



SEANEWS

CoE-SEA jointly organized International Conference on Maintenance and Intelligent Asset Management ICMIAM 2021

The International Conference on Maintenance and Intelligent Asset Management (ICMIAM) 2021 was jointly organized from December 12-15, 2021, online by Federation University, Australia, Centre of Excellence in Safety Engineering and Analytics (CoE-SEA), Manipal Academy of Higher Education, India and Asset Management Council, Australia. The conference focused on the practices and research outcomes to improve and enhance asset management under three major tracks: (i) Asset Management and Systems, (ii) Reliability, Availability and Maintainability and Maintenance Management and (iii) Safety Engineering and Analytics, Security, Risk Management and Human Factors. A short inaugural message was delivered by Prof. Virendra Kumar Tewari, Director of IIT Kharagpur, during the inaugural session. He endorsed the initiatives of the CoE-SEA. He expressed his delight at the initiative of the centre in jointly organizing the conference and wished all luck to the participants and the organizers.

Keynote speeches were delivered by Prof. J Maiti, Joint-chair of the conference, Prof. O B Krishna, Convenor and Prof. Pradip Kumar Ray. A total of 99 keynote speeches and papers were presented at the conference.

International Conference on Maintenance and Intelligent Asset Management (ICMIAM2021) Virtual (Online)

Organized by:
 * Federation University Australia
 * Centre of Excellence in Safety Engineering and Analytics (CoE-SEA), Indian Institute of Technology Kharagpur, India
 * Asset Management Council, Australia
 * Manipal Academy of Higher Education, India

Full papers reviewed, accepted and presented with registration will be in IEEE Xplore.
 * 12 - 15 December 2021 *
 Venue - Mt Helen Conference Centre, Federation University Ballarat Victoria, Australia

Asset Management (AM) and Systems (AMS) | Reliability Availability and Maintainability (RAM) and Maintenance Management (MM) | Safety Engineering and Analytics (SEA) Security Risk Management and Human Factors (SRHF)

* IMPORTANT DATES *
 Abstract submissions deadline - 24th September 2021 | Papers submission deadline - 22nd October 2021
 Notification of abstract acceptance - 30th September 2021 | Notification of paper acceptance - 10th Nov 2021

For information email: icmiam2021@gmail.com, submission: <https://easychair.org/conferences/icmiam2021> visit ICMIAM2021 web: www.icmiam.com

Supported by: IEEE, IEEE Victorian Section, CITY OF BALLARAT, SOVEREIGN HILL, UNIVERSITY OF HUDDERSFIELD, UNIVERSITY OF TECHNOLOGY

Prof. Jhareswar Maiti awarded the P C Mahalanobis Distinguished Educator Award

Prof. Jhareswar Maiti, Chairman, Centre of Excellence in Safety Engineering & Analytics (CoE-SEA), Head and Professor of the Department of Industrial and Systems Engineering, Indian Institute of Technology, Kharagpur has been awarded the prestigious **P.C. Mahalanobis Distinguished Educator Award** in Management Science for the year 2020 by the Operational Research Society of India (ORSI). The ORSI established this award in the honor of Prof. P. C. Mahalanobis, a distinguished educator, scientist and statistician to felicitate distinguished educators and professionals in India.



Take the extra step to safety

EXPERT TALK ON SEMA UNDER AZADI KA AMRIT MAHOTSAY

WEEK 14

Prof. Ashis Bhattacharjee, Professor, Department of Mining Engineering, IIT Kharagpur delivered his talk on “Assessment of the effect of whole body vibration (WBV) exposure of machine operators to musculoskeletal disorder (MSD) using analytic epidemiology”, on 3rd September 2021. Click here to watch the talk: [Link](#)



WEEK 22

Prof. Suprakash Gupta, Professor, Department of Mining Engineering, Indian Institute of Technology (BHU) shared his thoughts, knowledge and experience on “Quantification and prediction of human errors in industry jobs – Issues, Challenges and future directions” on 29th October 2021. Click here to watch the talk: [Link](#)



WEEK 15



Mr. Neeraj Kumar Sinha, Chief Safety, Tata Steel Limited discussed on “Prevention through Design applied to major construction projects – Case studies from Tata Steel” on 10th September 2021. Click here to watch the talk: [Link](#)

WEEK 23



Mr. M Sant Swaroop Sharma, Consultant, McKenzie and DuPont presented a talk on “Integrating safety and quality in building organizational culture using MOS model” on 5th November 2021. Click here to watch the talk: [Link](#)

WEEK 16

Prof. Rajagopalan Srinivasan, Head of American Express Lab for Data Analytics, Risk and Technology (DART), IIT Madras delivered his talk on “Engineering human performance in the workplace: Cognitive approaches for measuring, modelling, monitoring and shaping people’s behavior” on 17th September 2021. Click here to watch the talk: [Link](#)



WEEK 24

Dr. Siddharth, Human centered machine learning researcher, Microsoft, USA discussed “Utilizing bio-sensing towards industrial safety applications” on 12th November 2021. Click here to watch the talk: [Link](#)



