Programme

The first international Railway Symposium Aachen takes place on the campus of the RWTH Aachen University (Rheinisch-Westfälische Technische Hochschule Aachen) next to the main building on "Templergraben" 57.

The sessions will be held parallel in the “Ford-Saal” and “Generali-Saal” on the 6th floor of the SuperC and on the 5th of the old cogeneration plant (HKW), right next to it.

The SuperC, opened in 2008, lies next to the main building of the RWTH and combines as a service centre service offerings for the students of the RWTH. Furthermore, it provides a central meeting point for the daily university life by the café as well as by the conference and seminar rooms.

Please note that that the conference has a limited number of participants.
**Tuesday, 28.November.2017**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>06:00 p.m.</td>
<td>Cathedral tour followed by a get-together in the &quot;Hexenhof-Alm&quot; on the Aachen Christmas market</td>
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<td>Meeting point at the main entrance of the Cathedral at 5:55 p.m.</td>
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</table>

**Wednesday, 29.November.2017**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>09:00 a.m.</td>
<td>Registration in the SuperC</td>
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<tr>
<td>09:30 a.m.</td>
<td>Welcome in the „Ford-Saal“</td>
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<tr>
<td></td>
<td>Univ.-Prof. Dr.-Ing. C. Schindler (for the organising committee),</td>
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<td>Univ.-Prof. Dr. rer. pol. M. Brettel (Prorector for Industry and Business Relations of RWTH Aachen University),</td>
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<td></td>
<td>Dr. Hendrik Schulte (state secretary for the ministry of transport of North Rhine-Westphalia)</td>
</tr>
<tr>
<td>10:15 a.m.</td>
<td>Keynote in the „Ford-Saal“</td>
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<td>Dr. J. Eickholt, Siemens Mobility Integration Manager</td>
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<tr>
<td>10:45 a.m.</td>
<td>Coffee Break</td>
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<tr>
<td>11:15 a.m.</td>
<td>Keynote in the „Ford-Saal“</td>
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<td>H. Werdel, Directeur Gestion Infrastructure, Chemins de Fer Luxembourgois, Luxembourgish State Railway</td>
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<td>H. P. Lang, DB Systemtechnik GmbH</td>
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<tr>
<td>12:15 p.m.</td>
<td>Lunch on the 6th floor of the SuperC</td>
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<tr>
<td>Time</td>
<td>Session</td>
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<tr>
<td>01:30 p.m. – 01:55 p.m.</td>
<td>Development of an Infrastructural Preserving Vehicle Concept Using the Example of Mireo Stefan Kamppeter (Siemens AG) (Language of speech: German)</td>
</tr>
<tr>
<td>01:55 p.m. – 02:20 p.m.</td>
<td>EcoTrain – The Proactive Hybrid Multiple-unit Train for the „Erzgebirgsbahn“ Dr. Holger Fichtl (Fraunhofer-Institut für Verkehrs- und Infrastruktursysteme) (Language of speech: German)</td>
</tr>
<tr>
<td>02:20 p.m. – 02:45 p.m.</td>
<td>Choosing the right architecture for the next generation of railway vehicles using aerospace methodologies Markus Guerster (Massachusetts Institute of Technology) (Language of speech: German)</td>
</tr>
<tr>
<td>02:45 p.m. – 03:10 p.m.</td>
<td>Automated Nano Transport System – Approach for the Development of Autonomous Railway Vehicles Jürgen Schlaht (Siemens AG MO MLT) (Language of speech: German)</td>
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<tr>
<td>03:10 p.m.</td>
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<td>03:10 p.m.</td>
<td>Coffee Break</td>
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<tr>
<td>Time</td>
<td>Session</td>
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</table>
| 03:40 p.m. – 04:05 p.m. | Study of frontal train collisions based on a dynamic model of colliding vehicles coupled with moving tracks  
Dr. Chao Yang  
(Beijing Jiaotong University)  
(Language of speech: English) | Ford-Saal  
Train Dynamics | Regenerative braking demonstrator in DC railway network in perspective of railway smart grid  
N’Guessan Koausi  
(Railenium)  
(Language of speech: English) | HKW  
Modelling Railway Operation  
The influence of buffer time distributions on delay propagation modelling in railway networks  
Stephan Zieger  
(RWTH Aachen, Institute of Transport Science)  
(Language of speech: English) |
| 04:05 p.m. – 04:30 p.m. | Analysis of Aerodynamic Load on High-Speed Train Car-Body Utilizing Fluid-Structure Interaction Method  
Weiyuan Dou  
(Beijing Jiaotong University)  
(Language of speech: English) | Ford-Saal  
Train Dynamics | About the Application of Pressure Indicating Film for the Determination of Size and Shape of Wheel-to-Rail-Contact  
Dr. Florian Dörner  
(RWTH Aachen, Institute for Rail Vehicles and Transport Systems)  
(Language of speech: English) | HKW  
