

# IHHA WCRR

2025 JOINT CONFERENCE | RAIL RESEARCH WEEK  
COLORADO SPRINGS, CO USA | NOVEMBER 17-21, 2025

## 13TH INTERNATIONAL HEAVY HAUL ASSOCIATION CONFERENCE

CALL FOR ABSTRACTS

*THEME: Inspiring Innovative and Resilient Railways*

November 17-21, 2025, Colorado Springs, USA



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# WELCOMING NOTE

**The International Heavy Haul Association (IHHA)** is dedicated to the pursuit of excellence in heavy haul railway operations, engineering, maintenance and technology.

Since 1976, IHHA has strived to accomplish this mission through knowledge sharing, providing state-of-the-art technical information and industry best practice that is relevant to the changing and developing world of rail transportation by organizing a conference to deliver an invaluable forum for research collaboration.

On behalf of the planning committee, MxV Rail is delighted to announce that the **13th International Heavy Haul Association Conference will be held on 17-21 November** in Colorado Springs, USA.

The 2025 IHHA Conference theme is ***Inspiring Innovative and Resilient Railways***

This Conference offers an opportunity to present rail research results, and to network and share experiences with leading rail professionals, policy-makers, and representatives from innovative rail transportation industries around the world.

Always looking towards the future, the North American railroads have a history studded with firsts and it is fitting that the 2025 IHHA in Colorado builds on this tradition by collaborating with the **14th World Congress on Railway Research (WCRR 2025)** to offer another first.

Bringing together leading freight and passenger rail experts across the globe to share perspectives on the challenges facing rail now and into the future, this unique and historic joint-conference experience will be celebrated under the event banner Rail Research Week.

As the North American Rail industry, we are dedicated to finding innovative ways to expand sustainability by increasing fuel efficiency, leveraging automation and electrifying trains. We strive to improve system resilience so that rail networks can withstand and recover from extraordinary events. We explore clean energy technologies that can foster new best practices and improve greenhouse gas emissions for both freight and passenger rail systems worldwide. With this distinctive conference freight and passenger rail experts from around the world have an invaluable opportunity to come together as an industry to share perspectives, tackle challenges and use creativity and science to pursue beneficial and lasting change in our industry.

The MxV Rail team is excited to host this premier heavy haul conference as it will significantly contribute towards achievement of the Global Heavy Haul Vision 2030, pioneered by IHHA: "A Safe, Competitive, Responsible, Reliable, Integrated and Intelligent Heavy Haul System, Powered by Rail 4.0."

## CALL FOR PAPERS

The Organising Committee for the IHHA 2025 are calling for abstracts and papers to address the theme:

***Inspiring innovative and resilient railways***



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# SESSION TOPICS AND SUBTOPICS





**IHHA2025** will be structured around ten session topics that cover all the trending topics in heavy haul railways related sustainability, showcasing new innovations, initiatives and technology.

During the abstract submission process, you will be asked to select one topic which best relates to your paper.

TOPICS	SUBTOPICS
 <b>SUSTAINABLE INNOVATION</b>	<ul style="list-style-type: none"><li>1.1. Decarbonisation of rail</li><li>1.2. Alternate fuels</li><li>1.3. Resource efficiency</li><li>1.4. Circular economy</li><li>1.5. Sustainable innovation in heavy haul railway projects</li><li>1.6. Sustainability challenges and opportunities for heavy haul railways</li></ul>
 <b>VEHICLE TRACK SYSTEMS</b>	<ul style="list-style-type: none"><li>2.1. Vehicle/Track Interaction</li><li>2.2. Wheel/Rail interface analysts, optimization and management</li><li>2.3. Safety and derailment prevention</li><li>2.4. Condition monitoring</li><li>2.5. Vehicle/Track systems and optimization</li><li>2.6. Big data analytics with prognostics</li><li>2.7. Automation in heavy haul systems</li></ul>
 <b>TRACK</b>	<ul style="list-style-type: none"><li>3.1. Track maintenance</li><li>3.2. Track component performance</li><li>3.3. Longitudinal stresses in rails</li><li>3.4. Rail welding</li><li>3.5. Special track work</li><li>3.6. Track geometry</li><li>3.7. Increasing Axle loads on existing infrastructure</li><li>3.8. Construction and maintenance standards</li><li>3.9. New design, re-designs, new materials</li></ul>






