



# 10th WORLD CONGRESS ON RAILWAY RESEARCH

25th - 28th Nov 2013 | Sydney Convention and Exhibition Centre, Australia

## Call for Papers for the 10th World Congress on Railway Research

### Host Organisations



### Organising and Executive Committee:



SHARING **KNOWLEDGE** TO KEEP AHEAD OF THE **CURVE**

# Welcome

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On behalf of the WCRR 2013 Organising Committee, I am honoured to invite you to the 10th World Congress on Railway Research that will take place at the Sydney Convention and Exhibition Centre, Australia, from 25 to 27 November 2013.

Railways are experiencing a worldwide renaissance with High Speed Rail, Light Rail, Heavy Haul and exciting technological developments putting it back into the public spotlight. Rail in Australia is a large and vibrant sector that underpins the nation's wellbeing and prosperity. WCRR 2013 will be an outstanding opportunity for the exchange of best practice between rail researchers, manufacturers and operators from across the global rail industry.

The program in 2013 will showcase over 200 technical presentations, across 8 streams. There will also be the traditional plenary sessions where you will hear the thoughts and opinions of some of the leading figures in the rail industry from across the globe.

The WCRR 2013 will come together with Australia's flagship AusRAIL PLUS rail conference with combined plenaries which will see up to 2500 people gather to share the expertise of outstanding WCRR speakers. The WCRR 2013 and AusRail PLUS exhibitions will also combine to create potentially the biggest ever rail exhibition hosted in the Australasian region with the chance to visit over 300 companies that will be exhibiting from all around the globe.

Sydney is a vibrant and dynamic city, boasting some of the World's most iconic beaches and landmarks, and will provide a spectacular backdrop for WCRR 2013. We look forward to welcoming you to Sydney in 2013!

**David George**

**Chair, Organising Committee of WCRR 2013**

## **WCRR 2013 Call for Papers**

### **Congress Theme**

We are calling for papers to address the conference theme which in 2013 will be:

### **Sharing knowledge to keep ahead of the Curve**

### **Technical Program**

Each day the program will start with a plenary session where keynote speakers will provide a strategic view of the cross-cutting and diverse challenges faced by the rail industry. This will be followed by formal and oral presentations held in parallel sessions.

Posters will have a prominent place close to sessions rooms and the exhibition area and will offer the opportunity for informal presentation. Finally, on the last day companies will host a variety of interesting and stimulating technical visits.

WCRR will provide you with a great opportunity to present your research and to participate in networking opportunities and form new relationships.

### **Themes**

For the WCRR in 2013, there will be 8 themes to which the technical papers will be allocated.

Each theme has a number of sub themes (detailed on the next page) upon which researchers may base their paper. The themes are:

1. Economics/Policy
2. Environment
3. Infrastructure and Electrical
4. Performance and Capacity
5. Rollingstock
6. Safety
7. Signalling, Communications, and Operations
8. Systems and Information



# Themes and Sub Themes

## Economics/Policy

- Infrastructure financing, pricing, ownership and public private investment
- Economics of alternate energy (including Carbon price / trading opportunities and challenges)
- Encouraging investment
- Improving the accuracy of demand forecasting
- The business trends and drivers for investing in urban and intercity Rail (including external factors)

## Environment

- Assessing and responding to changing patterns in extreme weather events or natural disasters (including adaption to Climate Change)
- Innovations to promote carbon abatement opportunities (infrastructure, technological and operational)
- Noise and Vibration abatement
- Rail's role in more liveable cities
- Preventing and dealing with environmental emergencies (eg dangerous goods)
- Fostering a more environmentally aware workforce

## Infrastructure and Electrical

- Track Components
- Design and maintenance of power supply systems and catenaries
- Structures (bridges, tunnels etc)
- Condition Monitoring, inspection, innovative detection technologies
- Innovative Maintenance practices
- High Reliability / availability of infrastructure
- Ballast and subgrade
- Innovation in train detection
- Switches and special track work

## Performance and Capacity

- Reducing emissions, alternative energy sources and management
- Reducing Locomotive energy use
- Dealing with peak demand – Energy Systems
- Improving Rail Industry's share of intermodal freight
- Materials and Products (wheel steels, rail steels, joints, switches & crossings, sleepers etc)
- Maintenance Management Systems
- Data Collection and Performance Measurement
- Human Performance in Rail and Rail Workforce development
- Increasing freight capacity

## Rollingstock

- Train Dynamics Management
- Comfort / ride quality / human health
- Train control / onboard diagnosis / IT applications
- Rolling Stock Design: crash worthiness
- Rolling Stock Design: Structures, Traction Components
- Innovative Maintenance practices

