

SEANEWS



Centre of Excellence in Safety Engineering and Analytics
(CoE-SEA)
IIT Kharagpur

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International Conference on Safety, Health, and Analytics-Driven Governance for Sustainable Development (SHADG 2024)

The Centre organized an International Conference on ‘Safety, Health and Analytics-Driven Governance for Sustainable Development (SHADG 2024)’ on January 29 & 30, 2024, in collaboration with national and international academic and industry partners. SHADG 2024 aimed to provide an inter and multi-disciplinary forum for knowledge sharing, dissemination, networking, and international collaboration in fields of safety, health, sustainability, human factors, and analytics-driven governance. The conference was conducted in hybrid mode and the venue was at IIT Kharagpur. The conference brought together academicians, industry professionals and experts to discuss the recent trends and advancements particularly on the following six tracks: Track-I: Safety, Security and Analytics (SSA); Track-II: Reliability, Maintenance and Analytics (RMA); Track III: Health, Epidemiology and Analytics (HEA); Track-IV: Risk, Resilience, Sustainability and Analytics (RRSA); Track-V: Human Factors/Ergonomics and Analytics (HFEA) and Track VI: Analytics-Driven Governance (ADG).

Academic collaborators of SHADG 2024 includes TRIPC, IIT Delhi; DART lab, IIT Madras; NIDM; CERIDES, European University Cyprus; Mary Kay O’Connor Process Safety Centre, A&M Texas; Lulea University Sweden and Dept. of Industrial and Systems Engineering (ISE); Subir Chowdhury School of Quality

and Reliability (SCSQR); Dept. of Chemical Engg; Dept of Humanities and Social Sciences (HSS) and Dept. of Mining Engg. from IIT Kharagpur. Our industry collaborators were Tata Steel Ltd & Adani Group as platinum sponsors and others like SAIL, NIDM, etc.

Prof. V K Tewari, Director, IIT Kharagpur was the Patron with Prof. J Maiti, Chairman, CoE-SEA as the Organizing chair & convenor, and Prof. O B Krishna, Advisor, CoE-SEA as the Convenor of the conference. Prof. S K Chaturvedi, Prof. B C Meikap, Prof. B B Mandal and Prof. Kishor Goswami from SCSQR, Dept. of Chemical Engineering, Dept. of Mining Engineering and Dept. of HSS respectively, of IIT Kharagpur; Prof. Rajagopalan Srinivasan, IIT Madras and Prof. Kalaga Ramachandra Rao, IIT Delhi were the co-convenors of the conference. The conference was organized with a team of several professors, research scholars, and students from different departments of IIT Kharagpur, IIT Delhi and NIDM.

- Page 2 SHADG 2024
- Page 3 Outreach
- Page 4 Success story of 3rd batch of LPSE
- Page 5 Publications , new faculty, and upcoming events

The conference was inaugurated by Prof. V K Tewari, Chief Guest and Patron of the conference, along with Mr. Rajiv Mangal, Vice President (Safety, Health & Sustainability), Tata Steel Limited; Dr. B K Verma, Joint President and Group Head, Corporate Safety, Adani Enterprises Limited; Dr. Imtiaz Ali Khan, Director, Directorate of Human Space Flight Program Gaganyaan, ISRO; and Dr. Anirudh Gautam, Executive Director Research Designs and Standards Organization as the Guests of Honor. There were 26 keynote speeches delivered by eminent professors and industry experts from around the globe in online and offline mode, on challenges, trends, recent developments, and research advancements in the field of safety, data & analytics, reliability, maintenance, sustainability, AI, workplace safety, fire safety, ergonomics & human factors, IoT, etc.

Over 250 participants attended the conference and about 110 presented their work both in physical and online mode, out of which, 28 papers were from industries. Apart from the presentations, the conference was enriched with various competitions and track-wise workshops on Prognostics and Health Management, Epidemiology of road traffic injuries, and Econometric Methods. The conference was concluded with a one-hour panel discussion, followed by the closing ceremony.

A Conference Abstract Proceedings which includes all the abstracts presented in SHADG 2024 is published in the Centre website ([Click](#) here to read).



Organizing team of international conference SHADG 2024



Snapshots during the international conference SHADG 2024

CoE-SEA organized the conference SHADG 2024 in collaboration with the following:



- Department of Industrial & Systems Engineering
- Subir Chowdhury School of Quality and Reliability
- Department of Mining Engineering
- Department of Chemical Engineering
- Department of Humanities and Social Sciences



Texas A&M Engineering Experiment Station

Mary Kay O'Connor
Process Safety CenterEuropean
University Cyprus

Outreach

16-week certificate course for the 3rd batch of officials from Adani Group

CoE-SEA organized a 16-week certificate course on "Logistics and Process Safety Engineering (LPSE)" for the officials of Adani Group. The course for the 3rd batch commenced on September 25th, 2023 with 25 participants from different business units of Adani Group such as Adani Power, Green Energy limited, Natural Resources, Reality, RMRW, etc. and successfully completed on February 04, 2024.