Modelling Railway Operation  
Train platforming with scenario based robustness: An exact biobjective method  
Franck Kamenga  
(SNCF Réseau)  
(Language of speech: English) |
| 04:30 p.m. – 04:55 p.m. | Longitudinal Train Dynamics for Freight Wagons passing through an S-curve  
Visakh V. Krishna  
(KTH Royal Institute of Technology)  
(Language of speech: English) | Ford-Saal  
Train Dynamics | For the Comparison of Different Calculation Programs for the Crack Growth in Wheelset Axles  
Christian Gschnitzer-Baernthaler  
(Stadler Rail Group)  
(Language of speech: German) | HKW  
Modelling Railway Operation  
Towards Automated Capacity Planning in Railways  
Dr. Kaspar Schüpbach  
(SBB)  
(Language of speech: English) |
| 04:55 pm. – 05:20 p.m.  | The Additional Air Resistance of Trains in Tunnels  
Prof. Wulf Schwanhäußer  
(RWTH Aachen, Institute of Transport Science)  
(Language of speech: German) | Ford-Saal  
Train Dynamics | Knorr-Bremse, ATLAS - Advanced Test Laboratory for Adhesion based Systems  
Johannes Gräber  
(Knorr-Bremse – Systeme für Schienenfahrzeuge GmbH)  
(Language of speech: German) | HKW  
Modelling Railway Operation  
Effects of gradient on railway capacity: A parameter study on gradient related parameters  
Dina Sofie Hänninen Eggum  
(Norconsult AS and Department of Civil and Environmental Engineering, Norwegian University of Science and Technology (NTNU))  
(Language of speech: English) |
| 07:00 p.m. | Dinner in the Ballroom of “Erholungsgesellschaft Aachen”  
Reihstraße 13, 52062 Aachen  
Dinner Speech: DI Dr.techn. Manfred Ninaus, Scientific Direktor at the Institut für Innovations- und Trendforschung | | |
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Place</th>
<th>Subject</th>
<th>Speaker/Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00 a.m.</td>
<td>3. Session</td>
<td>Ford-Saal</td>
<td>Assisted, Automated and Autonomous Driving II</td>
<td></td>
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<tr>
<td>09:00 a.m.</td>
<td>Galileo Online: GO! – Development of a High-Precision, Satellite based Navigation Receiver with Integrated Communication Solutions Particularly for Railway Applications</td>
<td>Generali-Saal</td>
<td>Safety and Reliability</td>
<td>Christian W. Rausch (Bombardier Transportation – Global Engineering) (Language of speech: German)</td>
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<tr>
<td>09:25 a.m.</td>
<td>Methods of Risk Analysis and Safety Assessment for Railways</td>
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<tr>
<td>09:25 a.m.</td>
<td>Autonomized Separating of Chain Couplers while Shunting</td>
<td>HKW</td>
<td>Technical Speeches</td>
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<tr>
<td>09:25 a.m.</td>
<td>Wireless Communication for Freight Trains</td>
<td></td>
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<td>VIAC Consulting (What does university teach the engineers - and what is needed on the market?)</td>
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<tr>
<td>09:50 a.m.</td>
<td>Autonomized Shunting with Railway Vehicles – Which Contribution Can Tractor-Side Assistance Systems Make?</td>
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<tr>
<td>10:15 a.m.</td>
<td>Remote monitoring system of derailment coefficient (L/V) for managing running safety of track and rolling stock in commercial line</td>
<td></td>
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<td>DB Netz AG (Bridges on the railway)</td>
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<tr>
<td>10:15 a.m.</td>
<td>Coffee Break</td>
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<td>Session</td>
<td>Speaker</td>
<td>Language</td>
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<td>10:45 a.m. – 12:00 p.m.</td>
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<td>4. Session</td>
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</table>
| 10:45 a.m. – 11:10 a.m. | Ford-Saal     | **Driving Technologies and Power Supply**                               | Future Replacement of Diesel Multiple Units – Hybrid Trains with Battery and H2-Technology  
Dr. Martin Glinka (Siemens AG)  
(Language of speech: English) |          |
| 10:45 a.m. – 11:10 a.m. | Generali-Saal | **Innovative Railway Operation Concepts**                                | Decarbonizing Global Freight Transportation with a Focus on Modal Shift  
Lynn Kaack (Carnegie Mellon University)  
(Language of speech: English) |          |
| 10:45 a.m. – 11:10 a.m. | HKW            | **Lightweight Construction**                                            | Geometric Analyses of Carbodies as the Basis for a Significant Weight Reduction in the Roll2Rail Project  
Dr. Jens König (German Aerospace Center (DLR e.V.))  
(Language of speech: English) |          |
| 11:10 a.m. – 11:35 a.m. |                | **Medium Voltage Direct Current Supplied Substations for City Railway Systems** | Medium Voltage Direct Current Supplied Substations for City Railway Systems  
Benedict Mortimer (RWTH Aachen, Institute for Power Generation and Storage Systems)  
(Language of speech: German) |          |