# SESSION TOPICS AND SUBTOPICS

TOPICS	SUBTOPICS
 <b>BRIDGES AND TUNNELS</b>	<ul style="list-style-type: none"><li>4.1. Bridge management systems</li><li>4.2. Bridge rehabilitation and strengthening</li><li>4.3. Bridge loading</li><li>4.4. Structural health monitoring of bridges</li><li>4.5. Condition and structure performance assessment</li><li>4.6. Tunnel operations, management and maintenance</li><li>4.7. New design, re-designs, new materials</li></ul>
 <b>RAIL OPERATIONS</b>	<ul style="list-style-type: none"><li>5.1. Network capacity and operational efficiency</li><li>5.2. Long haul trains</li><li>5.3. Train control and capacity optimization</li><li>5.4. Heavy axle loading (HAL) economics</li><li>5.5. Signalling system</li><li>5.6. Electrification technology</li><li>5.7. Security and safety</li><li>5.8. Service reliability</li><li>5.9. New design, re-designs, new materials</li></ul>
 <b>ROLLING STOCK</b>	<ul style="list-style-type: none"><li>6.1. Wheels, axles and bearings</li><li>6.2. Wagon design and maintenance</li><li>6.3. Brake systems</li><li>6.4. Detector-based wagon maintenance</li><li>6.5. New design, re-designs, new materials</li></ul>
 <b>MOTIVE POWER, TRACTION AND EFFICIENCY</b>	<ul style="list-style-type: none"><li>7.1. High horsepower locomotives</li><li>7.2. Locomotive maintenance and reliability</li><li>7.3. Traction power supply</li><li>7.4. Environment, energy and sustainability</li></ul>



# SESSION TOPICS AND SUBTOPICS

TOPICS	SUBTOPICS
 <b>HEAVY HAUL UNDER EXTREME CONDITIONS</b>	8.1. Hot and cold environment 8.2. Impact from climate change
 <b>HUMAN FACTORS</b>	9.1. Skills, training and safety impact in relation to intelligent heavy haul technology
 <b>HEAVY HAUL OPERATIONS IN MINES AND PORTS</b>	10.1 Train loading operations and equipment 10.2 Train off-loading operations and equipment



# ABSTRACT SUBMISSION PROCESS

IHHA invites you to contribute to the **IHHA 2025** conference by submitting abstract in English to be considered for oral presentation or poster at the conference.

Abstracts must be submitted using the **IHHA 2025** online management platform (Award Force), which can be accessed [HERE](#) or via the **IHHA 2025** event website: Rail Research Week [HERE](#)

No other means of submission will be accepted.

You will have the option to download the **Abstract Template**, complete the form and load to the online abstract management website.

There is also the option to paste your abstract into the content boxes provided in the **Online Submission Form**.

## SUBMISSION PORTAL

Start your submission process by visiting the online management platform <https://ihha-wcrr.awardsplatform.com/>

## TYPES OF PRESENTATION



### Oral Presentations

20-minute presentation followed by a 5-minute question and answer session. Best suited to topics that are of interest to a wider audience, covering subjects that will appeal to a broad range of experts.



### e-Poster Presentations

Digital posters are an opportunity to showcase a summary of your latest findings and innovations in a visual presentation.

Authors of Abstracts will be asked about their preferred presentation type. Please note that the IHHA Conference organisers will make the final decision on the type of presentation to be assigned, which may not be able to accommodate your preference.

Templates for both types of presentations will be provided to accepted authors.





# ABSTRACT REQUIREMENTS

A structured, concise and factual abstract – 350 words maximum - is required. An abstract should be written in the provided font (Arial 11pt) and usually comprises 1 to 3 paragraphs of text with no headings, bullets or other special formatting.

The abstract should contain, as a minimum, the following:

- **Context:** What is the focus, context or scope of the research/work/case study?
- **Objective:** State the objective or scientific question that the research aims to answer.
- **Method:** Details on the method of research, i.e. field/laboratory tests, experimental setup, instrumentation or numerical modelling.
- **Results:** Typical or general results from the study/investigation/case study.
- **Conclusions:** A brief statement giving the most important outcome(s) of the work.

An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, references should be avoided. Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself. The abstract should also not contain any brand/product/company names and should be free of any commercial advertising.

## EXTENT OF CONTENT ORIGINALITY

Abstracts that have been submitted recently to other IHHA conferences will not be accepted. If you are submitting a paper on a subject that you have presented at previous IHHA conferences, then the paper must focus on the new developments since then.

## COPYRIGHT

At the time of submitting your full paper, you will be asked to also agree to a copyright transfer statement to transfer publication and other rights to the Conference organizers. Details will be available online at a later date.

**DEADLINE FOR ABSTRACT SUBMISSION: OCTOBER 18, 2024**



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# ABSTRACT REQUIREMENTS

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## ABSTRACT REVIEW

All abstracts will be reviewed by the Technical Committee. Abstracts will be accepted or rejected at the discretion of the Technical Committee.

