15-17 July 2015
@ Newcastle University
Conference Programme

organised by:
in collaboration with:
Welcome to RailNewcastle conference 2015!

This rail-focused international conference offers opportunities to students, academics and professionals involved in rail-related research projects and courses to present their scientific work and share their practical experience.

The first two days of the conference are dedicated to scientific sessions and the final day to the Railway Talents networking and collaborative event organised in collaboration with UIC - International Union of Railways.

We hope RailNewcastle conference 2015 will give you some food for (rail and research) thoughts and sparkle new ideas and collaborations in the future.

Enjoy the conference and the city of Newcastle upon Tyne and see you at the sessions!

The organisers
Wednesday 15 July 2015

MORNING SESSION

09:00 Opening
Prof Mark Robinson, Director of NewRail, UK

09:15 Welcome message
Dr Marin Marinov, Rail Education Group Manager, NewRail, UK

Keynote speakers

09:30 Development of a European Community Rail Authorisation process
Prof John Roberts, Kasetsart University, Thailand

10:00 State-of-the-art of urban rail transit in China (video)
Prof Baomig Han, Beijing Jiaotong University, China

10:30 Coffee break

11:00 A great idea - who wants it and how do they know that they want it?
David Prescott, Allan Rail Solutions Ltd, UK

11:30 Leadership talent: a study of the potential of people in the Australian rail industry
Dr Janene Piip, JP Research & Consulting, Australia

12:00 Lunch break
A buffet lunch will be served in The Courtyard dining area, ground floor, Old Library Building, Newcastle University

Wednesday 15 July 2015

AFTERNOON SESSION

13:00 The economic viability of a parallel Cross Country route for England
David Worsley, Newcastle University, UK

13:20 Definition of energy-efficient speed profiles within rail traffic by means of supply design models
Valerio De Martinis, Dirk Bruckmann, Ulrich A. Weidmann, ETH Zürich, Switzerland

13:40 Operation of freight railways in densely used mixed traffic networks – an impact model to quantify changes in freight train characteristics
Tobias Fumasoli, Dirk Bruckmann, Ulrich Weidman, ETH Zürich, Switzerland

14:00 Simulation modelling of Vitória-Minas closed-loop rail network
Reinaldo Pimentel Loyola Meireles, Marta Monteiro da Costa Cruz, Carlos Henrique Fernandes de Faria, Federal University of Espirito Santo, Brazil

14:20 Plan and schedule an efficient heavy rail track maintenance through a Decision Rules Model
Rui Santos, Paulo Fonseca Teixeira, Antonio Pás Antunes, Instituto Superior Tecnico, Portugal

15:00 Benchmarking suburban, regional and freight train driving styles in a mixed-traffic railway
Jonathan P. Powell, Roberto Palacin, Newcastle University, UK

15:20 Modelling and optimising periodic timetables on single track lines: improving the service quality through infrastructural adjustments and advanced control systems
Nicola Coviello, Politecnico di Torino, Italy

15:40 Railways regulation-critical factors for a successful management: The Spanish HSR experience
Aurora Ruiz-Rua, Pompeu Fabra University, Spain

16:00 Shunting yard simulation with synchronous decision integration
Benno Hüttler, Nikola Ilo, Manfred Gronalt, University of Natural Resources and Life Sciences, Austria

16:20 Modelling the influence of wagon technical parameters on variable costs in rail freight transport
Anna Dolinayová, Martin Ľoch, Juraj Kanis, University of Žilina, Slovakia

16:40 Wrap up session

17:00 Closure
Session topic: Rail engineering
Moderator: Prof Stefano Ricci, La Sapienza, Italy

13:00  Crash safety of a typical bay table in a railway vehicle
Emmanuel Matsika, Qian Peng, Newcastle University, UK

13:20  The methodology of rating quality standards in the regional passenger transport
Vladislav Zitrický, Jozef Gašparík, Lumír Pečený, University of Zilina, Slovakia

13:40  Personal Smart Travel Agent for empowering Persons with Disabilities using public transport
Jörn Schlingensiepen, Gudrun Stockmannsb, Edwin Naroskab, Oliver Christenb, Tobias Boltenb, TH Ingolstadt, Germany

14:00  Assessing steam locomotive dynamics and running safety by computer simulation
Dāvis Bušš, Riga Technical University, Latvia

14:20  Rare earth elements in railway infrastructure – potentials for an information system as a tool for operators and other stakeholder
Frank Michelberger, Hirut Grossberger, Peter Judmaier, University of Applied Sciences St. Pölten, Austria