The course was inaugurated by the Chief Guest, Dr. Birendra Kumar Verma, Joint President & Head of Group Safety, Adani Group, and Prof. Bhim Charan Meikap, Head of Chemical Engineering Department and Joint Faculty of CoE-SEA, IIT Kharagpur as the guest of honor, on September 25, 2024. It was inaugurated and conducted at the newly built CoE-SEA Seminar Room.

The course was designed on "Project-Based Learning Methodology (PBLM)" where the participants were given inputs in the classroom through lectures, tabletop exercises, and case studies on various topics like process safety, logistics safety, safety analytics, hazard identification and control, quantitative risk management, micro-hazard mapping and bow-tie management, energy control, Prevention through Design (PtD), ergonomics, etc. These learnings were then implemented at the company sites through project works by the participants with the help of mentors and review by the Course Coordinators.

The course was concluded with the certificate distribution and valedictory ceremony on February 04, 2024, wherein the certificates were awarded to the participants by Prof. Amit Patra, former Deputy Director, IIT Kharagpur.



Inauguration of the course on LPSE by the Chief Guest Dr. B K Verma



Lamp-lighting ceremony during the inaugural ceremony of the course on LPSE



Prof. B C Meikap, Guest of honor, addressing the participants during the inaugural ceremony of the course on LPSE

Success story of 3rd batch of LPSE

The course was successful in imparting the concepts, principles, and procedures of design for safety, integrated safety management, and safety analytics. The sessions were highly interactive and were well appreciated by the participants. The course structure and conduct was praised by IIT professors, other academicians, guest lecturers, and Adani leadership.

The project work presented by the participants were submitted to the Adani leadership for taking their recommendations and interventions forward to put to action. The participants' feedback indicated that they were accomplished by the course that they could pursue their career in the field of safety engineering and bring out more analytics driven solutions to improve safety at their workplace.

In addition, the participants of Batch 3 got an opportunity to participate in the International Conference SHADG 2024 also. Few of the participants from this batch and earlier batches presented impressive papers on their research and inputs on safety, risk assessment, HAZOP, human errors, etc. The responses from the participants towards the conference were appreciable, and they commented that they gained even more insights from this conference, apart from the course learnings by interacting with other industry experts, research scholars, academicians, etc. who attended the conference.



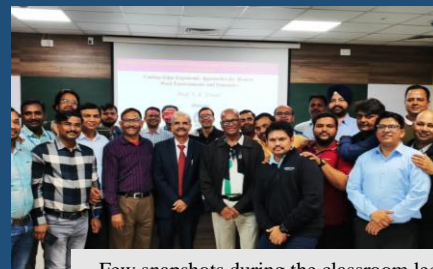
Adani group nominated participants of 3rd batch of LPSE along with IIT professors and scholars of CoE-SEA



Participants of 3rd batch of LPSE receiving course completion certificate from the Chief Guest of the closing event, Prof. Amit Patra, Deputy Director, IIT Kharagpur



Participants of 3rd batch of LPSE sharing their experience and feedback about the course



Few snapshots during the classroom lectures, group discussions and presentations



Participants of LPSE attending the international conference SHADG 2024

Publication Watch

- Assessment of cognitive workload based on information theory enabled eye metrics
<https://doi.org/10.1016/j.ssci.2024.106567>
- A framework to model contractors' hazard and risk exposure at process plants using unsupervised text mining
<https://doi.org/10.1016/j.psep.2023.12.046>
- A semi-automated coding scheme for occupational injury data: An approach using Bayesian decision support system
<https://doi.org/10.1016/j.eswa.2023.121610>
- Local heat transfer distribution of thermally developing region in a rectangular open-cell metal foamed channel
<https://doi.org/10.1016/j.ijthermalsci.2024.109138>

New Faculty

Dr. Laxman Singh Bisht
Assistant Professor Grade II



Ph.D. in Road Safety
IIT Delhi

Research areas:
Road safety

**“An ounce of prevention is
worth a pound of cure.”
-Benjamin Franklin**

Upcoming

- Autumn Semester classes for M.Tech in ‘Safety Engineering and Analytics’ will commence from July, 2024.

Reach us

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