

## Transport Research Institute, Edinburgh Napier University

### 2012 HIGHLIGHTS

TRI scooped best paper prizes for both the Overall and the Under 30 categories at the 8th Scottish Transport Applications & Research Conference held at the Lighthouse in Glasgow on 16th May. Both winning papers achieved the highest scores across all assessment criteria which included: Innovation, Relevance, Outputs and Evidence. For more information please visit [www.stsg.org](http://www.stsg.org).

Supported by the Scottish Government's Electric Vehicle Procurement Support Scheme, TRI was commissioned to develop three new electric car charging points set up at Edinburgh Napier University's Craiglockhart, Sighthill and Merchiston campuses. On 25th September, Transport Minister Keith Brown joined Edinburgh Napier's Principal and Vice Chancellor, Professor Dame Joan Stringer at an official launch at the University's Craiglockhart campus. The charging points have been fitted with a mini-computer and a wireless transmission which will allow TRI researchers to monitor and analyse their use. For more information please visit [www.tri.napier.ac.uk/c/news](http://www.tri.napier.ac.uk/c/news).

The TRI taxi studies group organised a taxi outreach event, held in Edinburgh on the 26th July. This one day event comprised workshops based on current taxi research themes, including: Taxi Tariff- Meter Rates; Industry Structure; Planning, modelling and GIS; Vehicle design and Accessibility.

TRI coordinated a UK workshop for the EU TEN-T TrainMoS project, which is a collaboration of seven EU universities with the aim of developing a programme of training modules for Motorways of the Sea (MoS) and short sea shipping. The workshop was held in Edinburgh on 29th November, and brought together representatives from industry, public bodies, consultants and academics.

TRI has developed significant collaborations with Chinese institutions in 2012. A Memorandum of Understanding (MoU) for future collaboration was signed with the School of Maritime Studies and Transportation at Ningbo University. The School of Naval Architecture, Ocean & Civil Engineering at Shanghai Jiaotong University also expressed their interest in collaborating with TRI in joint research and establishing a PhD education programme. In October, a Chinese delegation from the Beijing Municipal Institute of City Planning and Design visited TRI and met academics here in order to discuss transport policy, research, and also future collaborative opportunities in the area of transport engineering and management.

### STAFF NEWS

Wafaa Saleh was appointed Professor of Transport Engineering in the School of Engineering and the Built Environment.

Jill Napier left in September and was replaced by the new TRI Administrator Yvonne Lawrie, who started in December.

Tom Rye left TRI to take up a role as Professor of Transport Policy and Mobility Management at the University of Lund in Sweden.

Yakov Boglev left his position as TRI's Project Officer at the end of December 2012.

Academic visitors who spent time at TRI during 2012 include: Ancor Suarez from the Universidad de Las Palmas de Gran Canaria in Spain; Ankita Misra from the Mumbai University, India; Associate Professor Harald M. Hjelle from Molde University College, Norway; Michael Wupperfeld from the Regensburg University of Applied Sciences, Germany; Sara Hernandez from the Universidad Politecnica de Madrid, Spain; Sonwattana Puritchapat from the King Mongkut's University of Technology North Bangkok, Thailand; Leung King from the Hong Kong Polytechnic University, Hong Kong; Associate Professor Yanchang Lv from Shandong Jiaotong University, China; Marko Intihar and Dr Matjaž Knez from the University of Maribor in Slovenia.

### STAFF ACTIVITIES 2012

*Professor Kevin Cullinane* delivered invited keynote speeches on 'The Measurement of Port Efficiency' to the United Nations Conference on Trade and Development (UNCTAD) in Geneva, and as the Co-Chairman of the academic scientific committee, to the annual conference of the International Association of Maritime Economists (IAME). He was appointed to be a member of the scientific committee of the Association of European Operations Research Societies Summer Institute on Maritime Logistics, the Lighthouse Scientific advisory board in Gothenburg, and a member of the senior appointment panels for the Professorships at Cyprus University of Technology. He continued as associate editor of *Transportation Research A: Policy & Practice* and the *International Journal of Applied Logistics*. He was also a member of the international advisory panel for the *Journal of Logistics and Sustainable Transport* and an advisory board member for another 7 transportation journals. During the year, he examined three PhD theses at: Chalmers University of Technology, the National University of Singapore and Molde University College in Norway. He also

continued to serve as an external examiner for the MSc programme at the Cass Business School at City University and as a REF Panel Member.

