

The 2nd Call for Papers

11th International Conference on Railway Operations Modelling and Analysis

RailDresden 2025

Dresden, Germany, April 1–4, 2025 (Updated: June 2024)

1 Aims of IAROR

IAROR was founded in 2005 and has currently more than 400 members. IAROR combines the expertise of academic and professional railway research with the aim of enhancing the quality of service for railway passengers and customers, improving the effectiveness and efficiency of capacity management, timetabling and traffic management, and ensuring the safety of railway operations. IAROR stimulates innovative theoretical approaches, high-tech concepts, new technological developments and decision support systems that contribute to a higher flexibility, performance and punctuality of trains operating on lines, nodes and in heterogeneous networks. IAROR contributes to the development of new international standards for railway capacity and traffic management by integration of the state-of-the-art from different scientific disciplines as engineering, mathematics, computer science, physics and economics.

IAROR is a Network of Excellence in the field of railway operations research. IAROR has organized the biennial International Conference on Railway Operations Modelling and Analysis (ICROMA) since 2005. The previous ten conferences were held at Delft University of Technology, the Netherlands (RailDelft 2005); Leibniz University Hannover, Germany (RailHannover 2007); ETH Zürich, Switzerland (RailZurich 2009); University of Rome, Italy (RailRome 2011); Technical University of Denmark, Denmark (RailCopenhagen 2013); Chiba Institute of Technology, Japan (RailTokyo 2015); IFSTTAR, France (RailLille 2017); Linköping University, Sweden (RailNorrköping 2019); Beijing Jiaotong University, China (RailBeijing 2021); and University of Belgrade, Serbia (RailBelgrade 2023). The 11th international conference RailDresden 2025 will be held at TU Dresden, Germany.

2 Topics

RailDresden 2025 solicits contributions dealing with any aspect of railway operations modelling and analysis. Typical, but not exclusive, topics of interest covering both passenger and freight transport are:

- Railway alignment and network design
- Line planning
- Timetabling (scheduling and routing)
- Rolling stock and crew scheduling
- Railway maintenance planning and scheduling
- Railway traffic management and rescheduling
- Disruption management and contingency planning
- Train delay prediction and conflict detection
- Railway capacity assessment of nodes, lines and networks
- Railway performance: punctuality, stability, robustness, resilience
- Railway safety analysis and risk assessment
- Railway signalling and control systems
- Train trajectory optimization and train control
- Driver Advisory Systems and Automatic Train Operation
- Passenger flows in stations, on platforms, and dwell times
- Passenger assignment
- Rail freight transport
- Rail yard operation and design
- Multimodal transport systems, interaction with air, urban, and micro-mobility
- Energy saving in railways
- Emerging railway technologies
- Rail governance and economics
- Railway simulation and digital twins

3 Paper Submission and Important Dates

RailDresden 2025 submission options include:

- Type A: Research paper
- Type B: Industrial paper
- Type C: Abstract (for Poster session) ****NEW****

The authors of research papers (Type A) should submit a full paper of a maximum length of 20 pages in ICROMA format including figures and references. The authors of industrial papers (Type B) can submit a paper of at most 10 pages. The authors who choose to present in the Poster session shall submit an abstract (max 300 words). The full research papers will be reviewed according to the standard scientific criteria: technical merit, originality, clarity and relevance. The review of the industrial papers will retain the former criteria except scientific originality. The purpose of an industrial paper is to showcase innovations and applications of research and development in the railway industry. The main author of an industrial paper is not affiliated with an academic institute. For the Poster session, the author shall bring their poster to the conference venue. All the submissions should be original work. The paper template is available on the website: www.raildresden2025.de. Authors shall submit the manuscript or the abstract electronically using the aforementioned conference website.

- **Submission system open:** August 1, 2024
- **Deadline paper submission:** October 10, 2024
- **Deadline abstract submission:** October 10, 2024 (for Poster session)
- **Notification of acceptance:** December 20, 2024
- **Registration system open:** November 1, 2024
- **Submission final paper:** February 1, 2025
- **Early-bird registration end:** February 1, 2025
- **Closure online registration:** March 21, 2025
- **Conference days:** April 1-4, 2025

4 Conference Fees

The conference fees for RailDresden 2025 are as follows. Regular €600, reduced for Academics €450, reduced for Students €250, and late registration (after 1 February 2025) €750. The Mini course €150, and late registration for the Mini course (after 1 February 2025) €200.

5 Best Papers and Awards

All accepted submissions will appear in the Book of Abstracts and the full papers will be available to conference participants, while authors are free to submit their paper elsewhere after the conference. Only papers submitted exclusively to RailDresden 2025 are eligible as candidates for Best Papers and the IAROR Young Railway Operations Research Award. The authors of the top 10 best research papers selected by the Scientific Advisory Committee will be invited to submit their paper to a special issue of the Journal of Rail Transport Planning & Management. The Young Railway Operations Research Award will be awarded to outstanding young researchers who present their excellent research paper on innovative research at the conference. To apply for the Young Railway Operations Research Award, you must be the first author and not older than 35 years on the first day of the conference. The winners will be announced at the conference.

6 Keynotes and Mini Course

Leading railway scientists from different disciplines and professionals from the railway industry will deliver keynote speeches. A mini course on railway transport will be offered optionally to young researchers and other interested participants on April 1, 2025. More details will be announced on the conference website.

7 Organizing Committee

RailDresden 2025 is organized jointly by the International Association of Railway Operations Research (IAROR) and TU Dresden. The organizing committee consist of:

- Nikola Bešinović, TU Dresden (Conference Chair)
- Jörn Oliver Schönberger, TU Dresden (Conference Program Chair)
- Rob Goverde, Delft University of Technology (President of IAROR)
- Francesco Corman, ETH Zürich (Vice-President of IAROR)

The Scientific Advisory Committee is available at the RailDresden 2025 website.

8 Venue and Contact Information

Venue: "Friedrich List" Faculty of Transport and Traffic Sciences, TU Dresden

Address: Hettnerstrasse 3, Pothhoff Building, 01069 Dresden

E-mail: raildresden2025@tu-dresden.de

For more information, please visit the conference website at: www.raildresden2025.de