

News archive 2004

December

2004

Dr Charles Lindveld, Mr Miles Logie and Mr Andrew Westlake have joined CTS. They will work with Professor Polak on the EU 5th Framework project OPUS.

The Centre for Transport Studies ATC/ATM research group hosted a two-day seminar on December 16-17 2004 by Dr Jasenka Rakas. Dr. Rakas is a senior researcher from the University of California, Berkeley, working on Air Traffic Control infrastructure management.

Dr. Robert Noland and Moazzam Ishaque are working with OYBike Systems Ltd. on an evaluation of the potential changes in transport behaviour from this innovative bicycle rental system in Hammersmith & Fulham. This is part of the SME Innovation Support Programme, a £1.2M London Development Agency (LDA) initiative, part funded by the European Regional Development Fund. It is designed to raise the level of innovation and technology amongst small and medium sized enterprises (SMEs) by linking them with academic researchers. The Borough of Hammersmith & Fulham and Transport for London are also involved with this project. The OYBike project and the SME Innovation Support Programme are managed by ANGLE Technology, Ltd. Further information on OYBike is available at www.oybike.com, and on innovation support within the London area at www.london-innovation.org.uk

The Rees Jeffreys Road Fund has provided funding to conduct real-time on-board particulate monitoring of a diesel car in London. This will contribute to on-going research in the relationship between vehicle performance and emissions originally begun as part of the VPMS project. This work will be conducted by Robin North under the supervision of Dr. Washington Ochieng, Dr. Robert Noland, and Prof. John Polak.

Prof. Michael G H Bell delivered two lectures in Munich on the impact of congestion charging in London, first to a public audience at the Transport Museum and then to a private audience at BMW.

November

2004

Prof. Michael G H Bell took part in a review of the Department of Civil Engineering at Auckland University, New Zealand.

Prof. Michael G H Bell held a talk at the Lighthill Institute on post-Lighthill traffic flow theory.

Prof Stephen Glaister was the keynote speaker at the Ordnance Survey Transport Solutions Seminar on 30th November 2004. He discussed the contribution offered by scientific analysis towards improving national transport policy, using three case studies: cost benefit analysis, mapping location of pedestrian accidents and mapping the incidence of road user charging.

Dr. Washington Ochieng was elected a Member of the Institution of Civil Engineers on 22 November 2004.

Members of CTS have been invited to present work from the VPEMS and ContainerWorld projects at the Engineering and Physical Science Research Council (EPSRC) Showcase Presentation day. This was held at the Excel Centre in London on 17th November. The work was presented by Robin North (VPEMS), Dongping Song and Mohammed Raza (both ContainerWorld).

Mr. Robin North was invited to attend a workshop at the University of Leeds Institute of Transport Studies on the measurement of real-world vehicle emissions. The workshop was successful in sharing experiences and lessons learned from the Vehicle Performance and Emissions Monitoring project and the initial data collection from the instrumented vehicle developed at Leeds.

Mr Stephane Hess has been invited to present his work on air-travel choice-behaviour in London at an invitational workshop organised by the German Aviation Research Society at the University of Applied Sciences in Bremen, Germany

Dr. Arnab Majumdar was invited to present at a Seminar on SYNERGISING ATC-AIRPORTS-AIRLINES TO MEET CONTEMPORARY CHALLENGES IN CIVIL AVIATION, held in New Delhi, India, on 1 and 2 November 2004. The seminar was organised by the Air Traffic Controllers Guild (India). Dr Majumdar subsequently conducted workshops for air traffic controllers on behalf of the Airports Authority of India (AAI) in Kolkata (3rd November) and Mumbai (4th November).

October

2004

Dr. Arnab Majumdar presented an invited seminar at the Department of Aeronautics and Astronautics, MIT, on "Developments in Airspace capacity research", on October 5, 2004.

The Centre for Transport Studies ATC/ATM research group hosted a seminar on October 14 2004 by Professor Lena Martensson, KTH Sweden, on Air Traffic Control accident investigation.