14:40  Coffee break

15:00  Development of a simulation tool for the dynamic analysis of railway vehicle- track interaction (video)
Ramy E. Shaltout, Luis Baeza, Cristian Ulianov, Newcastle University, UK

15:20  A framework for categorizing risks in High Speed Train (HST) Projects: the example of the first HST in Brazil (video)
Viviane V. F. Grubisic, Elisete S. S. Zagheni, Yesid Asaff, Acires Dias, Federal University of Santa Catarina, Brazil

15:40  3D Laser scanning technique for the inspection and monitoring of railway tunnels (video)
Han-Mei Chen, Cristian Ulianov, Ramy Shaltout, Newcastle University, UK

16:00  Development of Origin-Destination Matrix (OD Matrix) of the Public Passenger Transport and the use of the railway line that crosses the urban area of Santos Dumont city - Minas Gerais - Brazil - extreme of the extreme to transport loads (video)
Lisleandra Machado, Neuzete Pires Ferreira, Patrick Bastos Novaes, Iago Pereira Passos, Yohana Helena Silva da Silveira, Bárbara Ferreira da Rocha Lemos, Júlia Machado de Souza Freitas, F SUDESTE MG - Instituto Federal de Educaçāo, Brazil

Wednesday 15 July 2015

Free evening

Newcastle upon Tyne sightseeing recommended.

Please visit NewcastleGateshead website for details of tourist attractions and local events:

www.newcastlegateshead.com
**Thursday 16 July 2015**

**MORNING SESSION ROOM 1**

**Session topic: Urban rail transit and light rail**
Moderator: Dr Florin Nemtanu, Politehnica University of Bucharest, Romania

**09:20** Testing the efficacy of platform and train passenger boarding, alighting and dispersal through innovative 3D agent based modelling techniques  
*Selby Coxon, Tom Chandler, Elliott Wilson, Monash University, Australia*

**09:40** The circumvention of barriers to urban rail energy efficiency  
*Paul Batty, Roberto Palacin, Newcastle University, UK*

**10:00** Comparative assessment of virtual track circuit based on image processing  
*Florin Codruț Nemtanu, Dorin Laurențiu Buretea, Luigi Gabriel Obreja, Politehnica University of Bucharest, Romania*

**10:20** Public perception of driverless trains  
*Anna Fraszczyk, Philip Brown, Suyi Duan, Newcastle University, UK*

**10:40** Coffee break

**11:00** Passenger stability within moving railway vehicles: limits on maximum longitudinal acceleration  
*Jonathan P. Powell, Roberto Palacin, Newcastle University, UK*

**11:20** Direct observations of pedestrian unsafe crossing at urban Australian level crossings  
*Teodora Stefanova, Jean-Marie Burkhardt, Christian Wullems, Andry Rakotorainy, Patricia Delhomme, Queensland University of Technology, Australia*

**11:40** Attitudes of metro drivers towards design of immediate physical environment and system layout  
*Aleksandrs Rjabovs, Roberto Palacin, Newcastle University, UK*

**12:00** Lunch break

A buffet lunch will be served in The Courtyard dining area, ground floor, Old Library Building, Newcastle University

**Thursday 16 July 2015**

**MORNING SESSION ROOM 2**

**Session topic: Rail freight and logistics**
Moderator: Dr Dewan Islam, NewRail, UK

**09:20** Futuristic multimodal business model for European freight railways: a survival and revival strategy  
*Anuradha Jain, Consulting Partners St. Gallen, Switzerland*

**09:40** Organization of railway freight transport between Slovakia and Ukraine  
*Borna Abramovic, Vladislav Zitricky, Vedran Biškup, University of Zagreb, Croatia*

**10:00** How to make modal shift from road to rail possible in the European transport market?  
*Dewan Islam, Stefano Ricci, Bo-Lennart Neildal, Newcastle University, UK*

**10:20** Swiss Split – a holistic approach for distributing containers to private sidings  
*Dirk Bruckmann, Patrik Dober, Albert Mancera, Irnhild Saabel, Ulrich Weidmann, Rhine-Waal University of Applied Sciences in Kamp-Lintfort, Germany*

**10:40** Coffee break

**11:00** Increasing security of transportation of dangerous goods in related European research projects  
*Alena Loudová, Petr Kroča, OLTIS Group, Czech Republic*

**11:20** Adapted Cost-Benefit Analysis methodology for innovative railway services  
*Giuseppe Siciliano, Francesco Barontini, Carlo Vaghi, Dewan Islam, Ross Jackson, Thomas H Zunder, Stefan Mahler, Ilaria Grossoni, Aniruddha Kaushal, Simon Iwnicki, Ming Chen, Igor Davydenko*