*Professor Alfred Baird* represents TRI on the committee of the Scottish Transport Studies Group (STSG). He is a member of the project review panel for the Norwegian Research Council, and a member of the peer review college of the Danish Council for Strategic Research. He is external examiner for BSc Shipping & Transport Courses at the Hamburg School of Shipping & Transport, and for BSc Shipping & Transport Courses at Business College Athens. During 2012 he was invited to present papers at four international shipping and port conferences held in London, Genoa, Amsterdam and Dubai, and also presented papers at several other events. He co-ordinated the freight transport sessions at the Annual Conference of the Royal Geographical Society held in Edinburgh in July, also presenting a paper and chairing one of the sessions at that event. He also organised the transport seminar forming part of the Orkney International Science Festival, and presented a paper at the event held in Kirkwall in September. During the year he presented two papers at separate Arctic shipping conferences on his new floating container terminal concept (FCSTT), the latter developed jointly with German crane manufacturer Gottwald GmbH via the EU StratMoS project. He also gave invited lectures on maritime transport issues at universities in Iceland, Norway and Italy. He examined one PhD thesis during 2012 and was involved in supervising four doctoral students at Edinburgh Napier University, one of whom completed during the year. During the year he also reviewed approximately 15 articles submitted to a number of international academic refereed journals and conferences on subjects relating to maritime transport issues.

*Prof. Howard Kirby*, the former Director of TRI and now TRI Emeritus Professor, has accepted an invitation to become a member of the EPSRC Peer Review College. This is a prestigious appointment which recognises the high esteem in which Howard is held within the transport and wider research community.

Professor Kevin Cullinane, Director

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*Professor Margaret Grieco* was appointed as a member of the management committee on COST Action TN1201, and as a reviewer of the Slovenian Research Agency Public Call Research Programme (ARRS). She was invited to deliver presentations in several research centres and institutions including the Volvo Research Foundation in Bellagio, the Transport Study Unit at the University of Oxford, and the Transport History Policy Network in York. She was also a panel member of the Swiss Programme for Research on Global Issues for Development, and was Series Editor for Ashgate Publications in the Transport and Society book series. She examined two PhD theses submitted by candidates from the University of Ulster and Edinburgh Napier University.

*Professor Wafaa Saleh* continued chairing the committee of the International Symposium on Travel Demand Management, and being a member of the scientific committee of the International Symposium on Transportation Network Reliability (INSTR). She presented a paper at the tenth World Association of Sustainable Development (WASD) conference in Abu Dhabi where she continued chairing the transport track. She has also been invited to give a keynote speech at the Middle Eastern Knowledge Economy Institute (MEKEI), titled "towards sustainable transportation system in the MENA region". During the year, Wafaa examined a PhD thesis at Loughborough University and completed her appointment as external examiner for the Transport Engineering MSc Programme at Salford University. She continued to supervise a number of PhD students to successful completion in the area of transport modelling and travel demand management.

*Dr Kathryn Stewart* continued as programme committee member for the STAR-conference, and was appointed treasurer to the IMA-Scottish Branch committee. Kathryn was also nominated to the UTSG-executive committee and will take up a 3 year appointment in Jan 2013. She represents TRI on the newly formed Edinburgh Transport Forum which met for the first time on 20th December 2012.

*Dr James Cooper* was invited to give a presentation about the strategic picture of Scottish transport at the conference of The Funding and Policy Challenges Ahead for Scottish Transport, held on the 28th February in Edinburgh. In 2012, he was appointed Chair of the Transport Research Board taxi subcommittee of the National Academy of Sciences, and Co-Chair of International Association of Transportation Regulators in the United States. He was also elected as Director of Dumfries & Galloway Accessible Transport Forum in Scotland.

*Dr Michael Carreno*, on behalf of TRI, chaired the 12th Annual Scottish Statistics Seminar of the Transport Research Institute and Transport Statistics Users' Group, which was held on Thursday 28th June 2012 at the Scottish Government Building, Victoria Quay, in Edinburgh.

## PROJECTS ACTIVE IN 2012

Projects that TRI researchers participated in during 2012 are listed below, with details of funding bodies and collaborating partners.

\*projects that started in 2012

## SUSTAINABLE ENERGY AND TRANSPORT

**Decentralised Off-grid Electricity Generation in Developing Countries: Business Models for Off-grid Electricity Supply** (EPSRC, from October 2009 to October 2014)

*Professor Tariq Muneer (Principal Investigator is Dr S.C. Bhattacharyya, University of Dundee)*

This project aims to develop innovative solutions to the problem of lack of access to electricity supplies in developing countries through interdisciplinary research involving UK and South Asian (Indian) universities, NGOs, government agencies, financing institutions, and other stakeholders. The project takes a systematic view of the problem by considering local resource availability, appropriate technology choices, institutional arrangements and the financing options available.