Mr Stephane Hess has been awarded the Neil Mansfield award at the European Transport Conference in Strasbourg, for his paper entitled "A model for the joint analysis of airport, airline, and access-mode choice for passengers departing from the San Francisco Bay area". The prize is awarded for the best paper by a sole author aged 35 or under.

Washington Ochieng has been appointed International Member of the Research Management Committee (RMC) of the Canadian Geomatics for Informed Decisions (GEOIDE) Research Network. GEOIDE was established by the Canadian government to consolidate and expand Canadian expertise in Geomatics. It brings together many of the country's leading experts from academic, government and industrial institutions. The RMC is responsible for providing scientific leadership and research management. It must also ensure the quality and carry out the supervision of projects. Washington's appointment is for 2 years effective from October 2004.

Dr Washington Ochieng was on 20 October 2004 elected Member of Council and Trustee of the Royal Institute of Navigation. The Institute's affairs are overseen by an elected president, Officers and Council, whose members are also the Trustees and supplemented by ex-officio representatives from the military services, Department for Transport and the Civil Aviation Authority.

Dr Fabian Bastin from the Transport Research Group at the University of Namur visited CTS for three months to work with Professor Polak and Stephane Hess on the development of improved methods for the estimation of discrete choice models, based on adaptive optimisation algorithms.

Prof. Andrew Evans represented UK as one of two UK speakers at UK/Korea Rail Research Seminar at Seoul in October 2004.

September

2004

Mr. Robin North was invited to present a poster on his work on the VPEMS project at the House of Commons as part of the Science Engineering and Technology (SET) for Britain "Science in September" Presentation Day. This event aims to showcase work from Britain's young scientists and engineers to Members of Parliament.

Bob Noland and Victoria Williams have been awarded an EPSRC grant to examine the impact of climate change on aviation in the UK. This work is in

collaboration with Ralf Toumi in the Physics Department. The key objective of this research is to better understand how air travel will need to change in response to a changing climate. Changes in atmospheric conditions due to climate change will interact with air travel both in terms of how air travel affects climate and how these impacts can be minimized in the future. For example, changes in atmospheric conditions will affect the probability of contrails being formed by aircraft. This has major implications for climate change as contrails and the formation of cirrus clouds have been found to increase warming of the earth's atmosphere (i.e., by increasing radiative forcing). One way of dealing with these impacts is by changing flight trajectories, for example by flying lower or flying to avoid the atmospheric conditions that create contrails. This research will allow both the government and the airline industry to find ways to reduce the impact of the aviation sector on climate change.

Congratulations are due to Washington Ochieng, Mohammed Quddus and Robert Noland for receiving a best paper/presentation award at this year's international meeting on Global Navigation Satellite Systems (GNSS) held in Long Beach, California. The paper entitled 'Integrated Positioning Algorithms for Transport Telematics Applications' proposes innovative algorithms for use with data from the Global Positioning System (GPS), Deduced Reckoning (DR) motion sensors and digital map data to provide highly accurate and continuous navigation even in the most difficult environments. The annual conference organised by the US Institute of Navigation (ION) brings together academics, researchers, industrialists, service providers and users of positioning, velocity and timing information (PVT) to discuss the state-of-the art in the relevant technologies and applications. The main criteria for this award are innovation and quality of delivery. The paper was presented by Washington Ochieng.

Prof. Michael G H Bell delivered a short course on transport network reliability at the Polytechnic of Bari, Italy.

Prof. John Polak was elected as a member of the Scientific Committee of the International Workshop on Optimisation of Urban Transport System, Guadalajara, Mexico, September 2004.

August

2004

The Centre for Transport Studies was strongly represented at the 13th World Clean Air and Environmental Protection Congress. Papers were presented by Dr. Robert Noland, Dr. Victoria Williams, Mr. Mohammed Quddus and Mr. Robin North covering a range of environmental research being pursued within the Centre.