**11:40** Rail freight in Brazil  
*Andre Luis Oliveira de Melo, Agência Nacional de Transportes Terrestres, Brazil, Raphael Kling-David, Newcastle University, UK*

**12:00** Lunch break

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Thursday 16 July 2015

Session topic: Leadership and learning in the railway industry
Moderator: Dr Janene Pilip, JP Research & Consulting, Australia

13:00 Analysis of benefits to young rail enthusiasts of participating in extracurricular academic activities
Anna Fraszczyk, Joseph Dungworth, Marin Marinov, Newcastle University, UK

13:20 Training of PTE teachers: building the teaching knowledge in the daily school routine (video)
Neuzete Ferreira, Lisleandra Machado, F SUDESTE MG - Instituto Federal de Educação, Brazil

13:40 A successful cooperation between academia and industry in higher rail education: the postgraduate course in "Railway Infrastructure and Systems Engineering" at Sapienza Luca Rizzato, Gabriele Malavasi, Stefano Ricci, Noemi Montaruli, Nicoletta Abbascià, Riccardo Risica, Giovanni Bocchetti, Federico Gherardi, Alessandra Raffone, Sapienza Università di Roma, Italy

14:00 The resurgence of education in railway and metro engineering in Brazil (video)
Yesid Asaff, Viviane V. F. Grubisic, Regis Kovacs Scalce, Acires Dias, Federal University of Santa Catarina, Brazil

14:20 A profile from Spain
Alicia Garcia Hernandez, Carlos III University of Madrid, Spain

13:00 Regional trams and light rail systems: barriers, opportunities and critical success factors to innovative core-periphery connections
Iqbal Hamiduddin, Charles King, Colin Osborne, University College London, UK

13:20 Innovation vs Standardization - The example of wheelsets
Michel Pineau, SNCF, France

13:40 What future for rail freight in Europe?
Philip Mortimer, Newcastle University, UK

14:00 Suitability of tilting technology to the Tyne and Wear metro system
Ovuezirie Darlton Agajere, Marin Marinov, Newcastle University, UK

14:20 Development of rail crashworthiness in Europe
John Roberts, Mark Robinson, George Kotsikos, Kasetsart University, Thailand

14:40 Coffee break

15:00 Evaluating Rail – The development and piloting of guidance to evaluate new rail infrastructure projects in Scotland by John Galilee, Transport Scotland

15:20 Rail marketing and public engagement workshop by Trevor Garrod, European Passenger Federation, UK

Moderator: Dr Marin Marinov, NewRail, UK

16:00 Rail liberalisation in the EU: the application to Thailand’s context by Thanaphon Charanwanitwong, Newcastle University, UK

16:20 Modal choice problem for services between Newcastle and London by Yisong Ji, Newcastle University, UK

16:40 New designs for interchanges by Raphael Kling-David, Newcastle University, UK

Venue: Northern Stage Barras Bridge, Newcastle upon Tyne NE1 7RH, UK

20:00 Conference & Railway Talents Dinner
08:30 Registration and coffee
09:00 Video welcome address by Jean-Pierre Loubinoux, Director General, UIC
09:05 Welcome and introduction to the Railway Talents project and online platform by Nathalie Amirault, Head of Unit Expertise Development, UIC
09:30 Keynote speaker: Janene Piip, JP Research & Consulting, Australia
What is Talent management and why is it so critical for companies competitiveness and sustainability? Talent management policies and practices across the world and sectors.

10:00 Keynote speaker: Roy Rowlands, Rail Technology Magazine, UK
What have we done as a business to engage with young people to promote careers in the rail industry?
10:30 Speed networking session (Please bring your business cards with you)
11:30 Networking in the museum (and exhibitions sightseeing)

12:00 Lunch break

13:00 World cafe workshops’ introduction by Nathalie Amirault, UIC
13:15 Workshop 1: How to attract and engage Talents?
14:05 Workshop 2: How to develop and grow Talents?
14:55 Coffee break
15:10 Workshop 3: How to retain and commit Talents?
16:00 Workshops’ summary
17:00 Closure

‘The World Café’ workshops
The World Café conversation is a creative process for leading collaborative dialogue, sharing knowledge and creating possibilities for action. Participants are split into small groups where they discuss a topic given while sitting at a café-style table. Please take notes as a group and feed back your thoughts to the delegates at the end of the session.