**\*Charging points for electric automobiles** (Scottish Government, from January to July 2012).

*Professor Tariq Muneer*

The project is part of the Scottish Government's Electric Vehicle Procurement Support Scheme which made £207,000 of funding available to The Edinburgh Partnership through Transport Scotland to promote sustainable travel. TRI was handed a £25,000 share of the funding to create the new charging points at three principal campuses of Edinburgh Napier University.

**CIC Start Online** (ERDF "SEEKIT" Programme, from September 2009 to February 2013)

*Professor Tariq Muneer*  
[www.cicstart.org](http://www.cicstart.org)

Edinburgh Napier University is a partner with six other Scottish higher education institutions in this collaborative project, which aims to embed sustainable building design and refurbishment into practice. The project will assist Scottish small and medium sized enterprises (SMEs) to develop and test sustainable building innovations, making use of testing facilities at all the project partners' institutions.

**Investigation of "Eco 1 Hydrogen Gas Engine" for Transport** (Scottish Funding Council, from October 2011 to March 2012)  
*Dr Wafaa Saleh*

Through experimentation, this project examines one of the potential alternative options to a conventional engine, the Hydrogen Internal Combustion Engine (HICE) which as of yet has not been fully developed

as a commercially working prototype. Analysis of the engine's energy outputs, along with emissions and noise levels were monitored, recorded and compared to that of levels of the traditional internal combustion engine operating under similar conditions.

## ECONOMICS, PLANNING AND POLICY

**CHAMP** (EU IEE STEER, from October 2011 to September 2014)  
*Dr Kathryn Stewart, Catriona O'Dolan, and Dr Christine Whittle*  
[www.champ-cycling.eu](http://www.champ-cycling.eu)

CHAMP aims to facilitate the exchange of best practices, experiences and lessons learned (good and bad ones!) within a group of "best in class" cycling cities. The 7 partner cities have each undertaken the CHAMP-Performance Analysis (developed as part of the project) and have all been peer-reviewed, produced a gap-analysis and from this developed an updated strategy. Within the CHAMP project lifetime 2 innovative measures will be implemented and assessed in each city and within 2013 each city will host exchange visits. TRI is advising on evaluation and is undertaking quality control. It will also play a key role in drawing conclusions from the project into deliverable(s) to maximize the usefulness of the project findings.

**COMPASS** (EU FP7, from November 2011 to November 2012)  
*Professor Christiane Bielefeldt, Helen Condie, Dr Michael Carreno, Dr Kathryn Stewart and Dr Achille Fonzone*  
[www.fp7-compass.eu](http://www.fp7-compass.eu)

TRI is coordinator of the EC-funded COMPASS project, which aims to recommend solutions that will allow improvements to the planning and operation of the passenger transport network to enhance co-modality in transport, thus contributing to the reduction of carbon emissions. COMPASS will provide an overall picture of what travellers require from the transport system at present and in the future, based on an investigation of key socio-economic trends in Europe. COMPASS will focus in particular on how ICT (information and computer technology) and ITS (intelligent transport systems) applications can meet the future demands identified, especially those favouring the integration of multi-modal transport solutions, and will assess how these solutions can contribute to the de-carbonisation of transport activities.

**EcoMobility SHIFT** (EU IEE STEER, from June 2010 to May 2013)  
*Dr Michael Carreno*  
[www.ecomobility.org](http://www.ecomobility.org)

The project has created a labelling scheme based on a set of criteria to assess and help improve the sustainability of local governments' transport policies. Underlying the labelling scheme will be a Quality Management System to help cities to analyse, understand and improve their transport and mobility decisions so that they can continually

improve their performance against the criteria and work towards the highest standards of EcoMobility. TRI is leading work package 3, in which it has developed the labelling and quality management scheme for the project, and trained other partners in its use. In 2012, the scheme was piloted in various municipalities across the EU including Dundee in Scotland.

**Transport Learning** (EU IEE STEER, from June 2011 to November 2013)  
*Dr Michael Carreno and Catriona O'Dolan*  
*(Project Lead Partner: Technical University Dresden, Germany)*  
<http://transportlearning.net>

Transport Learning aims to create knowledge and capacity on sustainable transport policies and measures in municipalities and energy/management agencies of Europe's convergence regions. It further aims to strengthen market activities on sustainable transport, by integrating it within the business portfolio of energy/management agencies, thus supporting the regions' catching up economically. This project targets a wide audience by creating a large-scale impact and in the long-run to safeguard ongoing training and education on sustainable transport. In order to achieve this, the project creates and implements training and site visits. TRI is one of the trainers, specialising in parking management, as well as working on quality control and evaluation.