## CONFERENCE PLANNING COMMITTEE

-  Scott Lovelace, *CEO, IHHA, USA*
-  Antonio Merheb, *IHHA Chairman, MRS Logistics, Brazil*
-  Kari Gonzales, *President & CEO, MxV Rail, USA*
-  Brian Monakali, *IHHA Vice Chairman, SAHHA, South Africa*
-  Per-Olof Larsson-Kraik, *IHHA Director, Trafikverket, Sweden*

## TECHNICAL COMMITTEE

-  Maureen Werner, *MxV Rail, USA*
-  Dingqing Li, *MxV Rail, USA*
-  Jay Monaco, *Amsted Rail, USA*
-  Erik Gotlund, *TTX, USA*
-  Charity Duran, *BNSF, USA*
-  Dustin Lange, *NS, USA*
-  Leonard Evan, *FRA, USA*
-  Andie Berry, *CN, Canada*
-  Kyle Mulligan, *CPKC, Canada*
-  Matt Krech, *Transport Canada, Canada*
-  Zhanguo Ma, *CARS, China*
-  Xianhong Meng, *Shuohuang Railway, China*
-  Hannes Grabe, *University of Pretoria, South Africa*
-  Damian Birkin, *Aurizon, Australia*
-  Thiago Viana, *VLI-Logistica, Brazil*





# TIMELINE



## **CALL FOR ABSTRACTS OPENING**

June 2024



## **DEADLINE FOR ABSTRACT SUBMISSION**

October 18, 2024



## **CONFIRMATION OF ACCEPTED ABSTRACTS**

January 2025



## **FULL PAPERS TO BE PROVIDED FOR REVIEW**

June 2025



## **DEADLINE FOR EARLY BIRD REGISTRATION**

July 18, 2025



## **DEADLINE FOR SUBMISSION OF THE FULL AND FINAL PAPER**

September 2025



## **DEADLINE FOR SPEAKER REGISTRATION**

September 2025



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# EVENT PLANNER

DAY ONE MONDAY 17, 2025	DAY TWO TUESDAY 18, 2025	DAY THREE WEDNESDAY 19, 2025	DAY FOUR THURSDAY 20, 2025	DAY FIVE FRIDAY 21, 2025
All-day <b>WORKSHOPS</b> Pre-conference <b>REGISTRATION</b>	All-day Plenary and Technical <b>CONFERENCE SESSIONS</b>	All-day Plenary and Technical <b>CONFERENCE SESSIONS</b>	All-day Plenary and Technical <b>CONFERENCE SESSIONS</b>	All-day <b>TECHNICAL SITE TOUR</b>
All-day <b>EXHIBITION</b>	All-day <b>EXHIBITION</b>	All-day <b>EXHIBITION</b>	All-day <b>EXHIBITION</b>	
Evening <b>WELCOME RECEPTION</b>	Evening <b>EXHIBITION NETWORKING DRINKS</b>	Evening <b>GALA DINNER</b>	<b>FREE</b>	<b>FREE</b>



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### TERMS & CONDITIONS

- By submitting an abstract, it will be expected that the author will seek authorization for the paper to submit a full paper for presentation at IHHA 2025.
- Submitting author(s) declare that the abstract proposal/s submitted are the original work of at least one author/presenter and do not conflict with any existing copyright agreements.
- If your abstract is accepted for a paper and presentation, you will be expected to submit a full paper and to attend the IHHA 2025 to present it.
- Presenters of papers will be expected to attend IHHA 2025 to present their papers in person.
- To do this, the presenters are required to register and pay for their conference pass to the IHHA 2025. Failure to register may result in the paper being excluded from being published in proceedings.
- Oral presentations can only be presented by a maximum of two authors – the presenters must be listed author on the submission.
- No funding from IHHA is provided to presenters.
- Commercial abstracts will not be accepted.
- Submitting author(s) accept the Event Organisers (Informa) data protection and privacy policy. Informa collects, uses and protects personal data in accordance with its privacy policy, which can be found here: <https://www.informa.com/privacy-policy/>.
- If a submission is selected, consent is provided for the presentation slides, video, audio recording and photos taken during the presentations to be used and published by the MxV Rail and Informa, including being provided to delegates of IHHA 2025.
- If your abstract is accepted, you are expected to submit a full paper which will be peer reviewed.
- At the time of submitting your full paper, you will be asked to also agree to a copyright transfer statement to transfer publication and other rights to the IHHA 2025 organizers. Details will be forwarded directly to authors at a later date.

### Further questions

If you have any queries about your submission or require any further information, please email [ihha.wcrr@informa.com](mailto:ihha.wcrr@informa.com) or call +61 (0) 406 530 603



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