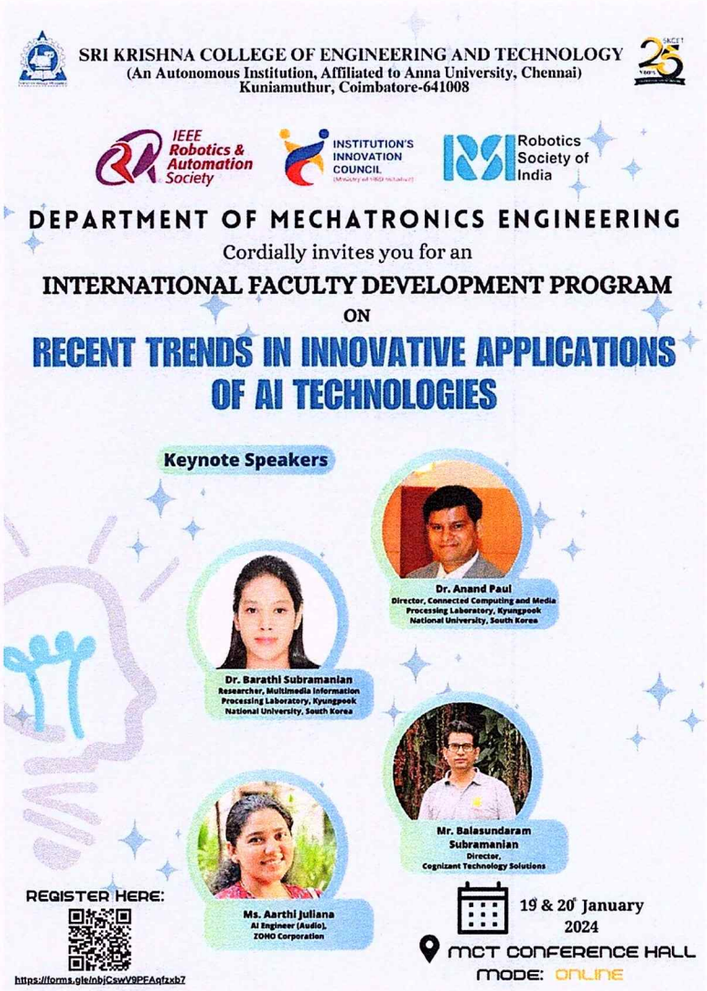
DEPARTMENT OF MECHATRONICS ENGINEERING

21.01.2024

An International FDP on Recent Trends in Innovative Applications of AI Technologies" from 19.01.2024 to 20.01.2024.

Invitation



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Guest Profile

Dr. Anand Paul is a full-time Professor in the School of Computer Science & Engineering, Kyungpook National University, South Korea, and founder/director of CCMP lab. He received Ph.D. from National Cheng Kung University, Taiwan, in 2010. From 2010 to 2012, he worked as an Assistant Professor in Hanyang University, South Korea. He represented Korea for the M2M Focus Group and MPEG during 2010–2015. His recent research interests are Blockchain, IoT, and Data Science. The person is distinguished by their memberships in IEEE as a Senior Member and in ACM. They have garnered recognition for their notable contributions, including receiving the IEEE Best Paper Award and the Excellent Professional Service Award at the 2015 International Conference on Platform Technology and Services (PlatCon'15) in Jeju, South Korea. Additionally, they achieved first place in a national-level technical quiz contest held in Tamil Nadu, India. These accolades underscore their significant achievements and commitment to their profession.

Aarthi Juliana, based in Chennai, Tamil Nadu, India, is currently employed as a Member Technical Staff specializing in Deep Learning at Zoho Corporation. She

brings with her experience from previous roles at Tech Mahindra (formerly Mahindra Satyam). Aarthi Juliana completed her Bachelor of Engineering (BE) degree at St. Joseph's College of Engineering between 2012 and 2016. Her professional background reflects a dedicated commitment to applying her technical skills in the software industry, particularly in the realm of deep learning.

Dr Barathi Subramanian, is researcher in Computer Vision at Kyungpook National University in South Korea. She has over 3 years of research experience applying deep learning and computer vision to real-world applications including object classification, image segmentation, anomaly detection and gesture recognition.

Her work is focused on developing AI models for industrial defect detection, sign language recognition, small object detection and real-time emotion analysis systems. She has several peer-reviewed journal and conference publications showcasing her work leveraging AI solutions for practical problems.

