



ISE Newsletter

Quarterly newsletter of the INDIAN SOCIETY OF ERGONOMICS (ISE)

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Forthcoming National & International events:

- * **Joint International Conference**
Asian Conference on Ergonomics and Design (ACED) 2023, Humanizing Work and Work Environment (HWWE) 2023, and BRICSplus Human Factors & Ergonomics Conference (BRICSplus HFE) 2023, IIM (formerly NITIE), Mumbai
14-16 December 2023
- * **IEA 2024**
Triennial Conference of the International Ergonomics Association (IEA),
Jeju Island, South Korea
25-29 August 2024

ISE is online at: <https://ise.org.in/>

For your security, ensure that you can view the padlock symbol  and <https://ise.org.in> on the web address before you enter



Welcome New members!

ISE Newsletter cordially welcomes the following new Life Members:



L-528 Vivek Kant, Kanpur

L-529 Kamalpreet Sandhu, Kapurthala

HWWE 2023



Dec 14 (Thu) - 16 (Sat) Dec 2023

The 4th Asian Conference on Ergonomics and Design

jointly with

Humanizing Work and Work Environment (HWWE) & BRICSplus HFE Conference 2023

Indian Institute of Management (IIM) Mumbai, India

Formerly National Institute of Industrial Engineering (NITIE)



INDIAN SOCIETY OF ERGONOMICS



[Click here](#) to visit the conference website.

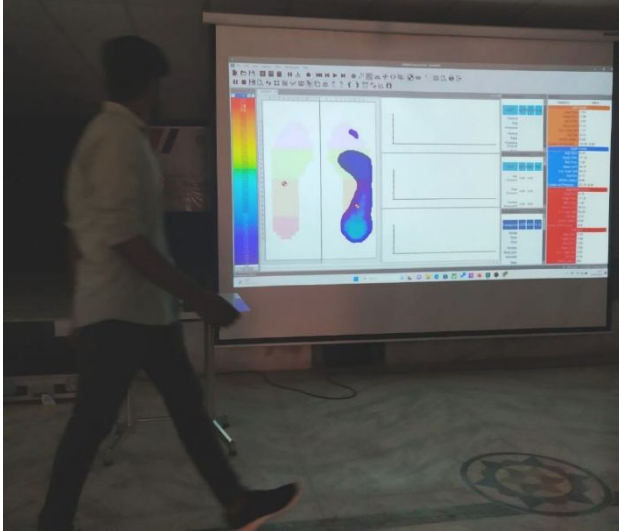
Member News & Activities

Workshop on "Application of Biomechanics in Ergonomics"

Sharmila Devi, the Founder of Ergonomic Healthcare India Pvt Ltd. was a guest speaker at the recent two-day workshop titled "Application of Biomechanics in Ergonomics," held on August 25th and 26th at Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science & Technology, Chennai. This event was hosted by the School of Electrical & Communication, Department of Biomedical Engineering, and the Office of Industry Relations.



The event was a collaborative effort that brought together students, educators, and professionals in the field of Biomedical Engineering to explore the practical applications of Biomechanics in Ergonomics, including Design Ergonomics.



Advanced products like Xsens - Movella, ViveLab Ergo Plc. KINVENT, and Xsensor, were demonstrated on Day 2 of the workshop, showcasing the practical applications of software tools in biomechanics and Ergonomics. Mr. Prabhanjana (Pabby) Rao, of Galore Systems and the team comprising of Mr. Pandiyarajan P and Mr. Venkatesh joined hands to make this possible. Thanks are also due to Mr. Hrishikesh Kumar of CerebrumEdge, for demonstration of their AI-based Ergonomic Evaluation tool.

The workshop adopted a **transformative 4-stage model** to nurture an entrepreneurial mindset in students.

Stage 1: involved dividing students into 7 groups, challenging them with a Critical Thinking Task - designing various aspects of an ergonomic chair like Backrest, Seat Cushion Design, Armrest, Base and Swivel Mechanism Design, Height and Tilt Adjustment Mechanism Design, Materials and Aesthetics, Ergonomic Chair Design Optimization. They were encouraged to ask questions, seek information, and ideate, fostering a deeper appreciation for biomechanics.

In **Stage 2**, students were provided essential background knowledge, spanning biomechanical principles, ergonomic considerations, anatomy, materials, and more, empowering students to elevate their designs.

