

Transport and Road Safety Research Centre

Annual Report 2016

Australian Research with Global Impact

Researchers working together with

Government and Industry

to develop road safety programs,

policies and products

that will save lives

and prevent serious injuries





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P / P

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Director's Report

Road and transport safety remains one of our community's significant problems. After decades of steadily reducing road traffic crash rates, over the past two years this pattern has reversed, and we have seen increasing crash rates in most jurisdictions in Australia. Nationally, the road transport industry has the highest rates of fatalities compared to all other industries. Clearly, new approaches are needed if we are going to address these continuing problems. Australia needs new research, the translation of existing research into new policy and practice and to be evaluating the impact of our strategies. Applying the same old approaches to our road and transport safety problems will clearly not make them go away.

The Transport and Road Safety (TARS) Research Centre at UNSW continues to play a significant role in research and advocacy on transport safety. We are making a clear impact on improving safety in transport operations. In 2016, some of our notable research highlights have included:

- Development of a novel, evidence-based education and assessment program for novice motorcyclists for Victoria. Currently novice motorcyclists in Australia and most of the world largely pick up the skills of riding on their own, with, at best, only a brief session of off-road training. Our new program strategically takes novice motorcyclists through a graduated sequence of off and on-road skill development and linked assessment to ensure that they have stronger skills when they start to ride independently. This is a world-first.
- A review of the Licensing Point System for New Zealand. This project was a
 comprehensive research project involving review of literature, surveys and focus groups of
 New Zealand drivers and an analysis of infringements and crashes for drivers with different
 patterns of licensing points. This work provided guidance to the New Zealand government
 on the strengths of the current Licensing Point system and on how it might be improved to
 achieve stronger road safety outcomes.
- An evaluation of Queensland's Graduated Licensing System (GLS) for novice drivers. Too
 often, policies and programs are implemented, and they are assumed to work. This project
 provided real evidence on the effectiveness of the GLS in Queensland and the results have
 implications for other jurisdictions in Australia and elsewhere.

In addition, two of our on-going landmark projects are continuing to progress well. The Quad bike project is in the final stages involving the largest survey study carried out to date of the workplace experiences of Quad bike riders on their experiences of crashes and use of Operator Protective Devices and Quad bike specific helmets for Australia, and New Zealand. The Australian Naturalistic Driving Study (ANDS) is in full swing of data collection involving tracking the normal driving experiences of 360 drivers. The final reports of both of these projects will be available in 2017.

As well as doing world-class research on transport safety, TARS Researchers are extremely active in advocacy and in promoting evidence-based, best practice on road and transport safety issues. We do this in a range of ways. In 2016, we had an extremely vibrant series of workshops and seminars that helped us engage with the community on the most up-to-date research in each topic (see details in this report). Our researchers also take the opportunities to influence by actively participating in a broad range of working and technical groups for transport safety authorities and professional groups. An important component of our advocacy is engaging with the media as this is an opportunity to educate and disseminate our messages as broadly as possible.

TARS Researchers figure largely in print, radio and television news around Australia as can be seen later in this report.

TARS had a great year of recognition for our work, with awards from the Australian College of Road Safety for Best Paper for Dr Julie Hatfield and a Fellowship for myself, as well as an award for staff excellence to Sussan Su from the UNSW. Dr Soufiane Boufous' application for promotion to Level C was also successful.

We also had an excellent year of PhD completions. Five students submitted theses on topics ranging from safety management systems for heavy truck transport operations, improving reliability of accident classification systems, normal operations monitoring for ground operations in aviation and the human factors influences on driver behaviour and traffic law enforcement in Jordan.

Two staff moved on to other pursuits this year. Dr Lori Mooren retired after a successful career in public policy then in road safety advocacy and research. Dr Garrett Mattos returned home to the USA and to engage in further adventures in road safety. Both made significant contributions to our work and we hope to continue to involve them in some capacity in our research in the future.

Finally, I would like to extend my gratitude to all staff at TARS for another great year of hard work and enterprise. We have a lot to be proud of.

Prof Ann Williamson, PhD

Centre Director

Transport and Road Safety (TARS) Research Centre School of Aviation

About the Centre

Who We Are

The Transport and Road Safety (TARS) Research Centre is a private and publically funded research centre in the School of Aviation at UNSW Australia. Our objectives are:

- Advancing transport and road safety through high quality research;
- Building research capacity; and
- Translating the results of research into policy and practice.

Background

In 1999, the Health Administration Corporation (HAC), Motor Accidents Authority of NSW (MAA), Roads and Traffic Authority of NSW (RTA) and The University of New South Wales (UNSW) formed a collaboration to fund the NSW Injury Risk Management Research Centre (IRMRC). The collaboration was renewed by Deed of Agreement, after a review, in 2002 and 2008 for a further five-year period in each case. The IRMRC Deed of Agreement was varied to allow the establishment of the Transport and Road Safety (TARS) Research group within the School of Aviation and the Falls Injury Prevention Group (FIPG) within Neuroscience Research Australia (NeuRA) with oversight from the Director, IRMRC. The Deed of Variation for each research group commenced on 1 December 2010 and expired on 30 November 2013. TARS Research now continues as a self-funded UNSW Research Centre in the School of Aviation.

Governance & Reporting

In accordance with the UNSW <u>Centres Procedure: Establishment, Management and Review of Centres and Institutes</u>, the Steering Committee has responsibility for the governance and operational and financial oversight of the Centre. The TARS Steering Committee consists as follows with the Secretariat function provided by the Research Business Manager, TARS Research Centre.

TARS Steering Committee

- Professor Chris Tinney, Associate Dean (Research), Faculty of Science (Chair)
- Professor Jason Middleton, Head, School of Aviation
- Professor Ann Williamson, Director, TARS Research Centre
- Professor Richard Mattick, Professor, National Drug & Alcohol Research Centre
- Mrs Urania Stamios, Finance Manager, Faculty of Science

Meeting Dates

- 02-May-16
- 01-Sep-16
- 01-Dec-16

Skills and Expertise

The philosophy of the TARS Research Centre is the safe system principle, commonly used in occupational health and safety. This requires a multi-disciplinary approach to road safety research and policy development, where researchers focus on Safer Roads, Safer Vehicles, and Safer People and their integration into a Safe System approach.

TARS Research staff has enormous depth of multidisciplinary expertise and experience, and very strong nationally and internationally recognised track records of expertise across the entire range of road and transport safety. TARS research is structured around the essential disciplines needed for an effective transport and road safety research centre: safety policy and systems, psychology, human factors, engineering and crashworthiness, information technology systems, biomechanics, biostatistics, epidemiology, and social sciences.

TARS Research has 9 research staff covering 24 areas detailed in **Areas of Leadership and Expertise**.

Strategic Directions

TARS Research is focused on the key areas of research, community engagement and capacity building. We aspire to do this through:

Research

- Undertake high-quality research that benefits society
- Be recognised as a peer in good standing with the world's best transport and road safety researchers
- Build on current leading performance and continue attracting ARC, NHMRC and industry funding for strategic and innovative research

Community Engagement

- o Translate fundamental science into new, evidence-based policy and practice
- o Equip government and industry to contribute to NSW, Australia and the world
- Continue work towards the promotion of injury prevention measures, in a road environment, which supports the vision of zero fatalities and serious injuries within a Safe System approach

Capacity Building

- Maintain and extend our position as Australia's leading research centre in terms of road safety research output per capita
- Be recognised as the research centre of choice for experts seeking to undertake transport and road safety research
- o Attract high calibre students seeking to undertake higher degrees in relevant areas
- Maintain and enhance an environment that promotes collaboration between the range of disciplines required to meet the research needs of the challenges faced.

Our Research

Overview

TARS Research funding is from grants from the Australian Research Council, the National Health & Medical Research Council and industry, as well as research funding from other government and non-government authorities in Australia and internationally.

