... advancing transport and road safety through high quality research
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**Acknowledgments**

**Front cover artwork:** Jodi Lawton, Lawton Design Pty Ltd
**Back cover photo:** Courtesy of Crashlab and Professor Raphael Grzebieta.
Transport safety, especially on the road is a continuing problem in Australia. Where we had once been one of the top performing countries in the OECD, we have fallen to the lower half of the league table of road fatality rates per 100,000 population (National Road Safety Strategy 2011-2020). Now, more than ever, we need good research in road safety. The objective of our research is to help to provide high quality research evidence to improve road and transport safety for Australia and by so doing, reduce one of the major causes of premature death and injury in Australians under 45 years of age. This year was the first since 1999 that we have not had core funding from a NSW government source. This has presented some challenges but has also provided some new opportunities for us to do some larger projects on big-picture transport safety issues.

A major highlight of 2014 is the official commencement of Australia’s Naturalistic Driving study (ANDS) which TARS Research is leading. This $4 million project involves four universities (UNSW, Adelaide, and Monash and QUT) and Virginia Tech in the USA. The project is funded by the Australian Research Council, four state governments (NSW, Victoria, South Australia and Western Australia) and industry (Hyundai and NRMA). The objective of the study is to explore everyday driving behaviour including how drivers deal with sudden events, interact with other road users like pedestrians and cyclists and manage regular driving experiences like speed, fatigue and distractions. This exciting project will be the largest study of its type in Australia and should provide the firm evidence-base needed for developing good road safety policy and practice.

A second highlight for TARS Research was the completion of major $1.12 million study into the rollover safety of off-road Quad bikes and Side by Side Vehicles (SSVs). This study was commissioned by the Australian Federal and State Government Heads of Work Safety Authorities (HWSA) and included also the Australian Competition and Consumer Commission (ACCC) and funded by the NSW WorkCover Authority on behalf of HWSA. The aim of this ‘world’s first’ study was to develop performance static stability, dynamic handling and rollover crashworthiness test protocols to rate the rollover safety performance of Quad bikes and SSVs for consumers. The rating system produced puts Safety Stars on Quads and SSVs. This will provide invaluable information to the public about the safest All-Terrain vehicles to purchase and to manufacturers about how their vehicles might be modified to make them safer.

Aside from these Australian and world-first research projects, TARS Research has had another great year. Due to the strong efforts of TARS Research staff over the last three years, our research outputs have increased by around 70 percent, especially in peer-reviewed journal papers. We have also been highly successful in obtaining research funding; with totals remaining at around $3 million per year, and a continuing strong showing in peer-reviewed competitive grants. Significantly, most of our funding comes from industry sources and is directed at research that will help to re-establish Australia as a world leader in road safety.

As a research centre with a strong applied focus, we have continued our activities in community engagement and encouraging debate on transport and road safety issues. TARS researchers were, again, very active in engaging media to promote our research findings and to highlight important road safety issues and messages where it was useful or important to do so. Many of our researchers play an active role on advisory and decision-making bodies for state, federal and international policy-making bodies; another important way of making sure that the knowledge generated by our research and that of others is getting to the places that it can be put into practice.
Our research success is due to the combined efforts of all of our staff. Our research continues to benefit from the multidisciplinary approach that we are able to bring to bear and the strong collaborations that we have built and continue to build with other research groups. This year one of our senior researchers, Prof Michael Regan, took an opportunity to move into a more industry-focussed position. We will continue to work together on the ANDS project and others. I would like to express my gratitude to all of our research staff for their contributions to ensuring that TARS Research is continuing to grow and to make a contribution to reducing road fatalities and injuries for all Australians.

Prof Ann Williamson, PhD
Director
Transport and Road Safety (TARS) Research, School of Aviation

Reference
About the Centre

Who We Are
Transport and Road Safety (TARS) Research is a private and publically funded research group 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 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 with oversight from the Director, IRMRC. The Deed of Variation (Variation) for each research group commenced on 1 December 2010 and expired on 30 November 2013.

TARS Research now continues as a self-funded Research Group in the School of Aviation.