Stage 3 featured real-time examples, and demonstrations on various topics from Introduction to Biomechanics, Importance of biomechanics in biomedical research, Kinematics, Kinetics, Muscle Mechanics, Joint Mechanics, Posture & Gait, and Ergonomics in relation to the theme of the workshop "Application of Biomechanics in Ergonomics". These principles and practices were correlated in designing an ergonomic chair, with each group leader presenting their solutions.

Cash prizes were awarded to the top 3 groups who came up with great designs and presented them well in front of all. This aimed to instil an entrepreneurial mindset in students, enhancing their critical thinking, knowledge sharing, and presentation skills.

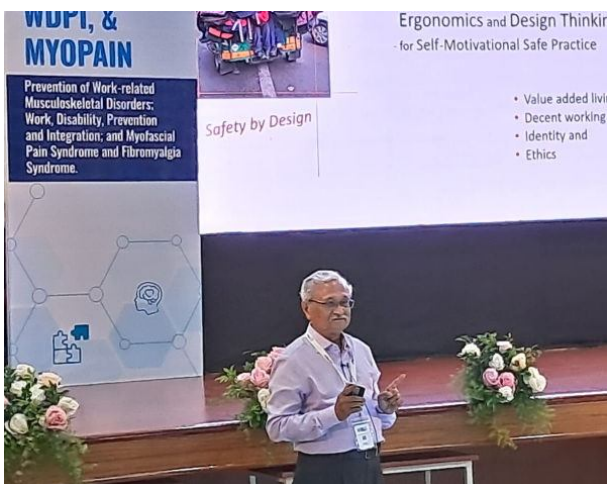
Stage 4: Post-workshop, the students are encouraged to refine their designs using the knowledge gained during the workshop and to apply their newfound insights to practical challenges, preparing them for a future of innovation.

PREMUS, WDPI, & MYOPAIN 2023

The 11th PREMUS, 6th WDPI & 11th Myopain International conference on Prevention of Work-Related Musculoskeletal Disorders, Work Disability Prevention and Integration, and Myofascial Pain Syndrome & Fibromyalgia Syndrome was held from 20th to 26th September 2023 at Bengaluru (Bangalore), India and online. The conference theme was "Prevention of Musculoskeletal Disorders in the New Ways of Working", and the event was organised flawlessly by **Deepak Sharan**, the Conference Chair (2nd from R).



The Indian Society of Ergonomics was a Supporting Partner Organization and participated in the conference comprehensively. President ISE, **Debkumar Chakrabarti** (6th from R) and Chair of Awards and Academics, **Anindya Ganguli** (extreme L, representing the International Ergonomics Association - IEA) spoke at the Inaugural function, President ISE, **Debkumar Chakrabarti** and Treasurer ISE, **Somnath Gangopadhyay** delivered key-note lectures at the conference.



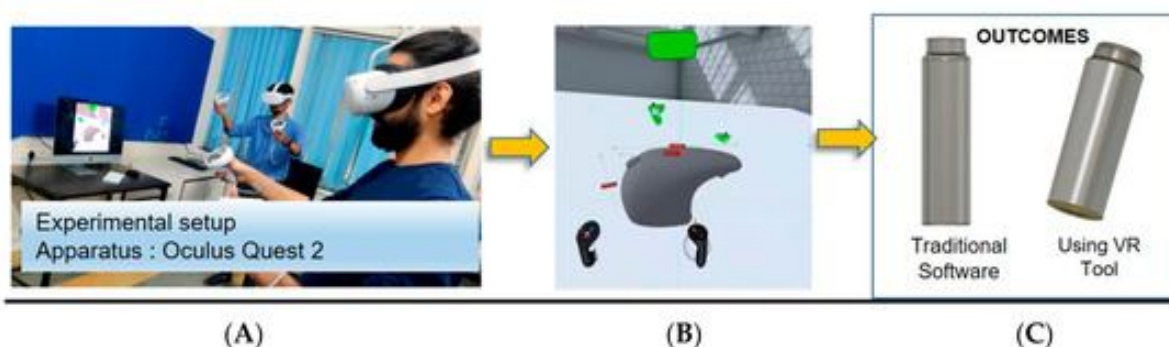
The IEA Technical Committee on Informal Work organized a Round-Table on "Global Perspectives on the Ergonomics of Informal Work", where ISE and ICOH experts **Somnath Gangopadhyay**, **Md. Muzammil** and **Abid Ali Khan** participated. Clive D'Souza (representing HFES, USA) moderated.



Other ISE members also presented papers and won awards (see in Awards section below).

