

Event Information

Conference language

The conference languages are German and English.

The conference lectures and the slides can be presented in both languages.

A simultaneous interpretation of the German lectures into English will be offered for international participants.

Registration fees

Contributors:

Online: 150 €, presence participation additional 200 €

Participants:

Online: 350 €, presence participation additional 200 €

Students without a master's or Diploma degree*:

Online: 50 €

* Proof required. All prices include VAT.

The conference fee covers participation in the online conference programme and, in the case of attendance (depending on the applicable regulations), also catering and the conference dinner.

Places for attendance are expected to be limited.

The travel und accommodation expenses shall be covered by the participants.

Contact

Secretary's office of the IRSA 2021
c/o Institut für Stromrichtertechnik und Elektrische Antriebe
Jägerstraße 17-19
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Germany

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www.irsa.rwth-aachen.de

Submission of Papers

Experts from universities and research institutions, from industry and politics are invited to take part in the conference and to submit presentation proposals addressing one of the topics listed on the reverse side.

Submission

Potential contributors are kindly asked to submit an extended abstract (max. three DIN A4 pages) on one of the main topics of the conference, either in German or in English, until April 15, 2021.

Please compose your document using the template available on the website of the symposium and submit it using the upload option:

www.irsa.rwth-aachen.de

Content of the extended abstract

- Classification regarding the topic
- Meaningful title
- Abstract (incl. keywords) at least one DIN A 4 page
- Personal data of the author(s) (name, address, position)
- Preferred language of presentation, name of lecturer

Registration

The registration for the conference will be possible online at:

www.irsa.rwth-aachen.de

Registration will open on May 1, 2021.

Decision of the programme committee

The programme committee will decide on the acceptance of the submitted contributions as well as on their classification in the corresponding programme session. The programme committee has to make a selection because the number of lectures is limited due to time constraints.

Manuscripts, Dates and Sponsoring

Manuscript size

The authors are kindly asked to submit the accepted contributions in the form of a manuscript for the digital conference proceedings. The manuscript should be between 8-16 pages long and be submitted in either German or English.

Dates

Extended abstract submission: April 15, 2021

Author notification: June 01, 2021

Manuscript submission: July 31, 2021

Sponsoring

An event like the IRSA relies on the support of economic and industrial associations.

We have prepared a special sponsorship programme for you as well.

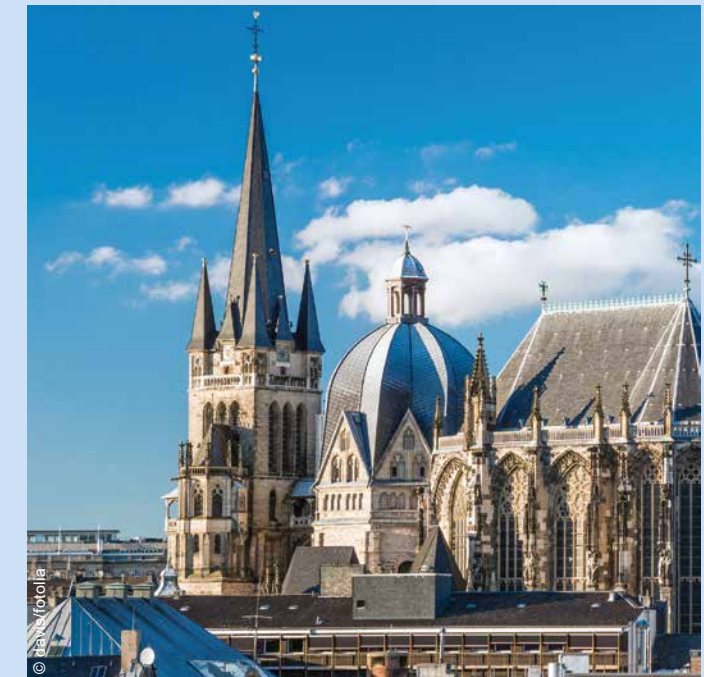
Please contact us if you are interested.

Further information can be found at:

www.irsa.rwth-aachen.de

Conference Announcement

Call for Papers



3rd International Railway Symposium Aachen

21 - 23 November 2021
RWTH Aachen University

IRSA 2021

3rd International Railway Symposium Aachen

21 - 23 November 2021
RWTH Aachen University

IRSA 2021

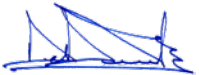
Foreword

The reduction of CO2 emissions to achieve the international climate targets of 40% by 2030 and 100% by 2050 in the mobility sector can only be achieved with a strong role for rail transport. To achieve this, more traffic must be brought onto the existing railway lines in the coming years and disused lines must be brought back into service.

Spatially and temporally denser traffic will be achieved through the progressive digitalization and automation of vehicle systems together with innovative vehicle, drive and supply concepts for vehicles and trainsets. This can increase the attractiveness of rail transport. The increase in transport performance is expanded, which contributes to the overall reduction of emissions. We want to promote these developments through interdisciplinary exchange between research institutions and industry as well as cooperation on an international level through our conference.