Skills and Expertise
The philosophy of the TARS Research group 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 12 research staff covering 24 areas detailed in Researcher Profiles - Areas of 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;
  - To build on current leading performance and continue attracting ARC, NHMRC and industry funding for strategic and innovative research;

- **Community Engagement**
  - Translate fundamental science into new, evidence-based policy and practice;
  - 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**
  - To maintain and extend our position as Australia’s leading research centre in terms of road safety research output per capita;
  - To be recognised as the research centre of choice for experts of seeking to undertake transport and road safety research;
  - To attract high calibre students seeking to undertake higher degrees in relevant areas;
  - To 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 crash test facilities for simulating and reconstructing crashes, including vehicles crashworthiness and biomechanics injury mechanisms;
- 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 Commission
Australian Research Council
Dementia Collaborative Research Centre
Department of Defence
National Health & Medical Research Council
National Heavy Vehicle Regulator
National Transport Commission

NSW Government
Motor Accidents Authority of NSW
NSW Roads & Maritime Services
Transport for NSW
WorkCover Authority of NSW
Other State and Territory Government
ACT Department of Justice and Community Safety
Motor Accident Commission SA
Office of Road Safety WA
Roads Corporation of Victoria (VicRoads)
Transport Accident Commission Victoria

Industry
ARRB Group
Australian Automobile Association
AustRoads Ltd
BHP Billiton Limited
Day of Difference Foundation
NRMA - ACT Road Safety Trust
NRMA Limited
Telethon Institute for Child Health Research
Transport Certification Australia Ltd
Trent Driving School
Youthsafe
Zurich Financial Services Australia

International
Accident Compensation Corporation NZ
Center for Injury Research
George Washington University
Korea Automobile Testing & Research Institute
Medical College of Wisconsin
Transit New Zealand
University of Bolton
Virginia Tech Transportation Institute

Australian Universities
Monash University
Queensland University of Technology
University of Adelaide
University of Queensland
University of Sydney
University of the Sunshine Coast
Prizes and Awards

Alan Welford Award of the Human Factors & Ergonomics Society of Australia
Rebecca Mitchell, Ann Williamson, Brett Molesworth & Amy Chung received the Alan Welford Award 2014 for the best peer reviewed paper on a human factors and ergonomics topic published in the previous calendar year:


The Award was presented at the Human Factors & Ergonomics Society of Australia Annual Conference, Adelaide 2014.

Special Acknowledgement of Outstanding Achievement in Road Safety
On Wednesday, 12 November, 2014, two TARS researchers, Prof Raphael Grzebieta and Ms Lori Mooren, received special acknowledgement of their outstanding achievements in road safety by the Governor General, Sir Peter Cosgrove, at the Annual Awards Ceremony organised by the Australasian College of Road Safety (ACRS).

Photo:
Bottom left to right – Mr Lachlan McIntosh, Prof Mary Sheehan, His Excellency Sir Peter Cosgrove, Prof Narelle Haworth, Ms Lori Mooren. Top left to right – Prof Mark Stevenson, Mr David Healy, Prof Barry Watson, Mr Iain Cameron, Prof Raphael Grzebieta.

Acknowledgement:
Photo courtesy of Australasian Colleague of Road Safety.
## Researcher Profiles

### Areas of Expertise

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**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 focusing on crashworthiness. He has 28 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 motorcyclists impacting roadside barriers, installation of wire-rope barrier systems, roadside barrier crashworthiness, rollover crashworthiness, heavy vehicle safety, bicycle and cycling infrastructure safety, motorcycle safety and occupant crashworthiness.

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, and is currently the 25<sup>th</sup> President of the Human Factors and Ergonomics Society of Australia.

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’ of 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 Rebecca Mitchell - Senior Research Fellow: is a psychologist and injury epidemiologist and has extensive experience in analysing large injury-related data collections and linked data collections to investigate the burden of injury. Her primary research interests include injury surveillance methods, data quality, evaluative tool development, trauma services research, and epidemiological and evaluation studies. She has a strong history of conducting research that has been used to inform public health policy and health service and injury prevention practice.

Dr Mike Bambach - Senior Research Fellow: has a PhD in Engineering and has substantial experience with regard to vehicle rollover crashes, motorcyclist impacts into roadside infrastructure, injury biomechanics and deformation of vehicle structures in collisions. He has recently also gained considerable experience in the ‘Health data and epidemiology’ stream, particularly with regard to the linking and epidemiological analyses of large administrative databases.