Design Registration Granted on Voice User Interface Based Bluetooth Speakers (PFA images)

Anirban Chowdhury reports the grant of Design Registration (CBR 203560 dated 21.03.2023) from Symbiosis International (deemed university)



Expert lecture on "Ergonomic Innovation for Product Design"

L. P. Singh delivered an expert lecture titled "Ergonomic Innovation for Product Design" during the one-week STC on "Ergonomic Product Design" organised by NITTTR Chandigarh, and a lecture on "Innovation - a need of the hour" at Layalpur Khalsa College Jalandhar. He also participated in the 8th Kisan Mela at Kartarpur.

NIT unveils its Punjab EcoSmart Awareness Centre project at mela



The project is equipped with technologies including unmanned aerial vehicle with pest sensor, smart irrigation sensors, temperature and humidity sensors, NPK sensors, gas sensors and liquid sensors.

5to99 Tablet for Work from Home

Vinod Gupta's Opus Indigo launched the 5to99 Tablet for Work from Home specially for people who work without table and chair. It is a unique piece of furniture that works as a sit-stand table also. Opus Indigo hopes that this affordable piece will enable people to create an Indian ergonomic setup at home.

The launch was announced in https://www.linkedin.com/posts/vinod-gupta-41729014_ergonomicsolutions-ergonomics-ergonomicfurniture-activity-7093190028780040192---sO?utm_source=share&utm_medium=member_desktop

Fourth National Conference on Machine Learning and Artificial Intelligence

The Fourth National Conference on Machine Learning and Artificial Intelligence is scheduled to be held at the CET School of Management, College of Engineering Trivandrum during October 30th and 31st, 2023, in association with the Analytics Society of India, DCAL Centre, IIM Bangalore.

Conference website: <https://dcal.iimb.ac.in/NCMLAI-Trivandrum2023/>

Brochure can be downloaded at:

https://drive.google.com/file/d/1kz39oC-FKbKHzHws_QyH3zA3wSI2_DAW/view?usp=drivesdk

IEA Webinar – The future of work and the challenges for HFE from India



India has emerged as one of the fastest-growing economies globally. There is a lot to learn from India, which has used innovation to drive growth and technological advancements while tackling a variety of social ills that plague the country. It will thus be of value to understand, from the Indian perspective, the HFE challenges and opportunities that will arise in the future world of work. **Somnath Gangopadhyay** and **Urmi Salve** spoke on this topic on the 28th of September 2023.

The video is available on YouTube <https://www.youtube.com/watch?v=Ee4zhPGAQU0&t=1s>

FPE Impact Award

Krishna Chaitanya's project proposal was selected for funding by **Foundation for Professional Ergonomics (FPE)**, for the year 2023-2024. The details are as follows

Project title: **Design of Ergonomic Hand Tool for Minimizing Work-related Upper Extremity Symptoms among Cashew Workers in India**

Investigator: Mallampalli K. Chaitanya, Vellore Institute of Technology, Vellore, Tamil Nadu, India

Fund sanctioned: **USD 1,720**

Project duration: One Year

The Institution of Engineers India, IEI NMLC-FCRIT Research Excellence Award 2023

Gurdeep Singh, Ph.D. scholar at the Ergonomics Laboratory, Department of Design, IIT Guwahati, has won the prestigious Institution of Engineers India IEI NMLC-FCRIT Research Excellence Award 2023 in the category (Ph.D. – National Level).

He was presented this award on Engineers Day (15th September 2023) at the Institution of Engineers, Navi Mumbai, India. This award has been conferred upon him on account of his excellent innovative work done so far during his ongoing Ph.D. titled 'Innovative Design Interventions for Addressing the Safety-related Issues in Indian FMCG Manufacturing Industry: Ergonomics Perspective'. He is currently pursuing his doctoral research under the supervision of **Sougata Karmakar**, Professor and Head, Department of Design, IIT Guwahati, India.



The Innovation Award 2023 (Runner-up) (10,000 USD) - PREMUS, WDPI and MYOPAIN 2023, International Scientific Conference

Gurdeep Singh, Ph.D. scholar at the Ergonomics Laboratory, Department of Design, IIT Guwahati, was adjudged the Runner-up and received **10,000 USD** for the Innovation Award 2023, a special event of the **PREMUS, WDPI, & MYOPAIN 2023** (*see detailed report above*).