## Safety

- Trackside Worker Protection technologies
- Safe Worker health issues, including Drugs and Alcohol and Fatigue
- Train Driver Interface technologies
- Railway Level Crossing Safety (including rolling stock lighting and visibility)
- Urban rail safety and security
- Safety Management Systems

## Signalling, Communications, and Operations

- Train Management Systems (including timetables)
- Innovations in Train Control Systems
- Design and maintenance of signalling and communications systems
- Network control
- Operations and Traffic management
- Capacity Assignment

## Systems and Information

- Alternative train system concepts (Lightweight, Innovative loading systems, alternative fuel storage systems etc)
- Interoperability
- Intelligent Transport Systems
- Pantographs, Catenaries
- Vehicle Track interaction including wheel rail and friction management
- Aero-dynamics
- Electro Magnetic Compatibility (EMC)
- Integrated navigation around railways and multi modal stations (way finding)
- Traveller Information and Consumer Applications (Next generation)



# Abstracts

## Abstracts submission process

Abstracts must be submitted directly to the WCRR organisers through the online conference management system. The system can be accessed through the main WCRR 2013 website [www.wcrr2013.org](http://www.wcrr2013.org), just click on the call for papers link to be taken to our online conference management system. The system is designed to be easily navigable, click on "Open an account and submit an abstract", complete your details, follow the prompts and ultimately copy and paste your abstract into the box provided. If you have any problems in using the system please email [wcrr2013@informa.com.au](mailto:wcrr2013@informa.com.au).

The abstract must be a maximum of 2500 characters and must be written in English.

Describe the content of your research, including:

- The reason for the research
- The link with the chosen theme
- The methodology
- Expected results
- Potential for implementation
- Impact on railway business
- What is new about the research?
- Potential for International Collaboration



If you are presenting on a subject that you have presented at previous WCRR congresses then the paper must focus on the new developments since then. Commercial abstracts will not be accepted so please emphasise the research content in your abstract.

Abstracts will be assessed using the following criteria which will have weightings attached.

**Customer Focus** - What is the impact of this research for Railways?

**Quality of Research** - Is this research technically sound? Is the method used clearly stated and applicable?

**Innovation and scientific contribution** - Is this research new/novel or has it been done before by someone else (or by the author)?

**Pathway to Implementation** - Is the path leading to implementation apparent? Could the results be practically implemented?

**Collaboration** - Does the research lend itself to international collaboration?

**Relevance** - Does the paper clearly identify the theme and the sub theme upon which it is based? Is the content relevant?

Other considerations that will be used to determine if an abstract is suitable to progress to full paper are:

- Does the author have his/her organisation's endorsement of the paper and its presentation at WCRR2013?
- Does the paper have a logical structure?
- Is it well written and are the result and conclusions clear and easy to understand?

When you submit your abstract please identify the theme and appropriate sub theme that best categorises your abstract.

If your abstract is accepted as a paper for presentation, you will be expected to submit a full paper and to attend the congress to deliver it. If your abstract is *selected as a poster paper* you will also be expected to submit a full paper and to attend the conference to deliver your poster session.

Speakers will be able to register at the early bird rate at any time (regardless of advertised cut off dates), but must be signed up to attend the conference in order to speak or to deliver your poster paper.

**The deadline for this call for papers abstract submission is 10th October 2012**

If you have any questions, please contact the Organising Committee at [wcrr2013@informa.com.au](mailto:wcrr2013@informa.com.au)

### WCRR 2013 Call for Papers Timeline:

**Deadline for abstract submission:**  
10th October 2012

**Confirmation of accepted abstracts:**  
8th April 2013

**Date for submission of full papers to be provided for review:**  
1st July 2013

**Deadline for submission of full and final paper:**  
1st October 2013

### Key dates for the World Congress

#### 24th November 2013

WCRR 2013 Welcome Reception – Drinks and Canapes to be served in the Harbour View Ballroom at Sydney's world famous Taronga Zoo

#### 25th November 2013

Opening ceremony, commencement of the Congress and Exhibition

#### 26th November 2013

Continuation of the Congress program, opening of AusRAIL PLUS 2013 conference and exhibition co-located with the World Congress.

AusRAIL PLUS 2013 Networking Drinks followed by the World Congress Gala Dinner aboard the MV Sydney 2000. Cruise the harbour in style and network with the leading minds in the rail industry around the world

#### 27th November 2013

Final day of the WCRR 2013 with presentation of conference prizes and handover ceremony to host country for WCRR 2015.

#### 28th November 2013

Technical visits and Congress exhibition close