Dr Soufiane Boufous - Postdoctoral 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 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 expertise across a range of methodological approaches for understanding road users (broad scale surveys, dataset analyses, and laboratory and workplace studies).
Dr Joanna Wang - Research Fellow: received her PhD in Statistics on robust statistical analysis of time series using heavy-tailed distributions via Bayesian computation methods and scale mixture density representation. Dr Wang has worked on analysis of health/injury data using various regression and structural time series models. Her current research focuses on the evaluation of mandatory cycling helmet laws in Australia and overseas and on developing a general statistical framework for evaluating the effect of road safety policy intervention on outcomes such as injury rates using dedicated statistical models.

Ms Lori Mooren - Senior Research Fellow: Lori has been working in road safety for 25 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 has established a research program that aims to develop and test safety management systems and interventions to improve work related road safety, particularly in heavy vehicle transport operations.

Adjunct Appointees

Prof Soames Job: Soames 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. Soames 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 and success in road safety research and evaluation, teaching, group leadership, and mass media messaging for behaviour change.

Prof Anne-Marie Feyer BA (Hons) PhD GAICD:
Dr Feyer is a national and internationally renowned expert on public health and occupational health and safety policy. Until 2010, Dr Feyer was as a senior partner at PricewaterhouseCoopers (PwC) where she established the Firm’s National Health Advisory Practice. She was appointed to the Board of PwC’s Global Health Research Institute and established PwC as a leading advisor in the health, disability and compensation arena. Prior to joining PwC in 2001, Dr Feyer held academic appointments in both Australia and New Zealand. In her last academic post, she was Director and Professorial Research Fellow of the New Zealand Environmental and Occupational Health Research Centre at the University of Otago, Dunedin, which she established. This Centre was the first centre of excellence in research in environmental and occupational health in New Zealand.
**Prof Bruce Simons-Morton:** Dr Simons-Morton is both Associate Director for Prevention as well as Chief of the Health Behavior 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.

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**Performance Targets and Achievements**

**Publications**
During 2014 TARS Research continued to achieve strong growth in peer-reviewed publications with further increases over previous years. A complete list of all research outputs is contained in Appendix F.

**Research Income**
During 2014 TARS experienced on-going success in attracting research income from a variety of sources. A more detailed list of projects is provided in Appendix D.
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 Series
TARS Research undertakes an active role in research dissemination and facilitating the translation of research into policy and practice. Our Seminar Series (Appendix E) brings together stakeholder and experts – both Australian and international – to ensure UNSW Australia remains an influential leader in the field.

Invited Lectures and Presentations
5. **Mooren L.** (2014) *The cost burden of work related road crashes*. Zurich Customer Event - Transportation - True Cost of Human Risk
Workshops and Keynote Presentations

Submissions and Contributions to Policy Development

Conference Sponsorship

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 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 true extent of how far our media presence extends.

Table 1: Summary of various engagements with print, radio, TV and other media during 2014.

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<td><strong>Total</strong></td>
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Appendix A - Staff and Student List

Academic Staff
Prof Ann Williamson, Director, NHMRC Senior Research Fellow (0.8 FTE)
Prof Raphael Grzebieta, Professor of Road Safety (1.0 FTE)
Prof Mike Regan, Professor (0.5 FTE)
A/Prof Teresa Senserrick, Deputy Vice-Chancellor (Research) Fellow (1.0 FTE)
Dr Julie Hatfield, Senior Research Fellow (1.0 FTE)
Dr Rebecca Mitchell, Senior Research Fellow (0.8 FTE)
Ms Lori Mooren, Senior Research Fellow (1.0 FTE)
Dr Mike Bambach, Senior Research Fellow (1.0 FTE)
Dr Rena Friswell, Research Fellow (1.0 FTE)
Dr Soufiane Boufous, Postdoctoral Research Fellow (1.0 FTE)
Dr Mario Mongiardini, Postdoctoral Research Fellow (1.0 FTE)
Dr Joanna Wang, Research Fellow / Biostatistician (0.55 FTE)

Professional Staff
Mr Jan Eusebio, Senior Technical Officer (1.0FTE)
Mr Nick Pappas, Research Business Manager (0.8FTE)
Ms Sussan Su, Finance Manager (1.0 FTE)

Adjunct Appointments
Dr Anne-Marie Feyer, Adjunct Professor
Dr Soames Job, Adjunct Professor
Dr George Rechnitzer, Adjunct A/Professor
Dr Bruce Simons-Morton, Adjunct Professor