WEEK 17



Dr. Vivek Khanzode, Associate Professor, National Institute of Industrial Engineering (NITIE), Mumbai, India discussed on “Occupational Safety, health and ergonomics in the digital era” on 24th September 2021. Click here to watch the talk: [Link](#)

WEEK 25



Mr. Basant Kumar Goenka, Executive Director and CEO, Accent Industries, India spoke on “A 360° approach to hand safety” on 19th November 2021. Click here to watch the talk: [Link](#)

WEEK 18

Dr. Mark Lehto, Professor, School of Industrial Engineering, Purdue University delivered a talk on “Evaluation of the impact of machine learning based decision support on coding accuracy and coder workflow in a real world injury surveillance system – A case study” on 1st October 2021. Click here to watch the talk: [Link](#)



WEEK 26

Dr. M Bhasi, Director, Inter University Center for IPR studies, Senior Professor of School of Management Studies and Chairman of Board of studies in Business Administration, CUSAT discussed “Using a Swiss Cheese Model to understand electrical accidents” on 26th November 2021. Click here to watch the talk: [Link](#)



WEEK 19



Mr. Probal Ghosh, Vice President, Shared Services, Tata Steel Limited spoke on “Role of smart safety management in improving maintenance effectiveness at Tata Steel” on 8th October 2021. Click here to watch the talk: [Link](#)

WEEK 27



Mr. Pankaj Kumar Satija, Managing Director, Tata Steel Mining Ltd. delivered his talk on “Mining safety best practices and challenges – Case studies from Tata Steel” on 3rd December 2021. Click here to watch the talk: [Link](#)

WEEK 20

Dr. Chitta Ranjan, Director, Science at Process Miner spoke on “The confluence of cognition, deep learning and safety analytics” on 15th October 2021. Click here to watch the talk: [Link](#)



WEEK 28

Dr. Faisal Khan, Director, Mary Kay O’Connor Process Safety Center, Texas A&M University, USA shared his thoughts, knowledge and experience on “Safety in digitalized process systems” on 10th December 2021. Click here to watch the talk: [Link](#)



WEEK 21



Mr. Nelson Davies Pallipuram, Scientist Engineer, Indian Space Research Organisation (ISRO) delivered his talk on “Prevention through Design – Total Safety Model” on 22nd October 2021. Click here to watch the talk: [Link](#)

WEEK 29



Mr. Rajesh Kumar Sinha, Vice President, Safety, Jindal Steel and Power Ltd. talked about “Success factors for establishing safety culture at new manufacturing units” on 17th December 2021. Click here to watch the talk: [Link](#)

Safety of people shall be the highest law

WEEK 30

Dr. G Madhu, Professor, Division of Safety & Fire Engineering and Head, Division of Chemical Engineering, School of Engineering, CUSAT spoke on “Recent trends in safety and sustainability of chemical process plants” on 24th December 2021. Click here to watch the talk: [Link](#)



WEEK 31

Prof. Jhareswar Maiti, Founder Chairman, Centre of Excellence in Safety Engineering and Analytics (CoE-SEA), Head and Professor, Department of Industrial and Systems Engineering, IIT Kharagpur discussed on “Safety and Risk Analytics” on 31st December 2021. Click here to watch the talk: [Link](#)



PUBLICATION WATCH

- Covid-19 outbreak: A data-driven optimization model for allocation of patients. Computers & Industrial Engineering. <https://doi.org/10.1016/j.cie.2021.107675>
- Granulized Z-OWA aggregation operator and its application in fuzzy risk assessment. International Journal of Intelligent systems. <https://doi.org/10.1002/int.22682>
- A comparison of multiple machine learning algorithms to predict whole-body vibration exposure of dumper operators in iron ore mines in India. Statistics in Medical Research. <https://doi.org/10.6000/1929-6029.2021.10.16>

CENTRE NEWS

- Centre launched the subject - “Safety Engineering & Management (SEMA)” for all the students of IIT Kharagpur in both Autumn and Spring semesters.
- The centre has completed 31-weeks of weekend talk in Safety Engineering, Management & Analytics and more talks are scheduled. [Click here to see the recorded weekend talk.](#)
- The centre along with Federation of Indian Chambers of Commerce & Industry (FICCI) is organising a 7-day **online short-term certificate course** on ‘Prevention through Design (PtD) and Redesign (PtR) to ensure product and process safety’ from 24th January 2022. For more details, please visit website: <http://www.coesea.iitkgp.ac.in/>
- CoE-SEA commences NPTEL course on Safety and Risk Analytics in Spring 2022. Visit [Safety and Risk Analytics](#)