Following the successful second edition of the International Railway Symposium 2019 with over 250 participants from 15 countries, IRSA 2021 will be held as a hybrid event from 21 November - 23 November 2021. As far as possible, the symposium will take place on site in Aachen and will also be offered as a virtual conference with digital participation. As organizer, the Research Center Railways of RWTH Aachen University will continue to offer an international framework for interdisciplinary exchange between industry, science and politics on current and future rail transport topics from research and practice, even in times of the pandemic. The range of topics fully reflects the complexity of the railway system, from infrastructure to vehicle and drive technology to operation. As organizers of IRSA 2021, we would like to cordially invite you to the symposium and ask you to support the event by submitting an interesting contribution.

We look forward to a lively and committed participation in the interdisciplinary, exciting discussions on the current topics in rail transport.


Univ.-Prof. Dr. ir. Dr. h.c.(RTU)
Rik W. De Doncker
Spokesmen of the Organization Committee


Univ.-Prof. Dr.rer.nat.
Dirk Uwe Sauer
Spokesmen of the Organization Committee

Target Groups and Topics

Target groups
Technical experts and managers from the railway sector from science, economics and politics.

Topics from all sectors of rail transport
All kinds of rail systems: High speed passenger train, commuter rail as well as urban transport – light rail and metros – and cargo rail transport.

Railway infrastructure management

- Asset management
- Failure process analysis and fault prevention

Innovative railway operation concepts

- Robust scheduling
- Mobility concepts
- Automatic track allocation
- Incident management

Safety, reliability and service life

- Structural integrity, collision safety
- Wheel-rail interaction, track guidance
- Train protection und railway signalling systems
- Predictive maintenance, maintenance management, diagnosis, spare parts management

Novel vehicles and components

- Vehicles
- Running gear
- Components

Assisted, automated and autonomous driving (3A)

- Automated freight transport
- Driver assistance systems
- Car-to-X communication

Energy and resource efficiency

- Electrification, catenary-free operation
- Storage technologies
- Lightweight construction, additive manufacturing

Noise reduction

- Noise prevention, aerodynamics
- Vehicle noise reduction
- Infrastructure for noise protection measures

Programme Committee

International programme committee

- **Prof. Dr.-Ing. D. Abel**, RWTH Aachen University
- **Prof. PhD M. Bohlin**, Mälardalen University, Sweden
- **Dr.-Ing. T. Büker**, VIA Consulting & Develop., Aachen
- **Dr. sc. ETH G. Caimi**, SBB, Suisse
- **Dr.-Ing. B. Dickenbrok**, DB Netz AG, Frankfurt
- **Prof. Dr. ir. R. W. De Doncker**, RWTH Aachen University
- **Prof. Dr.-Ing. M. Enning**, FH Aachen
- **Dr. C. Gralla**, Scheidt & Bachmann, Mönchengladbach
- **Prof. Dr.-Ing. P. Gratzfeld**, KIT FAST, Karlsruhe
- **Prof. I. Hansen**, TU Delft, Netherlands
- **Dr.-Ing. B. Jäger**, DLR, Braunschweig
- **Prof. D.Eng J. Koseki**, Universität Tokio, Japan
- **Prof. Dr.-Ing. T. Kuhnimhof**, RWTH Aachen University
- **Dr.-Ing. L. Löwenstein**, Siemens Mobility, Erlangen
- **Dipl.-Ing. H. Mannsbarth**, Alstom, Siegen
- **Dr.-Ing. L. Müller**, DB Systemtechnik, Minden (req.)
- **Prof. Dr.-Ing. A. Müller-Hellmann**, RWTH Aachen University
- **Prof. Dr.-Ing. N. Nießen**, RWTH Aachen University
- **Prof. Dr.-Ing. R. Pfaff**, FH Aachen
- **Dr.-Ing. A. Priebe**, Scheidt & Bachmann, Mönchengladbach
- **Prof. Dr.-Ing. C. Salander**, DZSF, Dresden
- **Prof. Dr.rer.nat. D. U. Sauer**, RWTH Aachen University
- **Prof. Dr.-Ing. C. Schindler**, RWTH Aachen University
- **Prof. Dr.-Ing. B. Schmidt**, FH Aachen
- **Prof. S. Stichel**, KTH Stockholm, Sweden
- **Prof. Dr. N. Tomii**, Chiba Inst. of Techn., Japan
- **Prof. E. G. Vadillo**, EHU Bilbao, Spain
- **Dr.-Ing. W. Weigand**, prev. DB Netz AG

Preliminary Programme/Organizers

Sunday, November 21, 2021
18.00 Pre-event programme*

Monday, November 22, 2021
09.00 Registration*
10.00 Official opening of the event at the SuperC building of the RWTH Aachen University
10.15 Welcome speeches
Lecture sessions
17.30 End of lectures first day
19.00 Evening event*

Tuesday, November 23, 2021
09.00 Lecture sessions
17.00 End of the lecture event
18.00 Institute presentation*

* if permitted by the authorities according to the regulations

Organizers
Research Center Railways (RCR)
www.rcr.rwth-aachen.de

IRSA is an initiative of the following institutions of the RWTH Aachen University:

- Institute of Rail Vehicles and Transport Systems (IFS), Leadership: Prof. Schindler
- Institute of Transport Science (VIA), Leadership: Prof. Nießen
- Institute of Urban and Transport Planning (ISB), Leadership: Prof. Kuhnimhof
- Institute for Power Electronics and Electrical Drives (ISEA), Leadership: Prof. De Doncker and Prof. Sauer
- Institute of Automatic Control (IRT), Leadership: Prof. Abel