We also have a strong and consistent history of value-adding financial support from the transport and insurance industries. Our research is independent and conducted without fear or favour. We take on some of the most difficult and persistent road and transport safety problems. Our record of research is recognised in Australia and abroad.

Research Resources

We use the world's best practice facilities and tools for transport and road safety research including:

- Car, train and aircraft simulators for assessment of operator performance;
- Computer simulation software and laboratory facilities for conducting simulated and physical tests, in areas such as vehicle crashworthiness and injury biomechanics;
- Instrumented vehicles for driver performance studies and Naturalistic Driving Studies and instrumented aircraft for Naturalistic Flying Studies (under development);
- Video/photographic equipment for site investigations and audits; and access to equipment via NSW Roads & Maritime Services Crashlab for crash, stability, biomechanics and dynamic handling tests;
- Access to population-based information on Australian road and transport-related mortality including the National Coronial Information System (NCIS), injury morbidity and mortality data from police-reported crashes and third-party compensation claims following trauma as well as hospital and Emergency Department (ED) data on road trauma in NSW.

Collaborating Organisations

Commonwealth Government

Australian Competition & Consumer Department of Defence

Commission National Health & Medical Research Council

Australian Research Council Office of the National Rail Safety Regulator

NSW Government

NSW Centre for Road Safety State Insurance Regulatory Authority (SIRA)

SafeWork NSW Transport for NSW

Other State and Territory Government

ACT Health Motor Accident Commission SA

Department of State Growth, Tasmania Office of Road Safety (WA)

Department of Transport and Main Roads QLD Transport Accident Commission Victoria

Main Roads Western Australia VicRoads

Industry

Australian Automobile Association Seeing Machines
BHP Billiton Limited Trent Driving School

NRMA Limited Youthsafe

NRMA/ACT Road Safety Trust

International

Center for Injury Research (USA) Medical College of Wisconsin George Washington University New Zealand Transport Agency

IRCOBI Council University of Bolton

Korea Automobile Testing & Research Institute VTT Technical Research Centre of Finland

Australian Universities

Monash University University of Adelaide

Queensland University of Technology University of Sydney

Sydney University

Prizes and Awards

Professor Ann Williamson recognised with prestigious Australasian Road Safety Award

At the 2016 Australasian Road Safety Conference (ARSC2016), <u>Professor Ann Williamson</u> was recognised for outstanding work with the prestigious 2016 <u>ACRS Fellowship</u>. With the 2016 award, Professor Williamson joins an elite group of eminent road safety professionals who have all been bestowed the honour of an ACRS Fellowship. The College first instituted the award of Fellow in 1991 to enable colleagues to nominate a person recognised by their peers as outstanding in terms of their contributions to road safety.

The award was presented by Hon Darren Chester, Federal Minister for Infrastructure and Transport, and ACRS President Mr Lauchlan McIntosh AM, at the glittering ACRS Award Ceremony at Australia's Parliament House. The ceremony took place in front of 550 of Australasia's foremost road safety professionals and advocates, and is deserved recognition of Professor Williamson's profound commitment to the reduction of road trauma.

In detailing the award Mr McIntosh, said "Professor Williamson continues to be an outstanding advocate for road safety both in our region and internationally".

"Professor Williamson has contributed enormously to excellence in road safety research and to providing a strong evidence base for effective road safety interventions. Her dedication to developing and sharing road safety knowledge has been shown through her tireless efforts to work collaboratively in the field with various injury prevention and accident research centres and researchers who work in the field of road safety".



2016 ACRS Award Ceremony - Parliament House, Canberra (Photo courtesy of the Australasian College of Road Safety). **From left:** Mr Lauchlan McIntosh AM FACRS, Professor Ann Williamson FACRS, Hon Darren Chester MP (Federal Minister for Infrastructure and Transport).

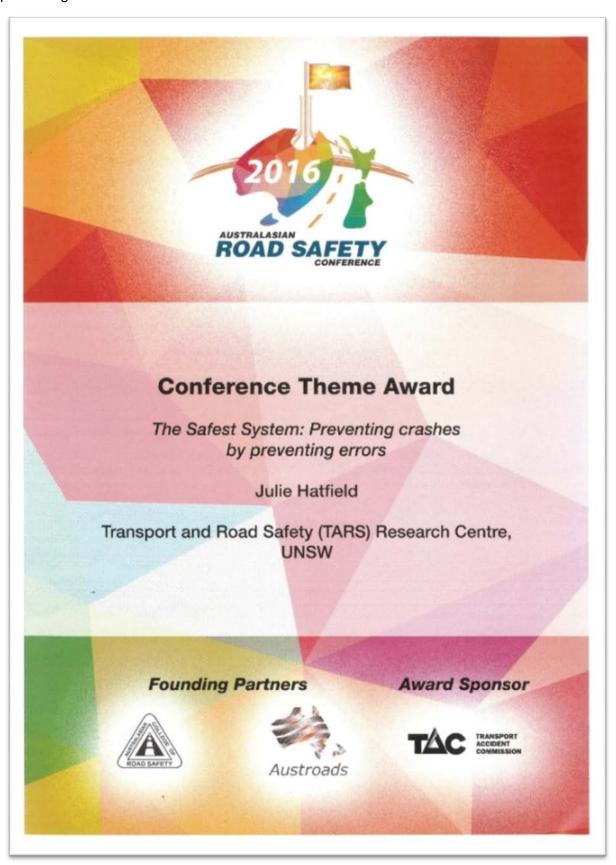
UNSW Staff Excellence Award



Sussan Su is a member of the AdminNet
Committee which received the 2016 Staff
Excellence Award for Excellence Environmental
Sustainability. The hard-working team of volunteers
on the AdminNet Committee have made a
significant contribution to the sustainable culture at
UNSW over the years by helping the University
reuse and re-task all manner of items which would
otherwise find their way into landfill.

2016 ARSC Conference Theme Award

Dr Julie Hatfield received an <u>award</u> for her presentation "The Safe System: Preventing crashes by preventing errors".



Researcher Profiles

Areas of Leadership and Expertise

| Research Theme | Williamson | Grzebieta | Senserrick | Boufous | Hatfield | Friswell | Mooren | Mongiardini | Mattos |
|---|------------|-----------|------------|---------|----------|----------|--------|-------------|--------|
| Active Transport (Cycling & Pedestrians) | | Х | X | XX | L | | | | |
| Aviation Safety | L | | | | | | | | |
| Child Safety | L | | х | | х | | | | |
| Crash Investigation | XX | L | | | х | | | х | Х |
| Crash Reconstruction & Computer Modelling | | XX | | | | | | L | Х |
| Distraction | | | Х | | L | | | | |
| Drug & Alcohol | Х | | Х | L | | | | | |
| Fatigue | L | х | х | | х | х | | | |
| Heavy Vehicles | XX | Х | | Х | | L | XX | | |
| Indigenous Road Users | | | L | | | | | | |
| Injury Surveillance & Data Linkage | | | | L | | | | | |
| Intelligent Transport Systems | | L | Х | | | | | | |
| Motorcycles | Х | Х | L | Х | | | | | |
| Naturalistic Driving Studies | Х | L | х | | | | | | Х |
| Novice Road Users | Х | | L | Х | XX | | | | |
| Older Person Safety | | | | L | | | | | |
| Quad Bikes | | L | | | | | | | |
| Rail Safety | XX | | | | | L | | | |
| Road Safety Barriers & Roadway Departure | | L | | | | | | х | |
| Rollover | | XX | | | | | | XX | L |
| Safety Management Systems | L | XX | | | х | | L | | |
| Speeding | | х | х | | х | | L | | |
| Trauma Services & Outcomes | | | | L | | | | | |
| Work-Related Driving | XX | | | Х | | L | XX | | |

Legend: (L: Theme Leader; **XX:** Strong expertise and track record; **x:** Possesses expertise and published in field)

Academic Staff



Prof Ann Williamson: has a PhD in behavioural science and has worked in government and academia in research and policy development in injury prevention for over 30 years. She has a national and international reputation for research in road and occupational safety. This is due in part to contributions to the fields of fatigue and human factors and safety, using innovative methods.