Dr Victoria Williams has been selected to present a poster at the Festival of Science, sponsored by the British Association for the Advancement of Science. Her presentation will discuss the social and ethical issues relating to aviation and climate

change. The Festival of Science is an annual event, bringing together scientists, science communicators and the public. This year's festival takes place in Exeter in September.

Mr Stephane Hess has been awarded the Epainos award for the second best paper in Regional Science by a young scientist at the 44th Congress of the European Regional Science Association, held in Porto. The paper, entitled "An analysis of airport-choice behaviour using the Mixed Multinomial Logit model", looks at the choice of airport for passengers departing from the San Francisco Bay area.

EPSRC Funding Secured for Transport Masters Courses. The Universities' Transport Partnership has secured funding totalling over £1.7m, from the Engineering and Physical Sciences Research Council (EPSRC) to support Masters training in transport for the next four years. The Universities' Transport Partnership (UTP) builds on the successful collaboration over the last four years between Imperial College London and University College London and the Universities of Leeds, Napier, Newcastle upon Tyne, Southampton and Westminster in the provision of Masters training under the National Masters Training Package. Over those four years, the number of UK students has more than doubled, reaching 130 "full time equivalents" in 2003/4. The UTP is coordinated by Professor John Polak. The new EPSRC funding will cover fees and maintenance for up to 30 students a year studying full time for a Masters in transport at a Partnership institution. Most full time students are likely to be recent graduates, choosing to complete a Masters before entering the profession. In addition, an increasing number of Master students are now studying part time, funded by their employers, accounting for over half of UK students ("full time equivalents") in 2003/4. The UTP institutions have also been highly successful in attracting students from outside the UK, with 103 "full time equivalents" in 2003/4, up 230% over the last four years. Commenting on the news, Professor John Polak of Imperial College London, Chairman of the Partnership's Management Group said "I am delighted at the success of the Partnership's bid. This new EPSRC funding will enable us to continue to make a major contribution to meeting the national transport skills shortage. We have worked very hard together with employers to make sure that our courses meet their changing needs, both in the content of the courses and in the way they are delivered. The last four years have seen the introduction of a number of new Masters courses, many new and revised modules, as well as distance learning options and changes in the way that part time and continuing professional development students are accommodated, so as to better match their work schedules. This has been achieved largely by working with employers through the highly successful Employers' Forum we have created". Martin Richards, Chairman of the Employers' Forum and manager of the Partnership's bid for EPSRC funding, said that "I am sure that being able to demonstrate the close links between the universities and employers has contributed to the Partnership's success in obtaining future funding". He added that "It makes it clear that the Partnership universities are meeting a market need." With EPSRC funding secured, the Employers' Forum will be maintained by the Partnership, which will also be using some of the funds to support new initiatives in the provision of Masters level training in transport across the UK.

July

2004

Dr Dick Ettema from the Faculty of Geosciences, University of Utrecht, Netherlands, paid a short visit to the CTS to work with Professor Polak on the development of improved methods for the joint modelling of the spatial and temporal aspects of accessibility.

Prof. Andrew Evans gave Inaugural Lecture and First Lloyd's Register Lecture in Transport Risk Management at Imperial College, entitled "Rail safety and rail privatisation in Britain".

Congratulations to Dr Bob Noland on his promotion to Reader in Transport and Environmental Policy. This promotion recognises the outstanding contribution he has made to the research, teaching, and administrative activities of the Centre.

Prof. Michael G H Bell spent 7 weeks at the University of Canterbury, Christchurch, New Zealand as an Erskine Fellow. During his visit he delivered a short course transport network reliability.

Prof. Michael G H Bell and Dr Walter KI Wong met at the "Behaviour in Networks" Conference in Seoul, Korea.

June

2004

Dr Fumitaka Kurauchi returned to Kyoto University after a 12 month stint, during which he worked closely with Prof. Michael G H Bell, Jan-Dirk Schmoecker and others on constrained transit assignment and door-to-door transport simulation.

Washington Ochieng is featured as one of this month's Royal Society Scientists profiled on their website at <http://www.royalsoc.ac.uk>. The profile recognises the contribution that the Imperial College Engineering Geomatics Group is making to the management of airspace.