**ORIGAMI** (EC FP7, from February 2011 to January 2013)  
*Professor Christiane Bielefeldt, Helen Condie, and Dr Michael Carreno*  
[www.origami-project.eu](http://www.origami-project.eu)

TRI is coordinator of the EC-funded ORIGAMI project that is concerned with improvements in long-distance door-to-door passenger transport chains through improved co-modality and intermodality. ORIGAMI aims to collect a substantial body of new data on the attitudes of long-distance travellers to alternative future transport provision and has developed an online database of examples of current best practices in intermodal transport and potential new technical solutions. The project is also investigating traveller behaviour and attitudes in different countries in Europe in order to identify the factors, demographics and traveller requirements that will influence future trends in travel behaviour. During 2012 TRI's contribution to the project included a review of system needs and solutions available, and contributions to the second online survey on transport policy trends, and to the best examples and potential solutions database.

**UKTRC-Long Term Programme Example Project on Governance of Transport and Climate Change in the UK** (ESRC, from June 2010 to July 2013)  
*Professor Tom Rye*

This project will seek to apply models of governance to a study of the governance of transport policy on climate change in Britain. The theoretical framework will be used to unpick and compare approaches to the governance of this topic in England and

Scotland. TRI has a small role providing input to the analysis of the Scottish situation. Originally part of the UK Transport Research Centre, with the early and totally justifiable demise of that organisation from April 2011, this project has moved to being entirely ESRC funded.

## MOBILITY MANAGEMENT AND TRAVEL PLANNING

**Development of Sustainable Urban Mobility Plans (SUMP) in Slovenia** (Urban Planning Institute of Slovenia, from March 2011 to August 2012)  
*Professor Tom Rye*  
[www.uirs.si](http://www.uirs.si)

Linked to the development of the SUMP in Ljubljana and the Council of EU Transport Ministers' June 2010 minute on SUMP, the Slovenian government has commissioned work to understand how a formal system of SUMP for all larger cities in Slovenia could function, and to develop national guidance on SUMP. Prof Tom Rye has been engaged as an external expert adviser due to his experience of developing SUMP in the UK, and his knowledge of practice elsewhere in Europe. He has attended site visits in Slovenia and reviewed practice on SUMP elsewhere in the EU in order to inform the work in Slovenia.

**ELTIS PLUS** (EU contract, from May 2010 to April 2013)  
*Dr Michael Carreno and Catriona O'Dolan*  
*(Project Lead Partner: FGM-AMOR, Austria)*  
[www.eltis.org](http://www.eltis.org)

This project is implementing two inter-related activities: the management of the European Local Transport Information Service website, and the promotion of the uptake of sustainable urban mobility plans across all member states. The ELTIS website has been fully overhauled and relaunched to make it more attractive to use; and, through a large number of local training and awareness-raising events as well as by the production of promotional and training material, the concept and content of SUMP is being promoted. TRI is responsible for monitoring and the evaluation of the project; has a key role in developing training material on SUMP; and is topic expert for a significant part of the ELTIS website case studies. In addition, it is in charge of English language quality assurance.

**\*Investigation and Modelling of Travel Behaviour in Saudi Arabia: A Disaggregate Approach** (Tabuk University, from April 2012 to March 2013)  
*Professor Wafaa Saleh and Dr Attiyah M Al-Atawi*

The project is designed to investigate and model travel behaviour and attitudes for households in Saudi Arabia. This is a very motivating and promising area of research. Although there have been a large number of research investigations in the area of travel behaviour in the western countries, there is a huge lack of studies in this area in some countries such as Saudi Arabia. Moreover,

the specific characteristics of socio economic patterns as well as travel behaviour attitudes in this country make it a very interesting and unique area which has its own characteristics and patterns, hence the need for the research.

**Active Access** (EU IEE STEER, from July 2009 to June 2012)  
*Catriona O'Dolan and Dr Michael Carreno*  
[www.active-access.eu](http://www.active-access.eu)

TRI was the coordinator of this €2 million project by the Intelligent Energy STEER programme of the European Union. The purpose of the project was to raise the profile as a mode of transport of cycling but more especially walking, and build capacity amongst partners in planning and promoting walking, as well as to implement projects in 11 partner cities to encourage more walking for health and to improve the local economy.

**ISEMOA** (EU FP7, from August 2010 to September 2013)  
*Dr Michael Carreno and Catriona O'Dolan*  
*(Project Lead Partner: FGM-AMOR, Austria)*  
[www.isemoa.eu](http://www.isemoa.eu)

ISEMOA has developed a quality management scheme for the improvement of the accessibility of the whole door-to-door mobility-chain in European municipalities, cities, and regions. The scheme is made up of a standardised quality management process with which a municipality, city or region can assess (together with an external auditor) the state of accessibility in public space and public transport in their areas, and on that basis develop strategies and measures to improve its quality, thus encouraging more people – especially those with reduced mobility – to cycle, walk and take public transport. TRI is responsible for quality assurance and evaluation in the project.