She has received multiple best paper awards as well as my university's best thesis award in 2024. In addition to her research, she serves as a peer reviewer for international journals and mentor undergraduate students.

With expertise in computer vision and a passion for innovative applications of AI, she looks forward to providing valuable perspectives on the latest advancements in using AI technology to address modern real-world challenges.

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Mr.Balasundaram Subramanian , Director , Cognizant Technology Solutions Pvt Ltd has 22+ years' of I.T. industry experience in Delivery Management for various Large Business engagements.He is a Solution consultant in Next Generation IT (Generative AI) platforms for customers.He ia also a keen planner, strategist & implementer with demonstrated success in end-to-end Delivery management.His area of interest includes Life Science (Research & Development, Manufacturing & Supply chain), Retail domain experience. He has Strong knowledge in Digital Transformation ,Artificial Intelligence , IoT, Business Consulting and Industry 4.0.He is the Leader in Ideation, driving Innovation and Transformation for Life science Customers.He has Renowned Leadership & Motivation Speaker in various institute and Summit.

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Report

About the Program:

Department of Mechatronics Engineering organized a organize "An International FDP on Recent Trends in Innovative Applications of AI Technologies" from 19.01.2024 to 20.01.2024.

Day 1

Session 1:

Resource Person:

Dr Anand Paul

Director,Connected Computing & Media Processing Laboratory,

Kyungpook National University,

South Korea.

Topic: Mathematical Modelling of Machine Algorithms- A Statistical Inference Approach

Session takeaways:

- Recommendation System
- Autonomous Navigation
- Neural Network
- Matrix Factorization
- Collaborative Filtering

Day 1

Session 2:

Resource Person:

Ms. Aarthi Juliana

AI Engineer (Audio),

Zoho Corporation

Topic: From concept to creation:Maximizing efficiency with AI

Session takeaways:

- PEAS Concept
- Adaptation of AI
- ABCD of AI
- AI tools and applications
- Live demo of AI tools

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Day 2

Session 1 :

Resource Person:

Dr Barathi Subramanian,

Researcher ,

Multimedia Information

Processing Lab ,

Kyungpook National Univeristy,

South Korea.

Topic: Intelligent Automation: The Convergence of AI, ML, and Mechatronics

Session takeaways:

- Artificial intelligence
- Biological Neural Network vs Artificial Neural Network
- Machine Learning in Mechatronics
- Supervised Learning
- Reinforcement Learning

Day 2

Session 2:

Resource Person:

Mr.Balasundaram Subramanian

Director, Cognizant Technology Solutions.

Topic: Getting ready for the Generative AI Revolution "

Session takeaways:

- Generative AI
- Benefits of Generative AI
- Impact of Generative AI
- ChatGPT

Number of Participants Attended: 158

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Outcomes:

- Participants deepened their comprehension of the latest tools and techniques in artificial intelligence, machine learningand data renaissance, acquiring knowledge about emerging algorithms, frameworks, and technologies within these domains.
- The FDP facilitated hands-on experience with the covered tools and techniques, enabling participants to develop proficiency in their application to real-world problems. This approach fostered a more practical understanding of the subject matter.
- Faculty members, research scholars learned to seamlessly integrate emerging tools and techniques into their teaching curriculum. This integration might involve creating new courses, updating existing ones, and incorporating pertinent case studies and projects.
- Teaching methodologies were enhanced for participants, ensuring their ability to effectively communicate complex concepts related to emerging tools and techniques to their students.
- Faculty members and research scholars leveraged the FDP for professional development, gaining exposure to the latest advancements. This experience enhanced their competitiveness in their respective fields.