Topic of the workshop:
How can we collectively make the railway sector irresistible for the best talents in the job market?
The event aims to officially launch the UIC Global Network of Railway Talents, the main theme of the event is proposed to be in line with the overall purpose of the UIC Global Network of Talents project:

“Create a better future for railways – Attracting the best talents in the job market and make the railway sector a career opportunity of choice”

During the workshops, it is expected to address the core theme:

“How can we collectively make the railway sector irresistible for the best talents in the job market?”

It is proposed to look at the question through two angles:

- **At a national level** (set of recommendations for companies)

  The task of making railway sector a career opportunity of choice aligns with achieving excellence of services of railways and the customer focus is a global challenge of the sector. The rail talents of today should also answer the question “What do the companies have to do to deliver the best service?”, in order to contribute to the efficient growth of their respective companies, as well as to attract the next generation of talents in the sector.

- **At the international level** (set of actions and next steps for the Global Network of Railway Talents)

  What are my expectations from the Network and what could be my contribution?
  What are the risks and opportunities? How can I impact on them?

A set of sub-questions that can facilitate the discussions during the workshops is presented in workshops’ descriptions.

**AIM AND QUESTIONS**

**WORKSHOP 1**

**How to attract and engage talents?**

What are the employer **branding strategies** and programs across companies and geographies? What countries do invest strategically in employer branding initiatives? How can we learn from them? How can UIC help to build members corporate image and reputation regarding young talents?

How many railway companies participate in “best companies to work for national and international programs”? What are the results? How do they classify against the market? What are the best and worst results compared with “better companies to work for”?

Despite the national and specific market conditions (surplus or shortage) what are the critical success factors for attracting talents from the market to our companies? Is there any particular skill shortage in special countries and geography? What are they? Is there any hot skill (shortage and higher wages) in special countries and geography?

Do we (the railway sector) still have a career to offer to external targets/applicants? Do we want to offer a career? Is a career an attracting differentiator for railway companies? Who should be responsible for planning and career decision making, the employee or the company?

What are the pros and cons of developing a recruitment data base managed by UIC (to post jobs, share a job, connect, apply to jobs, access resumes database)? Do we need it? Can we use other online database infrastructure (Railway Talents, LinkedIn, etc.)?

What are the **other functionalities** that should be incorporated in UIC GT Platform?
Workshop 2

How to develop and grow talents?

How’s the specific railway offer (railway training centers, railway universities, UIC courses) compared with market general offer in terms of technical training, strategic planning, general management, higher education, soft skills, and so on? Do we feel that UIC may enlarge it’s offer to it’s members (is there a need which could be addressed)? What else may be promoted?

The technical railway knowledge learning is being managed correctly by the different companies? Are there any distance learning training courses that can be shared across different countries? Does it make sense that UIC may promote those courses?

How do we overcome the language limitations in international training?

How can UIC organize Summertime Internships between countries or other Internships (short - up to 1 month - and midterm - from 1 month up to 1 year)? Is this consider valuable from the employee and employer point of view?

Do we consider critical to obtain international experience to a young manager? Does a a recruitment data base managed by UIC may help to promote international mobility? Do we really need it?

How can we exchange trainers and teachers across geographies? Is it important to have an international training and certification program for trainers?

What other initiatives shall we propose to promote development on the current job? And planned jobs? What new functionalities should we add to UIC GT Platform? How can we use the platform to support succession planning, coaching and mentoring programs?

Workshop 3

How to retain and commit talents?

Does the railway have a turnover problem? What it is the gap between the expected and actual turnover? What are the companies doing about it? What are the main conclusions from exit interviews that may be generalized? What are the main issues?

How many railway companies participate in “salary surveys”? What’s the position railway companies have regarding market average? What other fringe benefits may increment job attraction and retention?

What high performance management practices may be shared between UIC members?

For inspiration please check: www.railtalent.org
RailNewcastle conference 2015

organised by

newrail

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www.newrail.org | http://conferences.ncl.ac.uk/railnewcastleconference/

Railway Talents networking event
venue: Double Clore Suite, Great North Museum: Hancock
Barras Bridge, Newcastle upon Tyne, NE2 4PT, UK

17th July 2015
8:30 - 17:00

Please note that side entrance to the museum will be open from 8.30am

Organisers

Contact:
Nathalie Amirault
Head of Unit Expertise Development, UIC
AMIRAULT@uic.org
www.uic.org
www.railtalent.org

Directions

15th and 16th July 2015
9:00 - 17:00

RailNewcastle conference 2015 venue:
Research Beehive, 1st floor, Old Library Building
Newcastle University, Newcastle upon Tyne, NE1 7RU, UK

16th July 2015
20:00

Conference and Railway Talents dinner venue:
Northern Stage, Barras Bridge, Newcastle upon Tyne, NE1 7RH, UK

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