Prof Raphael Grzebieta: obtained his PhD in engineering focussing on crashworthiness. He has 30 years of research and professional experience in road safety, road and vehicle crashworthiness, and crash investigations and reconstruction. His work has influenced policy in the areas of quad bike safety, motorcyclists impacting roadside barriers, installation of wire-rope barrier systems, roadside barrier crashworthiness, rollover crashworthiness, heavy vehicle safety, bicycle helmets and cycling infrastructure safety, motorcycle safety and vehicle occupant safety.



A/Prof Teresa Senserrick: has a PhD in Psychology with over 20 years of experience in health and safety research. She is nationally and internationally renowned for her expertise in driver education, training and licensing, with a particular focus on disadvantaged groups, including youth, Aboriginal, low socio-economic, rural and remote road users. Her research also contributes to increasing the safety of vulnerable road users, including pedestrians and cyclists and particularly novice motorcyclists.



Dr Julie Hatfield - Senior Research Fellow: has a PhD in Psychology and over 20 years' experience of health and safety research. Her innovative behavioural research has contributed to understanding of risky driving behaviour, young driver safety, and safety of active transport (walking and cycling). She has extensive experience with conducting and communicating research to address policy needs.



Dr Soufiane Boufous - Senior Research Fellow: has a Masters in Public Health and a PhD in Epidemiology. His research focuses on developing innovative methods to assess the burden and risk factors of injury and evaluate injury prevention programs in road safety. He has developed methods based on the use of data linkage to integrate relevant data systems and undertaken observational studies and randomised trials to examine risk factors of road trauma and assess the impact of preventive strategies.



Dr Mario Mongiardini - Research Fellow: has worked in the field of roadside safety barrier systems and complex finite element (FE) computer simulations of crash events for 10 years. He a PhD in Civil Engineering has specialised in both testing and simulating vehicle full-scale crash tests of roadside safety hardware. In particular, he has actively worked on the development of various vehicle and barrier FE models as well as preparation of the US standard for Verification and Validation (V&V) of numerical FE models for roadside safety barriers throughout the USA.



Dr Rena Friswell - Research Fellow: has worked as a behavioural scientist in road and occupational safety research for over 15 years, both in university and government organisations. Her primary research interest is driver fatigue, but she has also investigated aspects of driver distraction, fleet safety, repeat offending and the effects of public safety interventions. She has a PhD in Psychology and expertise across a range of methodological approaches for understanding road users (broad scale surveys, dataset analyses, and laboratory and workplace studies).



Dr Lori Mooren - Senior Research Fellow: has been working in road safety for 28 years. She was awarded a Fellowship in 2012 by the Australasian College of Road Safety for her outstanding achievements. Lori was Project Manager for the production of a Global Good Practice Manual on Speed Management and is a member of the UN Road Safety Collaboration, and co-chairs the Pillar 1, Road Safety Management Project. She was awarded her PhD in 2016 for her work to develop an evidence-based management system and interventions to improve work related road safety, particularly in heavy vehicle transport operations.



Dr Garrett Mattos: Postdoctoral Research Associate: has a PhD (Science) and BSc (Mech Eng) with 8 years of experience in rollover crashworthiness testing and research. His current research interests include injury biomechanics, vehicle safety systems, and epidemiology relating to road safety. Garrett's work often involves the use of a combination of full-scale crash and component testing, finite element analysis, and real-world crash data. He recently finished PhD at UNSW characterised head injuries that occur in rollover crashes and evaluated the feasibility of reproducing them in a dynamic rollover test. Garett is continuing his research and assisting with the Australian Naturalistic Driving Study (ANDS).

Adjunct Appointees



Prof Mike Regan: is a psychologist with 25 years' experience in transportation safety, in Australia and in Europe - as a researcher, research manager and policy maker. He has specialist research expertise in driver distraction and inattention, human interaction with intelligent transport systems, use of instrumented vehicles and simulators to study driving behaviour and performance, and driver and rider training. He has authored more than 160 peer-reviewed publications, including 3 books, sits on the Editorial Boards of 5 peer-reviewed journals.



Prof Soames Job: is nationally and internationally road safety expert with 33 years of road safety experience. He is recognised for his achievements in road safety management, delivery, policy and research, and for noise effects research and policy. He brings a unique combination of skills in consulting, policy, road reviewing, regulation and legislation creation and management, and direct delivery of road safety programs and projects as well as recognised expertise in road safety research and evaluation, teaching, group leadership, and mass media messaging for behaviour change.



Prof Bruce Simons-Morton: Dr Simons-Morton is both Associate Director for Prevention as well as Chief of the Health Behaviour Branch of the Eunice Kennedy Shriver National Institute of Child Health and Human Development. He is also Chair of the Committee on Operator Education and Regulation of the Transportation Research Board (TRB; Board of the National Research Council and National Academies) in the United States; the peak international body for academics specialising in road safety.



A/Prof George Rechnitzer: has over 40 years of professional engineering experience, academic and research expertise, as well as extensive industry affiliations both nationally and internationally. He has expertise in forensic and safety engineering, road safety and workplace safety, accident investigation and collision reconstruction.

Performance Targets and Achievements

Publications

During 2016 TARS Research continued to have an impact in peer-reviewed publications. A complete list of all research outputs is contained in **Appendix F - Academic Publications and Presentations**.

Research Income

During 2016 TARS continued to attract research income from a variety of sources. A more detailed list of projects is provided in **Appendix D - Research Grants and Funding**.

Engagement and Impact

Research Dissemination

By undertaking high-quality research that benefits society, TARS Research excels at translating fundamental science into new, evidence-based policy and practice. We are recognised as being amongst the world's best transport and road safety researchers, and play a crucial role in equipping government and industry to contribute to NSW, Australia and the world.

Seminar and Workshop Series

TARS Research undertakes an active role in research dissemination and facilitating the translation of research into policy and practice. Our outreach activities (**Appendix E - TARS Seminar and Workshop Series**) bring together stakeholders and experts both Australian and international to ensure UNSW Australia remains an influential leader in the field.

Conference Sponsorship

- International Conference on Traffic and Transport Psychology (ICTTP2016), Brisbane Convention & Exhibition Centre, Brisbane QLD, 2-5 August 2016.
- Australasian Road Safety Conference (ARSC2016), National Convention Centre, Canberra ACT, from 6-8 September 2016.

Submissions and Contributions to Policy Development

Senserrick, T. (2016). Submission to the Inquiry into Lowering the Probationary Driving Age in Victoria to Seventeen. Law Reform, Road and Community Safety Committee, 27 May 2016. Retrieved from http://www.parliament.vic.gov.au/images/75. 27.05.2016 - Submission_Prof._Senserrick_UNSW.pdf and appearance before the Committee, October 2016.

Media Profile and Engagement

As recognised experts in transport and road safety, the perspectives of our researchers are highly sought after by the media. **Table 1** summarises the level of our media profile and engagement. However, it should be noted that this underestimates our impact. With stories picked-up and disseminated by numerous other outlets it is not possible to measure the impact of our research in the media.