Dr Tomas Ruiz from the School of Civil Engineering and the Technical University of Valencia, Spain visited CTS for two months to work with Professor Polak on developing improved models of activity re-scheduling behavior.

May

2004

Prof. John Polak presented invited paper on tour based models for road pricing to conference entitled "Tarification urbaine. Après Londres : Paris et les grandes agglomérations françaises?" held at Université de Cergy-Pontoise, Paris, France.

Professor Andrew Evans will give the First Lloyds Register Transport Risk Management Lecture and his Inaugural Lecture in the Clore Lecture Theatre at Imperial College London at 17:30 on Wednesday 16 June 2004. The title will be "Rail safety and rail privatisation in Britain". The Lecture is open to all. Anyone who wishes to come is asked to contact Pamela Michael at p.michael@imperial.ac.uk

Dr Victoria Williams has presented a seminar at the Tyndall Centre for Climate Change Research at UMIST. The Centre is a national UK institution for trans-disciplinary research in climate change. The seminar, entitled "Aviation and Climate: Air traffic simulations to assess policy options for reducing the climate impacts of aviation", discussed the policy challenges to controlling the climate impact of aviation and presented results from air traffic simulations and atmospheric data analysis undertaken to evaluate the trade-offs associated with a policy to reduce aircraft cruise altitudes.

Dr Victoria Williams has been invited to present a seminar to the Energy, Fluids and Turbomachinery Group at Cambridge University. The seminar will discuss the implications of changes in aircraft and engine design for the future climate impact of aviation and is scheduled to take place on 7th October 2004.

Prof. Gerd Sammer of BOKU, Vienna, visited Imperial College London for two weeks on an EPSRC Fellowship. While here, he delivered the Smeed Lecture.

April

2004

CTS hosted the Annual Dinner of the Transport Planning Society. This event attracted over 100 transport academics and professionals. The guest of honour was Mr Dave Wetzels, Vice Chair of Transport for London.

Professor John Polak and Stephane Hess have been invited by the UK Department for Transport to undertake a 12 month study to develop improved methods for the joint modelling of mode and time of day choice. The project will be carried out in collaboration with RAND Europe. The work will involve the detailed re-analysis of existing stated preference datasets from London, the Netherlands and the West Midlands. It is expected that the results of this research will in due course be integrated into the Department for Transport's modelling guidance to UK Local Authorities.

Prof. Andrew Evans continued as Chairman of the Rail Safety Working Party of the Parliamentary Advisory Council on Transport Safety (PACTS).

March

2004

Prof. John Polak became Member of the Transportation Research Board Special Task Force on Innovations in Freight Transportation Modelling, AT016T (2003-2007).

Dr Victoria Williams has presented a seminar at the Space and Atmospheric Physics Group at Imperial College. The seminar discussed the impact of contrail and aviation cirrus cloud formation on climate and presented results of research into the carbon dioxide emission penalties and air space congestion problems associated with a policy to reduce contrail and cirrus cloud formation by restricting aircraft cruise altitudes.

Dr Victoria Williams has participated in the 3rd meeting of STELLA Focus Group 4. The STELLA (Sustainable Transport in Europe and Links and Liaisons with America) project promotes the trans-Atlantic exchange of research, ideas and experience to improve understanding of the issues associated with sustainable transport. Focus Group 4 considers the issues of Environment, Safety, Public Health, Land Use and Congestion. Dr Williams contributed a presentation on research priorities for developing effective emission control policies for aviation.

Mr Stephane Hess has been elected to become a fellow of the Royal Statistical Society.

Professor Michael Bell will give his Inaugural Lecture in the Clore Lecture Theatre at Imperial College London at 17:30 on Wednesday 10 March 2004. The title will be "Risk and Reliability in Transport: Quantifying the Unquantifiable". For more information refer to the following URL:

<http://www.cts.cv.ic.ac.uk/html/ResearchActivities/publicationDetails.asp?PublicationID=380>

The Imperial College Engineering Group (ICEGG) has been awarded a number of research grants by the EPSRC and Industry in the areas of satellite navigation and air traffic management. The grants will support 3 new Post-Doctoral and 2 PhD research positions over the next three years. Washington Ochieng who is the leader of the ICEGG stated that "this will enable the group not only to consolidate the existing research portfolio but also to explore new frontiers".