## TAXI STUDIES AND DEMAND-RESPONSIVE TRANSPORT

**\*Atlanta Taxi Study** (Central Atlanta Progress Inc., from June to July 2012)  
*Dr James Cooper*

Cornerstone review of the taxi licensing processes in Atlanta, Georgia, USA. TRI took the lead in taxi model development, econometric and fare assessment. Including the development of a multifaceted GIS-based taxi demand model, applied to determine the location and extensive demand current. The completed report has been adopted in its entirety by the city and will be applied in 2012/2013.

**\*City of Chicago Taxi Study** (City of Chicago, from December 2012 to August 2013)  
*Dr James Cooper*

Fare review undertaken for the city of Chicago. TRI role to develop a taxi cost model using existing, live, and predicted data. Dr James Cooper taking the role of project lead taxi cost modelling.

**\*City of Toronto Taxi Study** (City of Toronto, from December 2012 to March 2013)

*Dr James Cooper*

[www.torontotaxistudy.com](http://www.torontotaxistudy.com)

Cornerstone review for the city of Toronto. Addressing the development of taxi services in the city, demand prediction, customer and public perception, and market assessment. The study developed a Toronto specific taxi demand model, identifying trip specific production rates, demand and potential for supply. The work contributes directly to the Toronto taxi review, being undertaken by the city of Toronto, and will report in March 2013.

**\*Glasgow Taxi Fare Review** (Glasgow City Council, from September 2012 to March 2013)

*Dr James Cooper*

Taxi meter rates review using bottom up measurement taxi costs. The reviewer has identified the exact operating costs of services within Glasgow, to identify potential development of taxi services, taxi fares, and appropriate levels of meter rate adjustment.

**\*Perth Taxi Study – Significant Unmet Demand** (Perth & Kinross District Council, from June to July 2012)

*Dr James Cooper*

Analysis of unmet demand consistent with the meanings of the civic government (Scotland) act 1982. The report made recommendations in respect of taxi numbers for the city of Perth, and has been adopted in full.

**\*Scottish Government Taxi Review** (Scottish Government Justice Directorate, from June to October 2012)

*Dr James Cooper*

Review of licensing practices applied in Scottish local authorities. This review was undertaken to the Scottish governments to identify current best practices apply throughout Scotland's 32 authorities. Analysis included the current methods of licensing apply to taxis, PHV and other licensed vehicles. Training practices, accessibility practice, processing and number reviews were included. The analysis was completed December 2012, and is published by the Scottish government justice directorate.

**\*Stirling Taxi Study – Significant Unmet Demand** (Stirling District Council, from June to August 2012)

*Dr James Cooper*

This project offered detailed review of taxi demand in Stirling, including assessment of location and demand taxi stand location and development of taxi numbers.

## MARITIME TRANSPORT & LOGISTICS

**Dryport** (EU Interreg IVB North Sea Programme, January 2009 to June 2012)  
*Dr Jason Monios and Professor Alfred Baird*  
[www.dryport.org](http://www.dryport.org)

TRI and SEStran are the Scottish partners in the European Dryport consortium, examining the critical role that dryports can play in

maximising the capacity and efficiency of sea ports, while also shifting traffic from roads and on to rail or inland waterway. Scottish involvement in Dryport is a natural extension of the Regional Transport Strategy, focusing on developing sustainable and integrated freight movement in southeast Scotland. The TRI research team has carried out stakeholder interviews with key actors in the Scottish and UK port and maritime industry and has investigated potential dryport sites in the context of research on freight movements. Extensive field work in Europe has enabled a deeper understanding of the role of dryports within integrated port-hinterland networks. Finally, the structure of the UK logistics sector has been included in the analysis in order to match demand with supply, as a precursor to assessing the potential role for public support of freight node developments.

**\*GreCOR – Green Corridor** (EU Interreg IVB North Sea Region Programme, from January 2012 to December 2014)

*Dr Jason Monios*

[www.grecor.eu](http://www.grecor.eu)

The Green Corridor project promotes the development of a co-modal transport corridor in the North Sea Region. Important in this collaborative approach is the focus on secondary networks, logistics hubs and the regional hinterland around the corridor. The role of TRI is to develop a business model for an extended logistics hub which can lower transport and logistics costs for users, particularly through the collaboration between smaller shippers. GreCOR works in close collaboration with public and private stakeholders, and its overall aim is to improve knowledge about the logistic needs and conditions and develop and implement the first green corridor in the North Sea Region in a strategic policy setting. GreCOR has 14 partners and a total budget of €3.7million.