Research Assistants
Casey Aladic
Amael Arguel
Amy Chung
Stefan Goldfinch
Jacob Laidler
Praneel Maharaj
David Pan
Declan Patton
Nicole Pesa
Ngoc Bich Pham
Kristina Talcevska
Lily Truong
Lucy Wang
WuYi Zheng
Rainer Zeller

Postgraduate Students
Mr Thomas Bayley
Ms Amy Chung
Mr David Hicks
Ms Nurul Ikmar Ibrahim
Mr Faisal Magableh
Mr Garrett Mattos
Ms Lori Mooren
Ms Nikki Olsen
Mr Declan Patton
Mr Mat Petrenko
Ms Louise Raggett
Ms Louise Shaw
Ms Vivien Shi
Mr Tana Tan
Ms Kim Thai
Appendix B - External Appointments

Memberships of Professional Bodies and External Committees

Prof Ann Williamson
Industry Member, Road Safety Remuneration Tribunal, Fair Work Australia
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 Committee ANB20

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 National 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)
Prof Mike Regan
Australian Representative, International Organisation for Standardisation (ISO) Technical Committee 22, Sub-Committee 13 (“Ergonomics as Applicable to Road Vehicles”)
Chair, Board of Directors, Human Factors and Ergonomics Society of Australia
Member, Australian Organising Committee for the 2015 Triennial Congress of the International Ergonomics Association
Member, ITS Australia National Awards Committee
Member, Standards Australia Technical Committee IT23 (“Transport Information and Control Systems”)
Member, Standards Australia Technical Committee SF 21 (“Human Factors”)
Member, US Association for the Advancement of Automotive Medicine Expert Panel on Distracted Driving
President Human Factors and Ergonomics Society of Australia

A/Prof Teresa Senserrick
Deputy Chair, NSW (Sydney) Chapter, Australasian College of Road Safety
Inaugural Member, Young Driver Subcommittee, US Transportation Research Board Committee on Operator Education and Regulation, National Research Council/National Academies of Science
Member, Australian Injury Prevention Network
Member, Committee on Operator Education and Regulation, US Transportation Research Board, National Research Council/National Academies of Science
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 Policy Committee, US Association for the Advancement of Automotive Medicine

Dr Julie Hatfield
Member, Australasian College of Road Safety National Executive Committee
Member, Standards Australia Committee CS-110 Bicycles

Dr Rebecca Mitchell
Member, NSW Product Safety Committee
Researcher representative, National Data Management Framework Mortality Data Management working group
Member, International Population Data Linkage Network: Research Methodologies working group
Member, International Population Data Linkage Network: Privacy, Ethics, Governance and Legislation working group
Member, International Population Data Linkage Network: Cross-country comparative studies working group
Member, Steering Group for the Australian and New Zealand Hip Fracture Registry
Ms Lori Mooren
Co-chair, Alternative Compliance Subcommittee, Transportation Research Board
Co-chair, Global Road Safety Subcommittee, Transportation Research Board
Director, International Safe System Institute for Road Safety
Fellow, Australasian College of Road Safety
Member, Steering Committee, Occupational Safety in Transport Conference, October, 2014, Gold Coast
Member, Truck & Bus Safety Committee, Transportation Research Board
Member, United Nations Road Safety Collaboration

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 Joanna Wang
Council Member, Statistical Society of Australia

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

Prof Raphael Grzebieta
Executive Board Member International Safe Systems Institute for Road Safety (2012 to present)

Prof Mike Regan
Member, Advisory Group, European HUMANIST Association
Member, International Advisory Committee, European Commission UDRIVE Project (Europe’s first large-scale naturalistic driving study)
Member, USA-EU Bilateral Expert Group on Cognitive Load
Member, USA-EU Bilateral Expert Group on Driver Distraction

A/Prof Teresa Senserrick
Inaugural Member, Advisory Council, Road Safety Education, Australasia
Dr Rebecca Mitchell
International Advisory Board member, 1st Asian Conference on Ergonomics and Design, 21-24 May 2014, Jeju, Korea