Table 1: Counts of various engagements with print, radio, TV and other media during 2016.

| Media Category | Number |
|-------------------------------------|--------|
| Media Releases and Opinion Pieces | 5 |
| TV and Radio | 56 |
| Newspaper, Magazine and Online News | 70 |
| Notable Mentions | 1 |
| Total | 132 |



AUSTRALIAN NATURALISTIC DRIVING STUDY



Teams of technicians and researchers of from UNSW and MONASH are working to install the ANDS equipment in

SYDNEY and MELBOURNE



Instrumentation includes:

- · Video (front, face, hands, rear)
- Radar
- GPS
- Alcohol sensor
- · 3-axis accelerometer
- 3-axis gyroscope

- Mobiley
- Seeing Machines
- Vehicle CAN
- Lane tracker
- Temperature sensor
- Decibel meter





Australian Government

Australian Research Council

Transport and Road Safety

















TRANSPORT ACCIDENT COMMISSION









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CAMERA FUNDED PROJECT

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Appendix A - Staff and Student List

Academic Staff

Prof Ann Williamson, Director Dr Soufiane Boufous, Senior Research Fellow

Prof Raphael Grzebieta, Professor of Road Dr Mario Mongiardini, Postdoctoral Research

Safety Fellow

A/Prof Teresa Senserrick, Associate Professor Dr Rena Friswell, Research Fellow

Dr Julie Hatfield, Senior Research Fellow Dr Garrett Mattos, Postdoctoral Research

Dr Lori Mooren, Senior Research Fellow Associate

Professional Staff

Dr Jim Lemon, Research Assistant Mr Nick Pappas, Research Business Manager

Mr Jan Eusebio, Senior Technical Officer Ms Sussan Su, Finance Manager

Adjunct Appointments

Dr Soames Job, Adjunct Professor Dr Bruce Simons-Morton, Adjunct Professor

Dr Mike Regan, Adjunct Professor Dr George Rechnitzer, Adjunct A/Professor

Postgraduate Students

Ms Amy Chung Ms Louise Raggett

Mr David Hicks Ms Louise Shaw

Ms Oleksandra Krasnova Mr Keith Simmons

Mr Faisal Magableh Ms Vivien Shi

Ms Lori Mooren Mr Tana Tan

Ms Nikki Olsen Ms Kim Thai

Mr Mat Petrenko Mr Rainer Zeller

Research Assistants

Tanya Balakumar Zoe Menczel Schrire

Aden Brown David Ng

Pearl Cheung Amelia Purvis

Samantha Clemente Nikola Raic
Anthony Duong Shabib Rizvi

Jesse Hancock Edgar Schilter

Anna Hanna Tana Tan

David Hicks Ashley Thornton

Phillip Hungerford Susan Walker

Tristan Hurzeler Wing See Yuen

Raisa Islam Rainer Zeller

Emma Lu Yu Zhang

Appendix B - External Appointments

Memberships of Professional Bodies and External Committees

Prof Ann Williamson

Industry Member, Road Safety Remuneration Tribunal, Fair Work Australia (to April 2016)

Member, Australian Injury Prevention Network Executive Committee

Member, NHMRC Assigners Academy

Member, NHMRC Translation College of Experts

Member, US Academy of Sciences Transportation Research Board's Safety Performance Committee ANB25

Member, US Academy of Sciences Transportation Research Board's Safety Data, Analysis and Evaluation CommitteeANB20

Prof Raphael Grzebieta

Co-Chairman, US Academy of Sciences Transportation Research Board's Sub-committee on Rollover Crashworthiness ANB 45 (1)

Member Aus. Standards Committee CE/85 Automotive Child Restraints

Member Aus. Standards Committee CS/75 Automotive Occupant Restraints

Member Aus. Standards Committee ME/83 Motor Vehicle Frontal Protection Systems

Member Aus. Standards Committee ME/83-01, ISO Australian Reviewing Committee ISO/TC22/SC10 Impact Test Procedures

Member Aus. Standards Committee ME-051 Amusement Rides and Devices

Member Aust. Standards Committee CS/076 Protective Helmets for Vehicle Users

Member Australian/NZ Standards Committee CE/33 (AS/NZS 3845) Road Safety Barrier Systems

Member, Australasian College of Road Safety Executive Committee

Member, US Academy of Sciences Transportation Research Board's National Cooperative Highway Research Program Panel 22-26 - motorcycles crashes into roadside barriers (2008-present)

Member, US Academy of Sciences Transportation Research Board's Occupant Protection Committee ANB45

Member, US Academy of Sciences Transportation Research Board's Roadside Safety Design Committee AFB20

Member, US Academy of Sciences Transportation Research Board's Roadside Safety Design Computational Mechanics Sub-Committee AFB20(1)

Member, US Academy of Sciences Transportation Research Board's Roadside Safety Design International Sub-Committee AFB20(2)

A/Prof Teresa Senserrick

Editing Committee, Naturalistic Driving Studies Standard, International Organization for Standardization (ISO)

Friend, US Academy of Sciences Transportation Research Board's Global Road Safety Committee

Friend, US Academy of Sciences Transportation Research Board's Motorcycles and Mopeds Committee

Friend, US Academy of Sciences Transportation Research Board's Towards Zero Deaths Subcommittee

Member, Australasian College of Road Safety Australasian Executive Committee

Member, Australian Injury Prevention Network

Member, Evaluation Steering Committee, Driving Change: Licensing Support Program, The George Institute for Global Health

Member, International Council on Alcohol, Drugs & Traffic Safety

Member, National Health and Medical Research Council of Australia Research Translation Faculty

Member, Road Safety Education Australasia, Advisory Council to Board

Member, Road Safety Policy Committee, US Association for the Advancement of Automotive Medicine

Member, US Academy of Sciences Transportation Research Board's Committee on Operator Education and Regulation

Member, US Academy of Sciences Transportation Research Board's Young Driver Subcommittee

Dr Julie Hatfield

Member, Australasian College of Road Safety National Executive Committee

Member, Standards Australia Committee CS-110 Bicycles

Dr Lori Mooren

Fellow, Australasian College of Road Safety

Chair, International Subcommittee and Member, Organising Committee, Australasian Road Safety Conference, 2016-2017

Member, United Nations Road Safety Collaboration

Member, Global Road Safety Subcommittee, US Academy of Sciences Transportation Research Board

Friend, Truck & Bus Safety Committee, US Academy of Sciences Transportation Research Board

Dr Soufiane Boufous

Chapter Representative, NSW Chapter - Australasian College of Road Safety (ACRS)

Member, Australasian College of Road Safety (ACRS)

Member, International Collaborative Effort (ICE) on Injury Statistics and Methodology

Member, Global Burden of Diseases and Injury Group

Dr Mario Mongiardini

Friend, US Academy of Sciences Transportation Research Board's Roadside Safety Design Committee AFB20

Friend, US Academy of Sciences Transportation Research Board's Roadside Safety Design Computational Mechanics Sub-Committee AFB20(1)

Friend, US Academy of Sciences Transportation Research Board's Roadside Safety Design International Sub-Committee AFB20(2)

Friend, US Academy of Sciences Transportation Research Board's Rollover Crashworthiness Sub-Committee ANB45(1)

Dr Garrett Mattos

Chapter Representative, NSW Chapter - Australasian College of Road Safety (ACRS)

Member, Australasian College of Road Safety (ACRS)

Friend, US Academy of Sciences Transportation Research Board's Occupant Protection Committee ANB45

Friend, US Academy of Sciences Transportation Research Board's Rollover Crashworthiness Sub-Committee ANB45(1)

Friend, US Academy of Sciences Transportation Research Board's Roadside Safety Design Committee AFB20

Friend, US Academy of Sciences Transportation Research Board's Roadside Safety Design Computational Mechanics Sub-Committee AFB20(1)

Friend, US Academy of Sciences Transportation Research Board's Roadside Safety Design International Sub-Committee AFB20(2)