**\*Food Port Stage 3** (SEStran, from September 2012 to July 2013)

*Dr Yuhong Wang*

[www.food-port.eu](http://www.food-port.eu)

The Food Port project aims to optimise and coordinate food logistic chains in the North Sea Region by improving the accessibility and transport logistics system of different food clusters in the region. TRI was contracted by SEStran to analyse current food production and consumption patterns, logistics supply chains and trade structures, thereby revealing the importance of the food & drink industry to the Scottish economy and particularly to the regional economies in the SEStran area.

**KNow-Me** (EC FP7, from June 2011 to June 2014)

*Professor Kevin Cullinane, Yakov Boglev and Dr Damien Stantchev*

The project will establish a network of excellence in Europe for raising the knowledge level of the human resources in the maritime sector and improving the image and marketability of the maritime industry among key decision-makers, the labour market and the public. TRI is involved as the lead partner for coordinating and managing

the delivery of this project, organising stakeholder meetings, managing the implementation of school visits to raise awareness of the maritime industry and developing a programme for coordination between Marine Academies and Universities. TRI will also form the strategy and roadmap to integrate the KNOWME network and project results into the 'e-maritime' initiative.

**Maritime Transport Cluster** (EU Interreg IVB North Sea Programme, from June 2011 to December 2012)

*Professor Alfred Baird*

[www.maritimetransportcluster.eu](http://www.maritimetransportcluster.eu)

The 'Maritime Transport Cluster (MTC)' Project was approved in June 2011 and ended in December 2012. Led by the Port of Hamburg Marketing Department, MTC applies the cluster idea to the maritime transport sector, thus bridging between results obtained from ongoing Interreg IVB projects dealing with maritime transport issues and new business trends from the maritime industry, as well as with EU transport policy development. The overall goal of MTC is building a structure for interchanging the latest knowledge and experiences concerning maritime transport in the context of the Interreg IVB NSRP. TRI participated in surveys and the analysis of existing R&D projects and published research, with further inputs on other aspects of the work including the organisation of stakeholder workshops. The final event was a seminar organised by TRI and hosted by Mike Mackenzie MSP held at the Scottish Parliament in November, at which the final results and related brochure from the project was presented and discussed with an invited audience of industry stakeholders and project partners.

**NMU – Northern Maritime University** (EU Interreg IVB North Sea Programme, from January 2008 to June 2012)

*Professor Kevin Cullinane and Professor Alfred Baird*

[www.nsr.nm-uni.eu](http://www.nsr.nm-uni.eu)

TRI is the lead partner in the NMU consortium, which includes 10 partners from five countries in the North Sea Region (NSR). The major objective of the NMU is to build a strong transnational network of universities in the NSR to develop and deliver multidisciplinary and internationally oriented qualification offerings in maritime transport. In June 2012, the NMU network held a conference, with a particular focus on "Innovation in Maritime Education and Training", at the Speicher XI Bremen to mark the completion of its project phase and commencement of its market launch.

**TrainMoS – Training for Motorways of the Sea** (EU TEN-T Programme, from December 2011 to October 2013)

*Professor Alfred Baird and Dr Damien Stantchev*

<http://www.onthemosway.eu/trainmos-knowledge-center/>

The TrainMoS Project supported by the EU TEN-T Programme, aims to develop a Motorways of the Sea (MoS) knowledge base

at EU university level by testing an MoS knowledge platform (within an ICT infrastructure) through the preparation of seven EU wide pilot actions in seven EU countries (Spain, Portugal, Sweden, Germany, United Kingdom, Italy, and Greece). TrainMoS involves participation of seven universities and their corresponding students who will help create a critical mass to allow for the development and testing of a European academic training programme in all Motorways of the Sea (MoS) related subjects that is intended to meet the needs of the transport industry. Individual pilot actions are being developed under the following headings: Port terminals and hinterland links; Smart cities and intelligent ports; Green ports and inclusive Integrated Coastal Zone Management (ICZM); Multimodality and sustainable logistics; Multimodal transport economics; Safety and security; Logistic Chains and Modal Integration. Each pilot action coordinated by the TrainMoS structure will produce a university course which will be followed by students in the other partner Universities, and with professors coming both from the University as well as professional staff from the stakeholders.

#### PHD COMPLETIONS IN 2012

##### **Modelling of Driving Behaviour and Congestion in Urban Areas**

Ahmed Al Zaidi, supervised by Dr Wafaa Saleh and Professor Kevin Cullinane

##### **The Government of Libyan Ports: Determining a Framework for Successful Devolution**

Hesham Ghashat, supervised by Professor Kevin Cullinane and Professor Alfred Baird

##### **Pedestrian Accidents Analysis and Modelling in UAE: The Effective Way Forward**

Khalfan Saeed Al Naqbi, supervised by Dr Wafaa Saleh and Professor Kevin Cullinane