The 'Innovation Award' is a fiercely competition-based event competing with cutting-edge latest innovations among several established startups, aspiring healthcare entrepreneurs, researchers, and teams with/ possessing solutions and technologies to prevent WRMSDs and Work Disability.

During the PREMUS, WDPI, & MYOPAIN 2023 conference, the short-listed finalists had the opportunity to pitch their ideas and solutions in a competition in front of professionals, institutional and industry leaders, and venture capital firms for a chance to win prizes, mentorship, and exposure to advance their innovations. The event was open to all innovators worldwide attempting to prevent WRMSDs and work disabilities.

Gurdeep Singh is currently pursuing his doctoral research under the supervision of **Sougata Karmakar**, Professor and Head, Department of Design, IIT Guwahati, India.

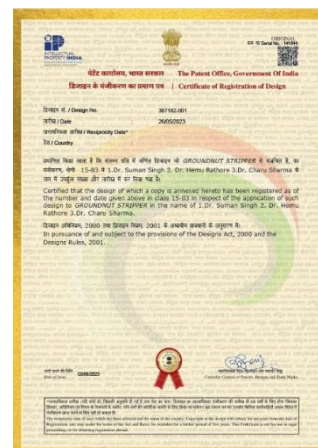
* Publications

Anirban Chowdhury and others published an article titled: *User Experience Evaluation of a Virtual Reality Tool Used for 3D Modelling in Industrial Design Education: A Study in the Indian Context.*

<https://www.mdpi.com/2411-9660/7/5/105>



Suman Singh, ICAR Emeritus Professor, MPUAT, Udaipur is granted Design Patent for **Groundnut Stripper**, along with her colleagues Hemu Rathore and Charu Sharma.



A. Mrunalini, Retd. Professor (Dept. of RMCS) and Dean of Community Science (former), PJTSAU, has received a Patent for the woman friendly drudgery reducing farm technology- **'Device to Manage Head Load'** on 05-10-2023. The patentee has designed and developed the technology when she worked as Principal Scientist of Family Resource Management component and Unit Coordinator of All India Coordinated Research project on Home Science, PJTSAU under Plan Project 2011-2013 of FRM component, funded by ICAR-CIWA.



The 'Device to Manage Head Load' technology is meant for head loading method of carrying any material in the rural areas such as vegetables, fertilizer, sand and bricks in building sites, vegetable markets etc., are the manual material handling tasks, comprise of carrying on heads, one side of waist or shoulder or carrying by stooping their back which cause musculoskeletal pains and fatigue. keeping the drudgery experienced by farm women in mind, the technology was designed and fabricated by Dr. Mrunalini after assessing the user requirements on ergonomic parameters and suggestions of the tool designers and found that as per physiological work load, drudgery perceptions and body pain scores the device was significantly better in reducing the physiological stress compared to conventional method and stress of weight was supported by back muscles and thus relieving strain on shoulder, head and spinal cord.



* IEA 2024



22nd Triennial Congress of the International Ergonomics Association (IEA) Jeju, South Korea 25 – 29 August 2024

The 22nd Triennial Congress of the International Ergonomics Association (IEA) will be held in Jeju, South Korea, from 25th – 29th August 2024 (Sunday – Thursday). The Ergonomics Society of Korea (ESK) and the Korea Occupational Safety and Health Agency (KOSHA) are the hosts. The venue will be the **ICC at Jeju Island**.

It promises to be an exceptional event for both HFE academics, practitioners, and other interested partners. The program will include a wide range of sessions, workshops, panel discussions, plenary sessions, and other activities, and stretch from traditional HFE themes to new areas of interest and future perspectives. It will offer a wide range of opportunities for personal contact, including special events for students and early career professionals. The venue will be on Jeju Island, a very popular and beautiful tourist destination, with sustainability and environmental protection being a priority. The island can be reached directly from several neighbouring countries as it has an international airport. Paper submission is now open!

Submission Deadlines and Notifications

Authors have the flexibility to choose between two submission deadlines (Rounds 1 and 2) for their submissions. All submissions will be peer reviewed by multiple reviewers.

Proposal Submission, Round 1	Sep 15 2023 – Oct 31 2023
Proposal Acceptance Notification, Round 1	Nov 30 2023
Proposal Submission, Round 2	Nov 1 2023 – Feb 29 2024
Proposal Acceptance Notification, Round 2	Mar 15 2024
Full Paper Submission (optional)	Jan 1 2024 – Apr 15 2024

Congress website: <http://iea2024.com/>