Member, Tau Beta Pi Engineering Honour Society

Advisory Boards

Prof Ann Williamson

Member, Counting Rules Working Group for the National Transport Commission

Member, Fatigue Advisory Industry Group, National Rail Regulator

Member, Independent Expert Panel to the National Heavy Vehicle Regulator

Member, Management Board, Centre for Health Systems and Safety Research

Member, Surf Life Saving Australia (SLSA), Research Advisory Committee

A/Prof Teresa Senserrick

Planning Committee, 'Individual Variability in Teenage Driving Performance and Risk', Young Driver Subcommittee Mid-Year Meeting, Transportation Research Board (US National Research Council/National Academies of Science)

Roundtable: Preventing Unintentional Injury to Aboriginal Children and Young People in NSW: Guidelines for Policy and Practice. Australian Health Services Research Institute, The University of Wollongong for the Office of Kids and Families, NSW Ministry of Health

Interviewee, Childhood Injury Prevention – Strategic Directions for NSW Project, Centre for Health Service Development for the Child Death Review Team, NSW Ombudsman

Dr Lori Mooren

NSW WorkCover Road Freight Transport Action Plan Partner

Editorial Boards

Prof Ann Williamson

Member of Editorial Board, Aviation Psychology and Applied Human Factors

Member of Editorial Board, Ergonomics Australia

Member of Editorial Board, Journal of Safety Research

Member of Editorial Board, International Open Access Journal 'Safety'

Prof Raphael Grzebieta

Editor-in-Chief, International Open Access Journal 'Safety'

Peer-Review Editor in Chief, Journal of the Australasian College of Road Safety

Member Editorial Board, Journal of Bridge Engineering

Member of Editorial Board, Australian Journal of Structural Engineering
Member of Editorial Board, International Journal of Crashworthiness
Member of Editorial Board, Journal of Transportation Safety & Security
Member of Editorial Board, The Electronic Journal of Structural Engineering
Member Editorial Board, Accident Analysis and Prevention
Member Editorial Board, International Journal of Forensic Engineering

A/Prof Teresa Senserrick

Associate Editor, BMC Public Health
Guest Editor, Safety, Special Issue "Driver/Rider Training"

Appendix C - Postgraduate Students

Postgraduate Research Projects

Ms Amy Chung

Project: Human Factors and Ergonomics as a Scientific Discipline: The Relationship between

Theory, Research, and Practice. **Supervisor:** Prof Ann Williamson

Mr David Hicks

Project: Assessing the suitability of quad bikes

for the farming environment.

Supervisor: Prof Raphael Grzebieta

Ms Oleksandra Krasnova

Project: Improving young drivers' speed

management behaviour.

Supervisor: Prof Ann Williamson

Mr Faisal Magableh

Project: An investigation into human factors influencing driver behaviour and traffic law

enforcement in Jordan.

Supervisor: Prof Raphael Grzebieta

Ms Lori Mooren

Project: An evidence-based safety

management system for heavy truck transport

operations.

Supervisor: Prof Ann Williamson

Ms Nikki Olsen

Project: Close enough is not good enough: improving the reliability of accident and incident classification systems in high hazard industries.

Supervisor: Prof Ann Williamson

Mr Mathew Petrenko

Project: Influence of culture on pilot training

Supervisor: Prof Ann Williamson

Ms Louise Raggett

Project: Normal Operations Monitoring: A New Approach to Measuring and Monitoring Human and Safety Performance – Tested in Aviation

Ground Operations.

Supervisor: Prof Ann Williamson

Ms Louise Shaw

Project: Exploring self-reported behaviour, crash and near miss experiences of cyclists in NSW through the application of a safe systems

framework.

Supervisor: Dr Julie Hatfield

Mr Keith Simmons

Project: Occupant protection in rollover

crashes

Supervisor: Prof Raphael Grzebieta

Ms (Vivien) Ye Shi

Project: Built environment characteristics and

child pedestrian safety around schools **Supervisor:** A/Prof Teresa Senserrick

Mr Tana Tan

Project: Characterisation and investigation of serious thoracic injuries in passenger vehicle

rollover crashes.

Supervisor: Prof Raphael Grzebieta

Ms Kim Thai

Project: Biomechanical Review of Test Methods Used in the Evaluation of Protective Helmets for Bicycle and Motorcycle Users

Supervisor: Prof Ann Williamson

Mr Rainer Zeller

Project: The relative contributions of endogenous and exogenous factors on

operator fatigue

Supervisor: Dr Rena Friswell.

Ms Natalie Watson-Brown

(Enrolled: Adolescent Risk Research Unit, University of the Sunshine Coast)

Project:

Safe Driving Practice: Development of Professional Best-practice Instruction for

Learner Drivers

Associate Supervisor:

A/Prof Teresa Senserrick

Appendix D - Research Grants and Funding

Projects under Management

(Source: InfoEd)

| Start Date | TARS | Project Title / Collaborators |
|------------|---------------------------------|--|
| 2011 | Investigator(s) Grzebieta, R | Dynamic Rollover Occupant Protection (DROP): |
| 2011 | Bambach, M | evaluation and regulation |
| | | Australian Research Council |
| | | BHP Billiton Limited |
| | | Center for Injury Research (USA) |
| | | George Washington University |
| | | Korea Automobile Testing & Research Institute (KATRI) |
| | | Medical College of Wisconsin |
| | | Monash University |
| | | NSW Centre for Road Safety |
| | | Office of Road Safety (WA) |
| | | Transport Accident Commission Victoria |
| | | University of Bolton |
| | | University of Sydney |
| | Hatfield, J | The provision of research evaluation services for the |
| | Williamson, A | novice driver program trial |
| | | Monash University (Administering Organisation) VicRoads |
| | Hatfield, J | Preventing injuries in crashes involving young drivers: |
| | Williamson, A Job, S | Development and evaluation of impulse control training |
| | · | Australian Research Council |
| | | NSW Centre for Road Safety |
| | | Youthsafe Trent Driving School |
| 2012 | Grzebieta, R | Trent Driving School Performance Testing Quad Bikes |
| | 0.200.010. | WorkCover Authority of NSW |
| | | Australian Competition & Consumer Commission |
| | | Department of Defence |
| 2013 | Grzebieta, R | Integrated Facility for Recording Driver and Road User |
| | Williamson, A | Behaviour |
| | Regan, M | Australian Research Council |
| | | Main Roads Western Australia |
| | | Monash University |
| | | Motor Accident Commission SA |
| | | Queensland University of Technology |
| | | Transport Accident Commission Victoria |
| | | Transport for NSW |
| | | University of Adelaide |
| | - | VicRoads |
| | Hatfield, J | Helping ACT kids to cycle safely: Evaluation of the Safe |
| | | |
| | | Cycle NRMA/ACT Road Safety Trust |

| Start Date | TARS Investigator(s) | Project Title / Collaborators |
|------------|---|--|
| | Boufous, S | Falls risk associated with cataract and after first and |
| | · | second eye cataract surgery. |
| | | Sydney University (Administering Organisation) |
| | | National Health & Medical Research Council |
| 2014 | Grzebieta, R Williamson, A Senserrick, T | The Australian Naturalistic Driving Study: Innovation in Road Safety Research and Policy |
| | | Australian Research Council |
| | | NRMA Limited |
| | | Transport Accident Commission Victoria |
| | | Transport for NSW |
| | | VicRoads |
| | | Seeing Machines |
| | Grzebieta, R | The Australian Naturalistic Driving Study: Key Research Services in NSW Transport for NSW |
| | Senserrick, T | Development of a compulsory curriculum for pre-learner |
| | Williamson, A | motorcyclists |
| | | VicRoads |
| 2015 | Friswell, R | Queuing and waiting arrangements for long distance |
| | Williamson, A | truck drivers |
| | | State Insurance Regulatory Authority (SIRA) |
| | Hatfield, J | Safe Cycle Program Year 5 and 6 Evaluation ACT Health |
| | Hatfield, J | Human factor considerations for driver licensing point |
| | Mooren, L | system |
| | Boufous, S Job, S | New Zealand Transport Agency |
| | Senserrick, T | |
| | Williamson, A | |
| | Senserrick, T Boufous, S | Evaluation of Queensland's Graduated Licensing System |
| | Hatfield, J Olivier, J | Department of Transport and Main Roads, Queensland Government |
| | Senserrick, T | Evaluation of the impact of keys2drive |
| | Boufous, S | Australian Automobile Association |
| | | Novice motorcyclists crash data analysis |
| | | Department of State Growth, Tasmania |
| | Senserrick, T Williamson, A | Development of Victoria's new motorcycle learner permit and licence tests VicRoads |
| | | Development of Motorcycle learner stage Check Rides program VicRoads |
| | Senserrick, T Williamson, A Hatfield, J | Safer Drivers Course Evaluation Monash University (Administering Organisation) Transport for NSW |
| 2016 | Williamson, A | Review of fatigue risk management |
| | , | Office of the National Rail Safety Regulator |
| L | | |