##### **Performance Monitoring and Modelling of Micro-, Midi- and Macro Wind Turbines and Their Aerodynamics**

Ahmad Makkawi, supervised by Professor Tariq Muneer and Dr Naren Gupta

#### CURRENT PHD PROJECTS

##### **A Critical Examination of the Life Cycle Assessment of Cement Production**

Loubana Elatasi, supervised by Professor Tariq Muneer and John Wood

##### **Analysing and Modelling Motorways of the Sea in Spain**

Xavier Gese Aperte, supervised by Professor Alfred Baird and Professor Kevin Cullinane

##### **Automatic Monitoring of Vegetation along Railways**

Roger Nyberg, supervised by Dr Naren Gupta and Professor Mark Dougherty

##### **The role of intermodal transport in port regionalisation**

Jason Monios, supervised by Dr Gordon Wilmsmeier, Professor Alfred Baird and Professor Kevin Cullinane

##### **Intelligent Transport Systems as Applied to Travel Information**

Karol Gruszczynski, supervised by Dr Andrew MacIver, Dr Simon Smith and Professor Tom Rye

##### **Investigation of GIS in Monitoring Spatial Trends in Urban Areas and Its Impact on the Performance of the Transport System and the Community**

Mohamed Al-Ali, supervised by Dr Wafaa Saleh and Dr Andrew MacIver

##### **Modelling the Effects of Road Tolling in Microsimulation Models**

Eva Martinez, supervised by Dr Kathryn Stewart and Dr Wafaa Saleh

##### **Modelling the Relationship between Pilgrim Pedestrian Casualties and Land Use Type: A Case Study of Al Madinah Al Monawarah**

Raed Alahmadi, supervised by Dr Wafaa Saleh and Dr Kathryn Stewart

##### **Provision of Transport for the Night Time Economy in the United Kingdom with Particular Reference to the Role of the Taxi Sector**

Moira Weir, supervised by Dr Jonathan Cowie and Professor Alfred Baird

##### **Reduction of car dependency through the enhancement of public transport in Riyadh, Saudi Arabia**

Al Othlman Othman, supervised by Professor Margaret Grieco and Dr Wafaa Saleh

##### **The Potential for "Green" Fiscal Measures to Lessen the Environmental Impact of Private Car Use in Scotland**

Sarah Borthwick, supervised by Dr Michael Carreno and Professor Kevin Cullinane

#### PAPERS AND PUBLICATIONS

##### **Al-Atawi, A. & Saleh, W. (2012)**

Investigation and modelling of travel behaviour in Saudi Arabia: a sustainable behaviour? Paper presented at the 10th International Conference of World Association for Sustainable Development (WASD), Abu Dhabi, 19-21 November 2012.

##### **Al-Zaidi, A. & Saleh, W. (2012)**

Are bus lanes effective and efficient transport policies? Paper presented at the 10th International Conference of World Association for Sustainable Development (WASD), Abu Dhabi, 19-21 November 2012.

##### **Al-Saeed, K. & Saleh, W. (2012)**

Do pedestrians have Right Of Way in the UK? Paper presented at the 10th International Conference of World Association for Sustainable Development (WASD), Abu Dhabi, 19-21 November 2012.

##### **Aldali, Y., Davison, B., Muneer, T. & Henderson, D. (2012)**

Modelling the behaviour of a 50MW DSG plant for southern Libya based on the thermodynamic and thermophysical properties of water substance. *Journal of Solar Energy Engineering*, 134(4), 041001.

**Baird, A.J. (2012)** An evaluation of the benefits of CMAL's hybrid ferry. *Scottish Transport Review*, 55, November, p. 10-11.

**Baird, A.J. (2012)** Comparing the efficiency of public and private ferry services between mainland Scotland and the Orkney Islands. *Research in Transportation Business & Management*, Vol. 4, pp. 79-89.

**Baird, A.J. (2012)** Evaluation of CMAL's hybrid ferry. *Cruise & Ferry International*, September, pp. 16-19.

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**Baird, A.J. (2012)** The need for a Scottish integrated maritime policy. Paper presented at the TRI Seminar, Edinburgh, 23 February 2012.

**Baird, A.J. & Rother D. (2012)** Floating container storage & transshipment terminals (FCSTT): offshore transshipment hubs for trans-arctic container shipping. Paper presented at the Arctic Marine Logistics & Infrastructure Forum, Amsterdam, 14-16 November 2012.

**Baird, A.J. & Rother, D. (2012)** Offshore Floating Container Terminal for Trans-Arctic Trade. Paper presented at the 3rd Polar Shipping Summit, London, 30-31 May 2012.


**Baird, A. J. & Pedersen, R. (2012)** Analysis of freight transport CO2 emissions for island ferry services. Paper presented at the Royal Geographical Society Annual Conference, Edinburgh, 3-5 July 2012.