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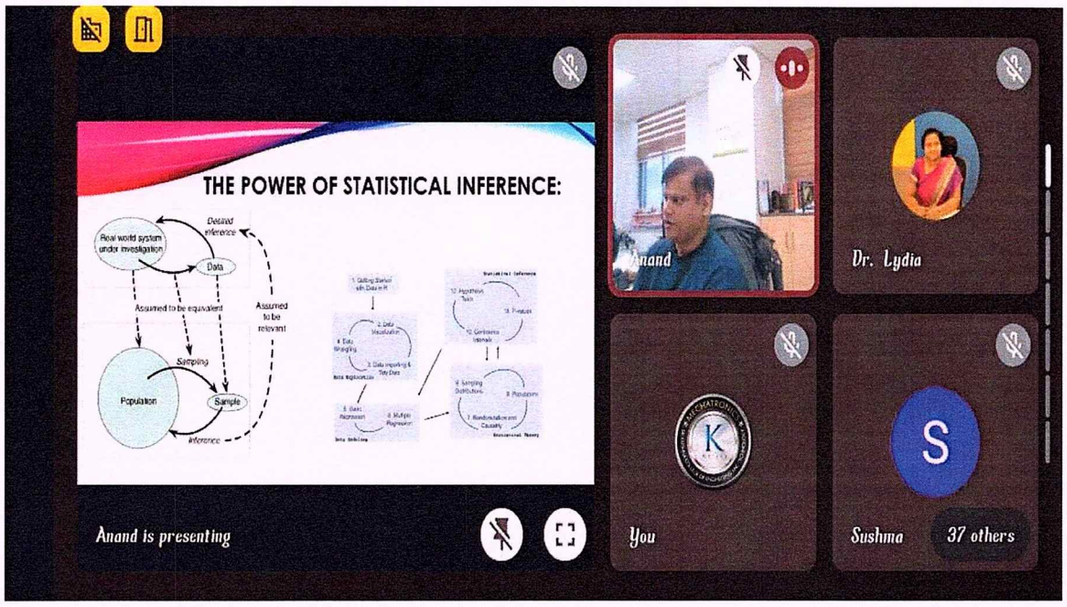
Photographs



Dr Anand Paul,Director, Connected Computing & Media Processing Laboratory, Kyungpook National University,South Korea sharing his expertise with students

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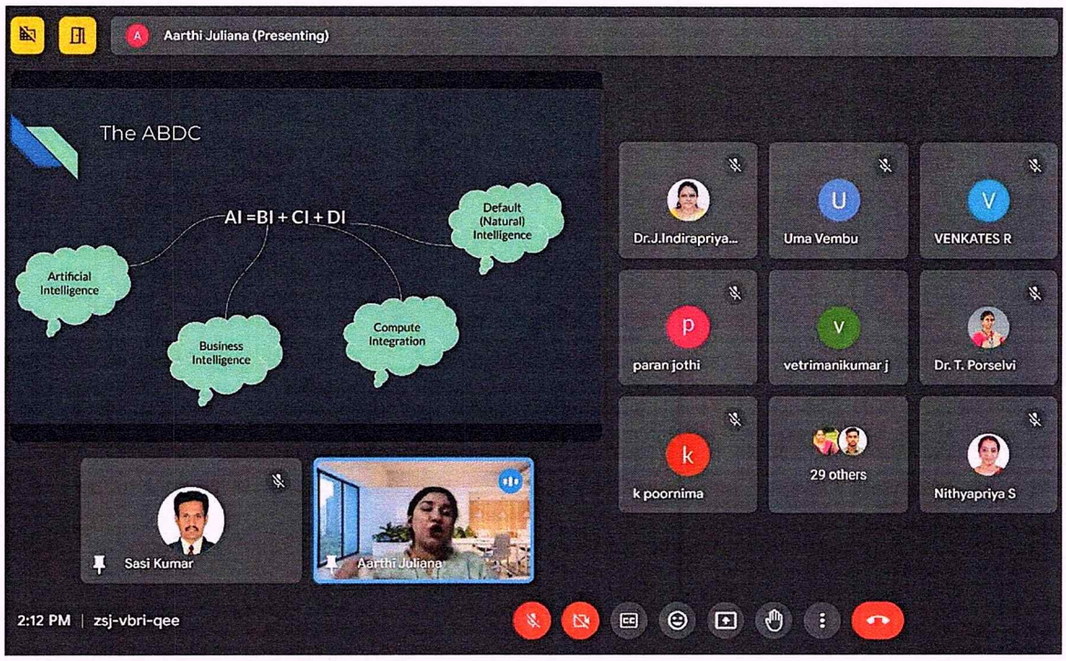

The participants attending the technical session 2 on day 1.Ms. Aarthi Juliana, AI Engineer (Audio), Zoho Corporation was the Resource person.