The Centre for Transport Studies will be working with the Babbie Group on a project funded by Transport for London to evaluate the interactions between pedestrians and vehicles at street crossing points. This work, being conducted by Bob Noland and Moazzam Ishaque, will evaluate the travel time costs associated with

different pedestrian prioritization policies considering the travel time effects on all modes of travel.

February

2004

Members of the VPMS project team attended the Foresight Vehicle LINK presentation day at the University of Warwick. This was the final stage of a three year research program to develop an integrated on-board vehicle performance and emissions monitoring system. The project team presented the accomplishments of the the research which included the development and testing of a prototype on-board emissions measurement and vehicle tracking unit.

January 2004

Mr Stephane Hess has been invited to join the "Innovative Methods in Transport Analysis, Planning and Appraisal" committee of the European Transport Conference. The European Transport Conference, which is organised annually by the Association for European Transport, is a major international conference, attracting several hundred delegates from across Europe. The "Innovative Methods" committee reviews papers of a mathematical or statistical content that advance the state of the art in transportation research.

The Volvo Research Foundation has awarded Bob Noland a research grant to examine the increases in vehicle emissions associated with induced travel from road capacity expansions and traffic flow improvement projects. This work will use various micro-simulation and modal emissions models to determine whether induced traffic may off-set any short-term emissions reduction benefits. This is an important step in our understanding of the environmental benefits and costs of alternative transport projects. Mohammed Quddus will assist Dr. Noland in working on this project.

Dr. Victoria Williams has rejoined the Centre for Transport Studies under a five year EPSRC Research Fellowship. Dr. Williams will be working with Bob Noland and Ralf Toumi from the Dept. of Physics Atmospheric Physics group on simulation of air traffic and the effect on climate. This will include evaluation of policies that are most effective for mitigating the total impact of the aviation sector on climate.

Recovery from air traffic control system failures. Eurocontrol (the body responsible for the safe management of air traffic in Europe) is supporting a research project concerned with the analysis of possible failures of technical systems that support air traffic controllers (ATCOs) during their task of maintaining safe and efficient flow of traffic; controller response to such failures and recovery processes. The research will propose a generic predictive tool of human recovery during low probability system failures. The tool could be used during the design process for better understanding of human reactions and performance during the low-probability occurrences. Research should also point out problems with current emergency procedures and training, and

suggest more robust intervention mechanisms. The research will be conducted by Miss Branka Subotic under the supervision of Dr Washington Ochieng.

Hazard analysis of Global Navigation Satellite Systems (GNSS). The UK Civil Aviation Authority (CAA) is funding an 18-month project to assess the impact of GNSS system failures on aircraft navigation requirements. The research is being conducted jointly with the CAA Institute of Satellite Navigation (ISN) at the University of Leeds. Dr Shaojun Feng is the Imperial Researcher on the project working under the direction of Dr Washington Ochieng.

Mr Stephane Hess has been invited to join the "Innovative Methods in Transport Analysis, Planning and Appraisal" committee of the European Transport Conference. The European Transport Conference, which is organised annually by the Association for European Transport, is a major international conference, attracting several hundred delegates from across Europe. The "Innovative Methods" committee reviews papers of a mathematical or statistical content that advance the state of the art in transportation research.

Prof. Andrew Evans took up Lloyd's Register Chair in Transport Risk Management at Imperial College in January 2004.

Professor John Polak has been invited by the Strategic Rail Authority to undertake a research project into the travel time reliability and variability by different modes, focusing in particular on rail, car, express coach and air. The objective of the research is to provide a comparable characterisation of variability in performance across these different modes. The project is being carried out in association with AEA Technology Rail.