| Start Date | TARS Investigator(s) | Project Title / Collaborators |
|------------|--|---|
| | mroongator(e) | Investigating Data Sharing Framework for use in the Australian Naturalistic Driving Study (ANDS) VTT Technical Research Centre of Finland Ltd |
| | | Advancing Knowledge on Silence and Its Impact on Errors and Safety |
| | | Sydney University (Administering Organisation) |
| | | Australian Research Council |
| | Williamson, A Mooren, L | Best Practice Review of Heavy Vehicle Safety Strategies and Countermeasures |
| | | Transport for NSW |
| | Williamson, A Friswell, R | Evaluation of NSW in-ground pedestrian warning light trial |
| | Hatfield, J Senserrick, T | Transport for NSW |
| | Grzebieta, R Boufous, S | Engage epidemiologist to assist with NSW Quad Bike Industry Support Package |
| | Hicks, D Rechnitzer, G Williamson, A | SafeWork NSW |
| | Boufous, S | Serious injuries data advisor |
| | | Transport for NSW |
| | Grzebieta, R | Advancing Engineering Models of Cervical Spine Injury in Rollover Crashes |
| | | UNSW Goldstar |
| | Hatfield, J | Active Streets Pilot Evaluation and Reporting |
| | Boufous, S | ACT Health |
| | Senserrick, T | Evaluation of the impact of keys2drive on learner experience and provisional police-recorded crashes |
| | | Australian Automobile Association |
| | | Dr Bruce Simons-Morton, Eunice Kennedy Shriver National Institute of Child Health and Human Development |
| | | UNSW Science Visiting Research Fellowships |
| | Senserrick, T Boufous, S | Evaluation of Queensland's Graduated Licensing System (GLS) |
| | Hatfield, J | Department of Transport and Main Roads QLD |
| | Senserrick, T | Novice motorcyclists crash data analysis |
| | Boufous, S | Department of State Growth (TAS) |
| | Hicks, D | 2016 International Research Council on Biomechanics of Injury Conference, Malaga, Spain |
| | | IRCOBI Council |
| | | Safety 2016 - World Conference on Injury Prevention and Safety Promotion |
| | | UNSW Postgraduate Research Support Scheme |
| | Mattos, G | 2016 International Research Council on Biomechanics of Injury Conference, Malaga, Spain |
| | | IRCOBI Council |

Appendix E - TARS Seminar and Workshop Series

Development of education and assessment context for motorcycle graduate licensing system

Speakers: A/Prof Teresa Senserrick

Date: 11 May 2017

Abstract

This presentation reports on research to develop a three-stage education and assessment curriculum for Victoria's new Motorcycle Graduated Licensing System (M-GLS). The three stages were pre-learner (Motorcycle Permit Assessment), learner (Check Ride) and pre-licence (Motorcycle Licence Assessment). The aim was to develop a curriculum commensurate with best practice that included an increased focus on awareness, judgment and decision-making, and that included on-road as well as off-road (range) components at each stage. As no existing best-practice model existed, a guiding framework was adapted from a best-practice model applied in novice driver licensing. Training Needs Analysis was used to identify the target population and crash problem, and the content and learning principles for the curriculum. The curriculum was piloted in 2015 and became mandatory in Victoria in March 2016.

Acknowledgements

This presentation was hosted by the UNSW Aviation Symposium.

The Road Untravelled: New Pathways Towards Safer Novice Drivers

Speakers: Mr Greg Aplin, A/Prof Teresa Senserrick, Dr Bruce Simons-Morton, Dr. Willem Vlakveld, Dr Bridie Scott-Parker, Dr Julie Hatfield, Ms Oleksandra Krasnova.

Date: 22 July 2016

Abstract

TARS Research and the NSW chapter of ACRS hosted this workshop and discussion panel, showcasing the latest research insights into young drivers, driver education and licensing, including innovative new driver training approaches from the USA, Europe and Australia. Slides and videos of keynote presentations are available below. The opening address was made by Mr Greg Aplin, Member for Albany, Chair Staysafe, Parliament of NSW.

- Download Video of Bruce Simons Morton's Presentation
- Download Bruce Simons Morton's Slideshow
- Download Video of Willem Vlakveld's Presentation
- Download Willem Vlakveld's Slideshow
- Download Video of Greg Aplin's Presentation
- Download Video of Teresa Senserrick's Presentation

Biography

Dr. Bruce Simons-Morton (National Institutes of Health, USA)

Dr. Simons-Morton is Associate Director for Prevention and Senior Investigator in the Division of Intramural Population Health Research, National Institute of Child Health and Human Development (NICHD). He is internationally one of the most respected researchers on the causes and prevention of motor vehicle crashes among novice young drivers.

Dr. Willem Vlakveld (SWOV Institute for Road Safety Research, The Netherlands)

Dr Vlakveld is a senior researcher at SWOV Institute for Road Safety Research in the

Netherlands. His research covers a wide range of areas in road safety including the issue of young novice drivers. He recently completed a review of approaches to novice driver education and licensing in Europe in comparison to other countries.

Acknowledgements

This seminar was led by TARS Research Centre, in partnership with the NSW Chapter of the Australasian College of Road Safety and with supporting sponsorship from NRMA Motoring & Services.

Introduction

· Opening and Welcome

Mr Greg Aplin, Member for Albany, Chair Staysafe, Parliament of NSW

Overview of young driver crashes and interventions in Australian

A/Prof Teresa Senserrick, The University of New South Wales

Latest International Perspectives

- Preventing crashes among novice teenage drivers: research on risk and prevention
 Dr Bruce Simons-Morton, National Institute of Child Health and Human Development, USA
- The rise, fall and rise of driver education at different moments in time in the USA, Australia, and Europe

Dr Willem Vlakveld, SWOV Institute for Road Safety Research, The Netherlands

Innovative Australian Research

Enhancing Learner driver lessons

Dr Bridie Scott-Parker, The University of the Sunshine Coast, QLD

Managing impulse control in young drivers

Dr Julie Hatfield, The University of New South Wales

Cognitive based post-licence training for young drivers

Oleksandra Krasnova, PhD Candidate, The University of New South Wales

Interactive Panel Discussion: What Next for Australia?

• Expert Panel - Chair:

A/Prof Teresa Senserrick, The University of New South Wales

• Invited Members:

Ms Melissa Abu-Gazaleh, Top Blokes Foundation, NSW Young Australian of the Year 2016

Mr Bernard Carlon, Centre for Road Safety, Transport for NSW

Mr Jack Haley, NRMA Motoring and Services

Dr Bruce Simons-Morton, National Institute of Child Health and Human Development, USA

Dr Willem Vlakveld, SWOV Institute for Road Safety Research, The Netherlands

Prof Ann Williamson, The University of New South Wales

Aspects of Transport Safety

Speakers: Professor Shashi Nambisan

Date: 26 July 2016

Biography

Shashi Nambisan is a Professor of Civil Engineering at University of Tennessee, Knoxville (UT). He comes to UT from Iowa State University in Ames, Iowa, where he was professor of Civil Engineering and formerly the director of the Institute for Transportation. He received his PhD from the University of California, Berkeley, and his MS from Virginia Tech. He is a registered Professional Engineer in Nevada.