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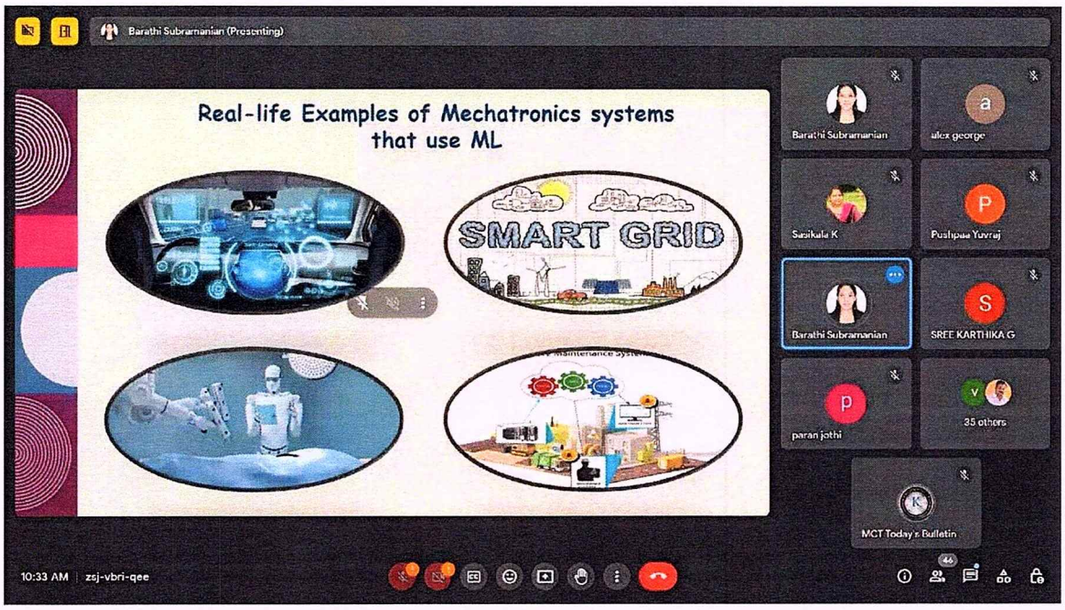

Dr Barathi Subramanian,Researcher, Connected Computing & Multimedia Information Processing Lab, Kyungpook National Univeristy, South Korea sharing her expertise.

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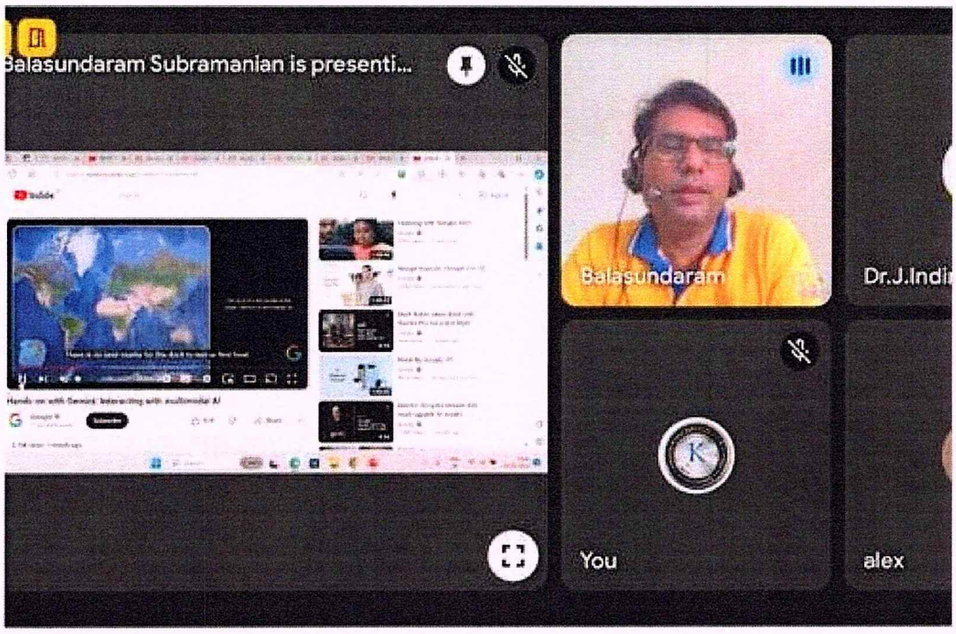

Mr.Balasundaram Subramanian, Director, Cognizant Technology Solutions sharing his knowledge with participants.