Ms 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

Prof Raphael Grzebieta
Member Editorial Board, Journal of Bridge Engineering
Member of Editorial Board, Australian Journal of Structural Engineering
Member of Editorial Board, International Journal of Structural Crashworthiness
Member of Editorial Board, Journal of Transportation Safety & Security
Member of Editorial Board, The Electronic Journal of Structural Engineering
Peer-Review Editor in Chief, Journal of the Australasian College of Road Safety

Prof Mike Regan
Member, Editorial Board, Ergonomics Australia
Member, Editorial Board, European Transport Research Review
Member, Editorial Board, Human Factors
Member, Editorial Board, IET Intelligent Transport Systems
Member, Editorial Board, Journal of the Australasian College of Road Safety

A/Prof Teresa Senserrick
Associate Editor, BMC Public Health

Dr Rebecca Mitchell
Editor, Ergonomics Australia
Member, Editorial Board, International Journal of Injury Control and Safety Promotion
Appendix C - Postgraduate Students

Postgraduate Research Projects

Mr Thomas Bayley
Project: Improving road side barriers for heavy vehicle road safety
Supervisor: Prof Raphael Grzebieta

Ms Amy Chung
Project: The scientist-practitioner gap and barriers to research application in human factors/ergonomics.
Supervisor: Prof Ann Williamson

Mr David Hicks
Project: Assessing the suitability of quad bikes for the farming environment.
Supervisor: Prof Raphael Grzebieta

Ms Nurul Ikhmar Ibrahim
Project: Use of Voice Control of Mobile Phone Functions to Reduce Driver Distraction
Supervisor: Prof Mike Regan

Mr Faisal Magableh
Project: Investigation of road safety culture challenges facing Middle Eastern countries
Supervisor: Prof Raphael Grzebieta

Mr Garrett Mattos
Project: Rollover crashworthiness
Supervisor: Prof Raphael Grzebieta

Ms Lori Mooren
Project: Safety management system for heavy vehicle transport.
Supervisor: Prof Ann Williamson

Ms Nikki Olsen
Project: Developing and implementing assessment tools for the defence aviation hazard reporting and tracking systems.
Supervisor: Prof Ann Williamson

Mr Declan Patton
Project: The biomechanical determinants of sports-related concussion: Finite element simulations of unhelmeted head impacts to evaluate kinematic and tissue-level predictors of injury and investigate the design implications for soft-shell headgear
Supervisor: Prof Raphael Grzebieta

Mr Mathew Petrenko
Project: Influence of culture on pilot training
Supervisor: Prof Ann Williamson

Ms Louise Raggett
Supervisor: Prof Ann Williamson

Ms Louise Shaw
Project: An application of the safe system approach to cycling safety: A cohort study of NSW cyclists.
Supervisor: Dr Julie Hatfield

Ms Vivien Shi
Project: Built environment characteristics and child pedestrian safety around schools
Supervisor: A/Prof Teresa Senserrick

Mr Tana Tan
Project: Assessing the biofidelity of current anthropomorphic test devices in predicting head, thoracic and spinal injuries in rollover accidents.
Supervisor: Prof Raphael Grzebieta

Ms Kim Thai
Project: Biomechanics of helmet performance
Supervisor: Dr Mike Bambach
## Appendix D - Research Grants and Funding