INVITED TALK AND ACHIEVEMENTS

- Prof J. Maiti, Founder Chairman, CoE-SEA has been recognized among the top 2% researchers in the world, according to a study conducted by an analyst group of the Stanford University, USA.
- Prof. A. Bhattacharjee delivered the Keynote speech at the fourth International Conference on Opencast Mining Technology and Sustainability (ICOMS 2021) on the topic entitled “Impact of some operational factors on whole-body vibration exposure of dumper operators in iron ore mine in India” on December 13th, 2021 organized by NCL and IIT(BHU) at Singrauli, Madhya Pradesh. Northern Coalfields Limited.
- Prof. J. Maiti delivered the keynote speeches on
 - "Breakthrough innovations in Safety" at the 75th Annual Technical Meeting of the Indian Institute of Metals IIM ATM 2021 organized by Jamshedpur and Kolkata chapters of IIM.
 - “Human Factors / Ergonomics: Technology, Data and Analytics” at IIT Guwahati on December 02, 2021.
 - “Safety and Risk Analytics – Issues, Challenges and Future Directions” at ICMIAM 2021 Keynote speech Session 2.
- Prof OB Krishna, CoE-SEA, IIT Kharagpur delivered keynote speech at ICMIAM 2021 Session 4 on the topic “Analytics Based Integrated Safety Management System”.

CoE-SEA PROJECTS

- AI and virtual reality modelling and collaborative learning of risk and situational awareness in the socio-technical system under disruptions.
- Evaluation of District Skill Development Planning (DSDP) awards.
- Evaluation of human factors and safety in submersible platform for acoustic characterization and evaluation.
- Centre of Excellence in Safety Engineering and Analytics.

Save people, save society

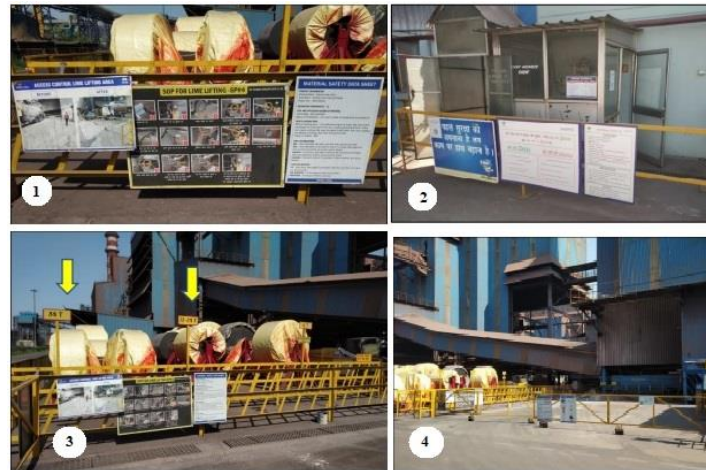
LEARNINGS FROM SUCCESS STORIES

Mom Mitra,
Manager Corporate Safety, Tata Steel Ltd.

Loading and unloading operations are common in industries. To prevent injuries among workers carrying out these operations, proper securing and safe loading and unloading practices are crucial. Some common hazards related to loading and unloading vehicles include toppling of improperly stacked or secured cargo, breaking or failure of lashing and dunnage equipment undefined, unsafe access to and egress from the lorry or trailer bed, falling off the loading platform, etc. In the steel industry, transportation through dumpers, pay loaders, and pressurized tankers is vital and needs to be assessed for identification of risks in these activities. Road related incidences are alarming and it is a concern. 40% of the raw materials and finished goods are being transported through roads.

Tata Steel has initiated a new plan to develop a role-model for the loading/unloading points and thereby target towards zero harm. Based on various site audits, the following points were identified and prioritized: (i) site layout and heavy vehicle parking (ii) driver's competency and heavy vehicle fitness, (iii) loading and unloading activities, and (iv) supervision during heavy vehicle and mobile equipment movement. A standard checklist was prepared for the pain areas in the form of a questionnaire. Some audits were performed following the development of the checklist, and

a score was assigned. Based on the Opportunities for Improvements (OFIs) given, corrective actions are taken by the line management. This system is IT-based, and reports are logged for proper tracking and closure. Corrective actions are taken by a cross-functional team comprising of different agencies for civil jobs, painting and nomenclature jobs, and mechanical jobs.



The figures depict some of the safety measures implemented on site: (i) display of images of Standard Operating Procedures (SOP) and Material Safety Data Sheet (MSDS), (ii) a list of "Do's & Don'ts" and cabins away from the loading point made for the vehicle driver, (iii) markings done for parking trucks, which helps the driver to park the vehicle in exactly the same position without needing the assistance of a helper, and (iv) access control and pedestrian walkway.

Safety isn't just a slogan, it's a way of life

FEEDBACK



"CoE-SEA, IIT Kharagpur has successfully implemented integrated safety management system at our plant"

--LTP Narayan, President, Aarti Steels Ltd.,
Cuttack, Odisha.

Address:

Prof J Maiti
Chairman,
Centre of Excellence in Safety Engineering and Analytics
(CoE-SEA)
Indian Institute of Technology Kharagpur
Kharagpur 721302, West Bengal, India

E-Mail:

coesea2020@gmail.com; coesea@iitkgp.ac.in
Website: www.coesea.iitkgp.ac.in

Phone No/Fax No:

+91-3222-281552/+91-3222-283750
+91-3222-255303 (Fax)

Reach Us