Nambisan has more than 25 years of experience in transportation including more than 20 years leading the development and growth of research enterprises. He has led over 160 projects on a broad range of issues in transportation and infrastructure systems management related to policy, planning, operations, safety, and risk analysis. His research projects have involved local, statewide, regional, and national issues in transportation and information systems management, primarily related to the development and deployment of decision support tools. He has more than 125 peer reviewed journal and conference publications, and made over 220 technical presentations.

Human Factors and Advanced Vehicle Technologies: Driver Attention and Interactions with Higher Levels of Automation

Speakers: Professor Birsen Donmez

Date: 08 August 2016

Biography

Birsen Donmez is an Associate Professor at the University of Toronto, Department of Mechanical & Industrial Engineering and is the Canada Research Chair in Human Factors and Transportation. She received her MS (2004) and PhD (2007) in industrial engineering, and her MS in statistics (2007) from the University of Iowa. Before joining the University of Toronto, she spent two years as a postdoctoral associate at the Massachusetts Institute of Technology.

Donmez's research interests are centred on understanding and improving human behaviour and performance in multi-task and complex situations, using a wide range of analytical techniques. In particular, her research focuses on operator attention in multitask activities, decision support under uncertainty, and human automation interaction, with applications in various domains including surface transportation, healthcare, mining, and unmanned vehicle operations.

Donmez's selected honours include the inaugural Stephanie Binder Young Professional Award from the HFES Surface Transportation Technical Group (2014) and an Early Researcher Award from the Ministry of Economic Development and Innovation of Ontario (2015). She serves on multiple Transportation Research Board committees and as an associate editor for IEEE Transactions on Human-Machine Systems.

• Download Professor Donmez's Presentation

Acknowledgements

This was a joint seminar of the School of Aviation, TARS Research Centre, and the NSW Chapter of the Australasian College of Road Safety.

Naturalistic driving studies, including consideration of eye movements to examine "intermittent quidance" and computational driver modelling

Speakers: Dr Esko Lehtonen

Date: 09 August 2016

Biography

Esko Lehtonen recently (2014) completed his PhD under the supervision of Prof. Heikki Summala at the University of Helsinki. For the PhD he studied eye movements on-road using instrumented vehicles.

Cycling research, including testing and training of awareness/hazard perception testing and training

Speakers: Dr Esko Lehtonen

Date: 10 August 2016

Biography

Esko Lehtonen recently (2014) completed his PhD under the supervision of Prof. Heikki Summala at the University of Helsinki. For the PhD, he studied eye movements on-road using instrumented vehicles.

Identifying Serious Injuries due to Road Crashes

Speakers:

Wouter Van den Berghe, Director, Knowledge Centre Road Safety, Belgium Road Safety Institure Hassan Raisianzadeh, NSW Centre for Road Safety, Transport for NSW

Date: 11 August 2016

Abstract

Australia's National Road Safety Strategy 2011-2020 has set a target of a 30% reduction in the annual number of road crashes and serious injuries. Australia has a strong track record in reducing road fatalities in recent decades, but less attention has been paid to reducing serious injuries. There are several data sources that capture serious injuries across Australia, and each varies in the way serious injury is defined and coded, and in the level of information about the associated road crashes. This presents a challenge for identifying progress towards our 2020 target.

This seminar will discuss different challenges and approaches to defining and tracking serious injuries due to road crashes, including the latest directions in Europe and implications for Australia, with particular focus on recent research in New South Wales.

- <u>Download Wouter Van den Berghe's Presentation</u>
- <u>Download Hass</u>an Raisianzadeh's Presentation

Biography

Wouter Van den Berghe is an experienced manager, consultant and researcher with two Masters degrees in Engineering and over 30 years of professional experience, both in the private and non-profit sector, in national and international contexts. He is a member of the management board of the Belgian Road Safety Institute, which focuses on studies and research projects in the vast field of road safety.

Acknowledgements

This was a joint seminar of TARS Research Centre, and the NSW Chapter of the Australasian College of Road Safety.

Smartphone-Based Teen Driver Support System: Results from a 300-teen driver field operational test

Speakers: Professor Max Donath

Date: 31 October 2016

Abstract

Although teen drivers make up a small percentage of the U.S. driving population, they are at an especially high risk of being involved in a crash. To help teen drivers stay safe on the road, we developed the Teen Driver Support System (TDSS). The smartphone-based system is a comprehensive application that provides real-time, in-vehicle feedback to teens about their risky behaviors—and reports the behaviors to parents via text message if teens don't heed the system's warnings. The TDSS device, mounted on the vehicle's dashboard, provides visual and auditory warnings to the teen driver about speeding, stop sign violations, upcoming curves, and excessive maneuvers—hard turning, hard braking, and hard accelerations. It also prevents teens from using their phones to text or call (except 911) while driving.

The research team completed a 12-month field operational test of the system involving 300 newly licensed teens in Minnesota. The test included a control group that received no feedback, a "partial" TDSS group that received only in-vehicle feedback, and a TDSS group that received both in-vehicle feedback and near "real-time" parental notification. Research results indicate an overall safety benefit of TDSS, demonstrating that in-vehicle monitoring and driver alerts, coupled with parental notifications, is a meaningful intervention to reduce the frequency of risky driving behaviors that are correlated with novice teen driver crashes.

An overview of various projects underway at the Roadway Safety Institute (RSI) will also be covered. The RSI is the USDOT Region 5 University Transportation Center, developing solutions to safety issues in the six north central states bordering the Great Lakes. Institute projects include among others: helping visually impaired pedestrians safely navigate intersections and work zones using smartphone and Bluetooth technologies; working with tribal governments to identify and resolve safety concerns on tribal lands; and improving safety for bicyclists with bicycle-mounted sensors that can predict imminent collisions with vehicles.

Download Prof. Donath's Presentation

Biography

Max Donath is the director of the Roadway Safety Institute and Professor of Mechanical Engineering at the University of Minnesota. Prof. Donath's efforts have been directed towards keeping the driver in the loop, using sensing technologies, control systems and improved human-machine interfaces to reduce driver error, and thus prevent crashes before they happen. The focus of his research can be grouped into three areas: (a) collision avoidance and active safety, (b) novel human-machine interfaces for providing improved situation awareness to the driver and pedestrian, and (c) reducing age-related risky driving behavior. Donath received a B. Eng. from McGill University and went on to earn S.M. and Ph.D. degrees from the Massachusetts Institute of Technology. He joined the University of Minnesota in 1978.

Acknowledgements

This was a joint seminar of TARS Research Centre, and the NSW Chapter of the Australasian College of Road Safety.