### Projects under Management

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<tr>
<th>Project Start Date</th>
<th>TARS Investigator(s)</th>
<th>Project Title / Collaborators</th>
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| 2008               | Grzebieta, R, Friswell, R | **Motorcycle crashes into roadside and median crash barriers**  
Australian Automobile Association  
Motor Accidents Authority of NSW  
Office of Road Safety  
Transit New Zealand  
Transport for NSW |
| 2009               | Williamson, A | **The relationship between fatigue, sleepiness and crash risk while driving**  
National Health & Medical Research Council |
| 2010               | Grzebieta, R, Job, S, Williamson, A | **Safety Management System for Heavy Vehicle Transport**  
Australian Research Council  
Motor Accidents Authority of NSW  
National Transport Commission  
Transport Certification Australia Ltd  
Transport for NSW  
Zurich Financial Services Australia |
| 2010               | Hatfield, J | **Road crash injuries - cost and prevention - Employing information collected during crash investigations to address several road safety issues**  
AustRoads Ltd |
| 2010               | Williamson, A | **Senior Research Fellowship**  
National Health & Medical Research Council |
| 2010               | Williamson, A | **It's only human: Understanding why errors occur in skilled behaviour**  
Australian Research Council |
| 2011               | Hatfield, J, Job, S, Williamson, A | **Preventing injuries in crashes involving young drivers: Development and evaluation of impulse control training**  
Australian Research Council  
Transport for NSW  
Trent Driving School  
Youthsafe |
| 2011               | Hatfield, J | **The provision of research evaluation services for the novice driver program trial**  
Monash University |
<table>
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<tr>
<td>2011</td>
<td>Grzebieta, R</td>
<td>Dynamic Rollover Occupant Protection: evaluation and regulation</td>
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<td>2012</td>
<td>Grzebieta, R</td>
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<td>Australian Competition &amp; Consumer Commission</td>
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<td>2012</td>
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<td>Burden &amp; cost of the injury- attributable health care use and mortality in Australia.</td>
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<td>Examining road traffic casualties through data linkage project.</td>
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<td>Falls risk associated with cataract and after first and second eye cataract surgery.</td>
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<td>Development of an evaluation framework for a Pilot of the Risk Classification System with an outer limit of 15.5 hours</td>
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<td>Bambach, M</td>
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<td>2013</td>
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<td>Mitchell, R</td>
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| 2013 | Mitchell, R    | Trauma Journey Research Project  
University of Sydney  
Day of Difference Foundation  |
| 2013 | Hatfield, J    | Helping ACT kids to cycle safely: Evaluation of the Safe Cycle  
NRMA - ACT Road Safety Trust  |
| 2013 | Regan, MA, Grzebieta, R, Williamson, A | Integrated Facility for Recording Driver and Road User Behaviour  
Australian Research Council  
Monash University  
Motor Accident Commission SA  
Office of Road Safety  
Queensland University of Technology  
Transport Accident Commission Victoria  
Transport for NSW  
University of Adelaide  
University of New South Wales  
VicRoads  |
Transport for NSW  |
| 2014 | Friswell, R, Boufous, S, Williamson, A | Evaluation of the Smart Rest Area Trial  
Transport for NSW  |
| 2014 | Mitchell, R    | Improving Health Outcomes in Children Suffering Major Injury  
University of Sydney  
National Health & Medical Research Council  |
| 2014 | Mitchell, R    | Transitions between home, hospital and residential aged care following an injury related hospitalisation for people with and without dementia.  
Dementia Collaborative Research Centre  |
| 2014 | Mitchell, R, Senserrick, T | Best Practice technologies for training novice pilots and drivers  
University of New South Wales  |
| 2014 | Mooren, L      | NRSPP Online Benchmarking Tool Consultancy  
ARRB Group  |
| 2014 | Williamson, A, Bambach, M, Grzebieta, R | ACT Road Safety Camera Program Evaluation  
ACT Department of Justice and Community Safety  |
| 2014 | Williamson, A  | Fatigue and Electronic Work Diary Enforcement  
National Transport Commission  |
| 2014 | Regan, MA      | Dr Marco Dozza, Chalmers University of Technology in Gothenburg, Sweden  
University of New South Wales  |
<table>
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<tr>
<th>Project Start Date</th>
<th>TARS Investigator(s)</th>
<th>Project Title / Collaborators</th>
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<tr>
<td>2014</td>
<td>Regan, MA&lt;br&gt;Grzebieta, R&lt;br&gt;Senserrick, T&lt;br&gt;Williamson, A</td>
<td>The Australian Naturalistic Driving Study: Innovation in Road Safety Research and Policy&lt;br&gt;Australian Research Council&lt;br NRMA Limited&lt;br&gt;Transport Accident Commission Victoria&lt;br&gt;Transport for NSW&lt;br&gt;VicRoads</td>
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<td>2014</td>
<td>Senserrick, T&lt;br&gt;Regan, MA&lt;br&gt;Williamson, A</td>
<td>Development of a compulsory curriculum for pre-learner motorcyclists&lt;br&gt;VicRoads</td>
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<td>2014</td>
<td>Senserrick, T&lt;br&gt;Williamson, A</td>
<td>Development of Victoria’s new motorcycle learner permit and licence tests&lt;br&gt;VicRoads</td>
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<td>2014</td>
<td>Senserrick, T&lt;br&gt;Boufous, S</td>
<td>Evaluating RRISK: establishing the evidence base for a novel education program to reduce young driver and passenger road crash involvement&lt;br&gt;University of New South Wales</td>
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Appendix E - TARS Seminar Series