**Baird, A.J. & Pedersen, R. (2012)** Comparing the efficiency of ferry services on the Pentland Firth. Invited keynote speech, Orkney International Science Festival, Kirkwall, 6<sup>th</sup> September 2012.

**Baird, A. J. & Pedersen, R. (2012)** Policy implications of CO2 emissions for island ferry services. Invited keynote speech, Orkney International Science Festival, Kirkwall, 6<sup>th</sup> September 2012.

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- Cooper, J.** (2012) Taxis, informing policy, informed assessment: research advances in technology, assessment, form and sustainability. Paper presented at the Annual Conference of International Association of Transportation Regulators (IATR), Washington, D.C., 15-17 November, 2012.
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- Cullinane, K.P.B.** (2012) An International Dimension: Shipping. In: Chapman, L. & Ryley, T. (Eds.) *Transport and climate change, transport and sustainability series*, Vol. 2. Bingley: Emerald Publishing, pp. 65-104.
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- Cullinane, K.P.B., Bergqvist, R. & Wilmsmeier, G.** (2012) Editorial: The dry port concept – theory and practice. *Maritime Economics & Logistics*, 14(1), pp. 1-13.
- Cullinane, K.P.B.** (2012) Maritime clusters: concept, trends and case studies. Invited keynote speech, Conference on Developing a Knowledge-Based Marine Economy, Ningbo, 15 September 2012.
- Cullinane, K.P.B.** (2012) Measuring port efficiency. Invited keynote speech to the United Nations Conference on Trade and Development, Ad Hoc Experts Meeting on Assessing Port Performance, Geneva, 12 December 2012.
- Cullinane, K.P.B.** (2012) Shipping's role in green logistics. Invited guest lecture, Shanghai Jiaotong University, Shanghai, 11 September 2012.
- Cullinane, K.P.B.** (2012) Shipping's role in green logistics. Invited guest lecture, Ningbo University, Ningbo, 13 September 2012.
- Cullinane, K.P.B.** (2012) Shipping's role in green logistics. Invited guest lecture, University of Gothenburg, Gothenburg, 9 October 2012.
- Cullinane, K.P.B. & Wang, Y.** (2012) The hierarchical configuration of the container port industry: an application of multiple linkage analysis. *Maritime Policy & Management*, 39(2), pp. 169-187.
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- Monios, J. & Wang, Y.** (2012) A comparison of inland port development on three continents. Paper presented at the Association of American Geographers Annual Meeting, New York, 24-28 February 2012.
- Monios, J. & Wilmsmeier, G.** (2012) Changing geographies of container trade, traffic & transshipment through UK ports. Paper presented at the Royal Geographical Society Annual Conference, Edinburgh, 3-5 July 2012.
- Monios, J. & Wilmsmeier, G.** (2012) Counterbalancing peripherality and concentration: an analysis of the UK container port system. Paper presented at the Annual Conference of International Association of Maritime Economists (IAME), Taipei, 5-8 September 2012.

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- Monios, J. & Wilmsmeier, G.** (2012) Port-centric logistics, dry ports and offshore logistics hubs: strategies to overcome double peripherality? *Maritime Policy and Management*, 39(2), pp. 207-226.
- Monios, J.** (2012) Retail logistics in the UK. Paper presented at the 9th International Conference on Logistics and Sustainable Transport, Celje, 14-16 June 2012.
- O'Dolan, C. & Rye, T.** (2012) An insight into policy transfer processes within an EU project and implications for future project design. *Transport Policy*, 24, pp. 273-283.
- O'Dolan, C. & Carreno, M.** (2012) Developing a quality management scheme for improving accessibility: implications for Scotland's national transport strategy. Paper presented at the 8th Annual Scottish Transport Applications & Research Conference, Glasgow, 16 May 2012.
- Saleh, W. & Lawson, A.** (2012) A methodology for improving reliability of traffic modelling. Paper presented at the 5th International Symposium on Transport Reliability (INSTR), Hong Kong, 18-19 December 2012.
- Saleh, W. & Lawson, A.** (2012) Investigation and modelling of emissions at signalised and roundabout junctions. Paper presented at the 10th International Conference of World Association for Sustainable Development (WASD), Abu Dhabi, 19-21 November 2012.
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- Wang, Y.** (2012) Graphical features of ports in the global liner shipping network – a hierarchical example. Invited guest lecture, Shanghai Jiaotong University, Shanghai, 11 September 2012.
- Wang, Y. & Cullinane, K.P.B.** (2012) A network perspective on the port hierarchy and inter-port competition. Paper presented at the 9th International Conference on Logistics and Sustainable Transport, Celje, 14-16 June 2012.
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**TRI Annual Report 2012**  
(Issued March 2013)

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