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Sample Certificate:

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INSTITUTION'S INNOVATION COUNCIL · IEEE Robotics & Automation Society · Robotics Society of India

CERTIFICATE OF PARTICIPATION

This is to certify that S kannaki
of SKCET
has participated in the Two day International Faculty Development Program on "*Recent Trends in Innovative Applications of AI Technologies*" conducted by the Department of Mechatronics Engineering, Sri Krishna College of Engineering and Technology, Coimbatore from 19.01.2024 to 20.01.2024.

COORDINATORS HOD

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Journal of Alloys and Compounds 958 (2023) 170500

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journal homepage: www.elsevier.com/locate/jalcom

Effects of ZnO addition on the microstructure/corrosion, wear and mechanical properties of sintered Mg-Al matrix composites

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[c] Department of Engineering, Centre for Engineering Research, School of Physics, Engineering and Computer Science, University of Hertfordshire, Hatfield AL10 9AB, UK
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ABSTRACT

Magnesium (Mg)-based composites offer outstanding properties, which make them suitable materials for various applications in medical, aerospace and energy sectors, among others. The wide applications of Mg-based composites have attracted continuous effort to increase their properties and performances. Therefore, the present work focused on synthesizing magnesium-aluminium-zinc oxide (Mg-Al-ZnO) composites. Mg-3Al-xZnO (x = 3, 6 and 9 wt%) composites were prepared using powder metallurgy (PM) route. The composite powders and sintered composites were analyzed to determine their microstructures, using scanning electron microscopy (SEM) and energy dispersive X-ray (EDX) analysis. In addition, the sintering process took place in argon atmosphere at 450 °C. The quantitative analyses of density, porosity, hardness, compressive strength (CS) and corrosion rate (CR) of the composites were performed. Wear performance was also studied with various wear control parameters, such as the sliding velocity (V), sliding distance (D), applied load (P) as well as ZnO content. Pin-on-disc apparatus was used to determine the wear rate (*WR*) and coefficient of friction (COF) of the innovatively prepared Mg-3 wt%Al-ZnO composites. The experimental study was conducted in accordance with Taguchi's L_{16} orthogonal design. Signal-to-noise (S/N) ratio analysis was employed to determine the best combination of parameters for *WR* and COF. Summarily, SEM images confirmed that ZnO particles were uniformly distributed in the composite samples. Statistical technique, called analysis of variance (ANOVA), was adopted to find the significant factor which affected *WR* and COF. The P significantly affected the *WR*, followed by the inclusion of ZnO. But, with respect to COF, ZnO reinforcement inclusion affected COF significantly when compared with the P. Both V and D did not affect *WR* and COF. Hence, the application of the various composite samples should depend on their various responses to friction and wear, especially in working conditions where both quantities are inevitable.

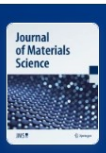
1. Introduction

components, such as piston rings, brake discs, brake rotors and cy-

Influence of medium- and high-entropy alloy fillers on microstructures and corrosion behaviour of AA5083 plates joined by GTAW process

Metals & corrosion | Published: 25 April 2024

Volume 59, pages 7998–8021, (2024) Cite this article



Journal of Materials Science

Aims and scope →

Submit manuscript →

K. Kaviyarasan, R. Soundararajan, S. Sivasankaran & A. Sathishkumar

Part of a collection:
Metals & corrosion

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Influence of eutectic-Si in as-cast and fibrous-eutectic-Si in LPBF-processed AlSi10Mg alloys on wear and corrosion behaviors treated with direct aging route

Metals & corrosion | Published: 22 September 2023

Volume 58, pages 14889–14910, (2023) Cite this article

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Contributions

AS: Formal analysis, Validation, Roles/Writing-original draft. RS: Visualization; Investigation, Data curation, Resources, Project administration. SS: Conceptualization, Methodology, Investigation, Writing—review & editing.. AR: Resources, Funding acquisition, Project administration.

Corresponding authors

Correspondence to R. Soundararajan or S. Sivasankaran.

Article preview
Abstract
Introduction
Section snippets
References (70)
Cited by (17)

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Volume 204, October 2023, 113167

Metallurgical enhancement and mechanical performance of GTAW of AA5083 plates using medium and high-entropy fillers

K. Kaviyarasan [a], R. Soundararajan [a], S. Sivasankaran [b]

https://doi.org/10.1016/j.matchar.2023.113167