Appendix F - Academic Publications and Presentations

Books and Chapters

1. N/A

Journal Articles

- Billot, L., Corcoran, K., McDonald, A., Powell-Davies, G., & Feyer, A. M. (2016). Impact Evaluation of a System-Wide Chronic Disease Management Program on Health Service Utilisation: A Propensity-Matched Cohort Study. *PLoS Medicine*, *13*(6). doi:10.1371/journal.pmed.1002035
- 2. Boufous, S., Aboss, A., & Montgomery, V. (2016). Reporting on cyclist crashes in Australian newspapers. *Australian and New Zealand Journal of Public Health*, *40*(5), 490-492. doi:10.1111/1753-6405.12537
- 3. Chevalier, A., Chevalier, A. J., Clarke, E., Coxon, K., Brown, J., Rogers, K., . . . Keay, L. (2016). Naturalistic rapid deceleration data: Drivers aged 75 years and older.. *Data Brief*, *9*, 909-916. doi:10.1016/j.dib.2016.10.024
- Chevalier, A., Chevalier, A. J., Clarke, E., Wall, J., Coxon, K., Brown, J., . . . Keay, L. (2016). Naturalistic speeding data: Drivers aged 75 years and older. *Data in Brief*, 8, 136-141. doi:10.1016/j.dib.2016.05.016
- 5. Chevalier, A., Coxon, K., Chevalier, A. J., Clarke, E., Rogers, K., Brown, J., . . . Keay, L. (2017). Predictors of older drivers' involvement in rapid deceleration events. *Accident Analysis and Prevention*, *98*, 312-319. doi:10.1016/j.aap.2016.10.010
- 6. Coxon, K., Chevalier, A., Brown, J., Clarke, E., Billot, L., Boufous, S., . . . Keay, L. (2016). Effects of a Safe Transportation Educational Program for Older Drivers on Driving Exposure and Community Participation: A Randomized Controlled Trial. *J Am Geriatr Soc.* doi:10.1111/jgs.14550
- 7. Cryer, C., Miller, T., Lyons, R., Macpherson, A., Pérez, K., Petridou, E., . . . Steiner, C. (2016). Towards valid 'serious non-fatal injury' indicators for international comparisons based on probability of admission estimates. *Injury Prevention*. doi:10.1136/injuryprev-2016-042020
- 8. Cullen, P., Clapham, K., Byrne, J., Hunter, K., Rogers, K., Senserrick, T., . . . Ivers, R. (2016). Implementation of a driver licensing support program in three Aboriginal communities: A brief report from a pilot program. *Health Promotion Journal of Australia*, *27*(2), 167-169. doi:10.1071/HE15089
- Cullen, P., Clapham, K., Byrne, J., Hunter, K., Senserrick, T., Keay, L., & Ivers, R. (2016). The importance of context in logic model construction for a multi-site community-based Aboriginal driver licensing program. *Evaluation and Program Planning*, *57*, 8-15. doi:10.1016/j.evalprogplan.2016.03.011
- Forouzanfar, M. H., Afshin, A., Alexander, L. T., Anderson, H. R., Bhutta, Z. A., Biryukov, S., . . Badawi, A. (2016). Global, regional, and national comparative risk assessment of 79 behavioural, environmental and occupational, and metabolic risks or clusters of risks, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015. *The Lancet*, 388(10053), 1659-1724. doi:10.1016/S0140-6736(16)31679-8
- 11. Gopinath, B., Jagnoor, J., Craig, A., Kifley, A., Dinh, M., Ivers, R., . . . Cameron, I. D. (2016). Describing and comparing the characteristics of injured bicyclists and other injured road users: A prospective cohort study. *BMC Public Health*, *16*(1). doi:10.1186/s12889-016-2988-y
- 12. Grzebieta, R., Rechnitzer, G., Simmons, K., Hicks, D., Sherry, D., Nevo, R. D., & McIntosh, A. (2016). 769 Indentifying deficiencies in stability, dynamic handling and rollover

- crashworthiness of quad bikes. *Injury Prevention*, 22(Suppl 2), A275.2-A275. doi:10.1136/injuryprev-2016-042156.769
- 13. Hatfield, J., & Boufous, S. (2016). The effect of non-recreational transport cycling on use of other transport modes: A cross-sectional on-line survey. *Transportation Research Part A: Policy and Practice*, *92*, 220-231. doi:10.1016/j.tra.2016.08.011
- 14. Hatfield, J., & Prabhakharan, P. (2016). An investigation of behaviour and attitudes relevant to the user safety of pedestrian/cyclist shared paths. *Transportation Research Part F: Traffic Psychology and Behaviour.* doi:10.1016/j.trf.2016.04.005
- Hicks, D., Grzebieta, R., Boufous, S., Rechnitzer, G., Robertson, D., & Simmons, K. (2016).
 Effectiveness of operator protection devices to mitigate injuries associated with quad-bike (ATV) rollovers. *Injury Prevention*, 22(Suppl 2), A54.2-A54. doi:10.1136/injuryprev-2016-042156.147
- Hinchcliff, R., Senserrick, T., Travaglia, J., Greenfield, D., & Ivers, R. (2017). The enhanced knowledge translation and exchange framework for road safety: A brief report on its development and potential impacts. *Injury Prevention*, 23(2), 114-117. doi:10.1136/injuryprev-2016-041985
- 17. Ivers, R. Q., Hunter, K., Clapham, K., Helps, Y., Senserrick, T., Byrne, J., . . . Harrison, J. E. (2016). Driver licensing: descriptive epidemiology of a social determinant of Aboriginal and Torres Strait Islander health. *Australian and New Zealand Journal of Public Health*, *40*(4), 377-382. doi:10.1111/1753-6405.12535
- 18. Kark, L., Odell, R., McIntosh, A. S., & Simmons, A. (2016). Quantifying prosthetic gait deviation using simple outcome measures. *World Journal of Orthopedics*, 7(6), 383-391. doi:10.5312/wjo.v7.i6.383
- Kassebaum, N. J., Arora, M., Barber, R. M., Bhutta, Z. A., Brown, J., Carter, A., . . . Amberbir, A. (2016). Global, regional, and national disability-adjusted life-years (DALYs) for 315 diseases and injuries and healthy life expectancy (HALE), 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015. *The Lancet*, 388(10053), 1603-1658. doi:10.1016/S0140-6736(16)31460-X
- 20. Keay, L., Palagyi, A., Do, V., White, A., Lamoureux, E., Ivers, R., . . . McCluskey, P. (2016). Vision and driving status of older Australians with cataract: an investigation of public hospital waiting lists. *Clinical and Experimental Optometry*. doi:10.1111/cxo.12414
- Koo, T. T. R., Caponecchia, C., & Williamson, A. (2016). How important is safety in making flight choices? Evidence from simple choice experiments. *Transportation*, 1-17. doi:10.1007/s11116-016-9730-6
- 22. Mattos, G., Grzebieta, R., Williamson, A., Olivier, J., Eusebio, J., Zheng, W. Y., . . . Baird, C. (2016). 250 Pedestrian-vehicle interactions: early results from the Australian naturalistic driving study (ands). *Injury Prevention*, 22(Suppl 2), A91.2-A92. doi:10.1136/injuryprev-2016-042156.250
- 23. Mcintosh, A. S., Patton, D. A., Rechnitzer, G., & Grzebieta, R. (2016). Injury mechanisms in fatal Australian quad bike incidents. *Traffic Injury Prevention*, *17*(4), 386-390. doi: 10.1080/15389588.2015.1091073
- 24. Mitchell, R. J., & Bambach, M. R. (2016). Personal injury recovery cost of pedestrian—vehicle collisions in New South Wales, Australia. *Traffic Injury Prevention*, *17*(5), 508-514. doi:10.1080/15389588.2015.1115025
- 25. Mitchell, R. J., Williamson, A., & Molesworth, B. (2016). Application of a human factors classification framework for patient safety to identify precursor and contributing factors to adverse clinical incidents in hospital. *Applied Ergonomics*, *52*, 185-195. doi:10.1016/j.apergo.2015.07.018

- 26. Mokdad, A. H., Forouzanfar, M. H., Daoud, F., El Bcheraoui, C., Moradi-Lakeh, M., Khalil, I., . . . Ginawi, I. (2016). Health in times of uncertainty in the eastern Mediterranean region, 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013. *The Lancet Global Health*, *4*(10), e704-e713. doi:10.1016/S2214-109X(16)30168-1
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