| 11:10 a.m. – 11:35 a.m. |                | **Conception of appropriate Offers in the Area of Tension Between Level of Detail and Wide Variety** | Conception of appropriate Offers in the Area of Tension Between Level of Detail and Wide Variety  
Frederik Ropelius (SMA und Partner AG)  
(Language of speech: German) |          |
| 11:10 a.m. – 11:35 a.m. |                | **Nano-structured carbon fiber materials for High Temperature applications** | Nano-structured carbon fiber materials for High Temperature applications  
Anna Laura Palmarelli (Aeronautical Service Research Center)  
(Language of speech: English) |          |
| 11:35 a.m. – 12:00 p.m. |                | **Efficiency- and Noise-optimised Interaction of Inverter and Asynchronous Motor for Traction Applications** | Efficiency- and Noise-optimised Interaction of Inverter and Asynchronous Motor for Traction Applications  
Dietmar Tissen (Kiepe Electric GmbH)  
(Language of speech: German) |          |
| 11:35 a.m. – 12:00 p.m. |                | **Integrated, Automated Operation Management**                          | Integrated, Automated Operation Management  
Veit Plamann (Scheidt & Bachmann System Technik GmbH)  
(Language of speech: German) |          |
| 11:35 a.m. – 12:00 p.m. |                | **Fiber Composite Lightweight Design for Railway Vehicles**              | Fiber Composite Lightweight Design for Railway Vehicles  
Jörg Nickel (Deutsches Zentrum für Luft- und Raumfahrt e.V.)  
(Language of speech: German) |          |
<p>| 12:00 p.m.    |                | <strong>Lunch in the Foyer of the 6th floor of the SuperC</strong>                    |                                                                       |          |</p>
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Ford-Saal Driving and Storage Technologies</th>
<th>Generali-Saal Reliable Operation</th>
<th>HKW Noise and Vibrations</th>
</tr>
</thead>
</table>
| 01:30 p.m. | 5. Session                                                                               | Design of Energy Storage for a (Battery-) Electrical Local Traffic Railcar  
*Prof. Roland Schmetz (Rhine-Waal University of Applied Sciences)*  
(*Language of speech: German*) | Combined Valuation of Operational and Transportation Railway Offers  
*Burkhard Franke (trafIT solutions GmbH)*  
(*Language of speech: German*) | NOI-TSI, Why is their Compliance not Enough  
*Prof. Markus Hecht (TU Berlin, Institute for Overland and Maritime transport)*  
(*Language of speech: English*) |
| 01:30 p.m. | 01:55 p.m.                                                                               | Development of an Electro Mechanic Power-Split Hybrid Traction for Diesel-Operated Local Trains  
*Hendrik Hoffmann (RWTH Aachen, Institute for Machine Elements and Machine Design)*  
(*Language of speech: German*) | Germany-Wide Capacity Analysis of Routes and Nodes  
*Andreas Schüttert (RWTH Aachen, Institute of Transport Science)*  
(*Language of speech: German*) | Structure Borne noise excitation from the drive train of a rail vehicle  
*Johannes Woller (TU Dresden)*  
(*Language of speech: English*) |
| 02:20 p.m. | 02:45 p.m.                                                                               | Electrical Design of a Novel Diesel-Electric Drivetrain for Suburban Trainsets using a Power Split Variator and Energy Storage System  
*Markus Nießen (RWTH Aachen, Institute for Power Electronics and Electric Motors)*  
(*Language of speech: English*) | Identifying the Cause of Delays of Trains and its Propagation Routes using Association Rules  
*Prof. Norio Tomii (Chiba Institute of Technology)*  
(*Language of speech: English*) | Vertical vibration suppression of railway vehicles using variable primary and secondary hydraulic dampers  
*Dr. Yoshiki Sugahara (Railway Technical Research Institute)*  
(*Language of speech: English*) |
| 02:45 p.m. |                                                                                          |                                                                                                           |                                                                                                  |                                                                                           |
| 03:15 p.m. | Wrap-up Session                                                                           |                                                                                                           |                                                                                                  |                                                                                           |
| 03:30 p.m. | End of the Event                                                                          |                                                                                                           |                                                                                                  |                                                                                           |
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