Bicycle Safety: Naturalistic Cycling Studies in Europe
Speaker: Dr Marco Dozza
Date: 29 January 14

Biography
Marco Dozza is an Assistant Professor at Chalmers University of Technology in Gothenburg, Sweden. He earned his PhD in Bioengineering from the University of Bologna, Italy, in collaboration with Oregon Health & Science University, Portland OR, USA. After graduation, Dr Dozza worked as a System Developer at Volvo Technology, in Sweden. Since 2010, he has worked with the Accident Prevention Group at Chalmers University and his research interests focus on planning and analysing data from naturalistic driving and cycling studies and on field operational testing of advanced driver assistance systems. Dr Dozza is currently working on several national and international projects including the SHRP2 naturalistic driving study (involving around 3,000 vehicles) and Swedish studies on cycling safety using instrumented bicycles. He has published widely, teaches in the Master program for Automotive Engineering at Chalmers, and is in Australia as a Visiting Fellow with TARS Research at UNSW Australia.

Abstract
In 2011, there were 35 cyclist fatalities in Australia, 677 in the US and 2092 in Europe. In Europe, bicycle safety is a growing concern, as the number of cyclists increases and electrical bicycles become increasingly popular. Nevertheless, cycling safety is poorly investigated and little is known from accident databases about cyclist behaviour and bicycle accident causation. This seminar will focus on pioneering naturalistic cycling studies, involving bicycles instrumented with sophisticated technologies that monitor cyclists while they are attending to their daily routines in order to better understand normal cycling and what threatens cyclists’ safety. Using instrumented (conventional and electrical) bicycles, several studies are ongoing in Europe to collect naturalistic cycling data. These new data promise cutting-edge insights into cyclist behaviour and may offer the basis for the development of intelligent cooperative systems. These developments are discussed, and the potential of naturalistic cycling data to be combined with other road safety data in order to explain accident causation will also be considered.

Acknowledgements
This seminar was conducted in conjunction with the UNSW School of Aviation and Australasian College of Road Safety. Dr Marco Dozza’s participation was facilitated by the UNSW Faculty of Science Visiting Research Fellowship scheme.

Naturalistic driving and flying studies: Using Instrumented Cars and Planes to Record Driver and Pilot Behaviour in Normal and Safety-Critical Situations
Speaker: Professor Michael Regan
Date: 28 May 2014

Acknowledgements
This seminar was organised and hosted by the UNSW School of Aviation.
The combined effects of alcohol and sleep loss on cognition and simulated driving performance

Speaker: Mr Ivan Lee
Date: 30 June 2014

Biography
Ivan is a M.Soc.Sci (Psychology) student at the National University of Singapore (NUS), and a research assistant in the Chronobiology and Sleep Laboratory (CSL) in Duke-NUS Graduate Medical School, Singapore. His main research interests are in the effects of sleep loss on cognitive and behavioural abilities. He is also interested in assessing the physiologic outcomes of sleep deprivation as well as fatigue risk management.

Abstract
Both sleep loss and alcohol consumption have been shown to impair driving ability and cognitive performance. It has been suggested that when sleep loss is combined with drinking, performance deficits are much greater than in either factor considered alone. Given that alcohol consumption and partial sleep deprivation are commonly combined, especially in younger drivers, it is important to investigate these effects of behaviour on the risk for driving lapses and attentional failure.

This study is the first to systematically examine the interaction of alcohol and sleep loss on driving performance, cognition, and fatigue, using an alcohol clamp, a unique and reliable method in maintaining one at a constant blood alcohol level across an extended period of time.

An Update on Road Safety Research Activities in Europe

Speakers: Professor Andrew Morris and Dr Nicole van Nes
Date: 31 July 2014

Biography Speaker 1
Andrew Morris is Professor of Human Factors in Transport Safety within the University of Loughborough Design School, in the UK. Andrew has 25 years' experience in the field of road transportation safety, vehicle safety, accident investigation, crash-injury and driver behaviour research having worked previously on the UK’s Co-operative Crash Injury (CCIS) and On-the-Spot (OTS) studies. More recently, he has worked as project leader within large European consortiums on behalf of the European Commission on major road safety initiatives including the SafetyNet, PENDANT and DaCoTA projects. Andrew is also Director of Internationalisation for the Loughborough Design School.

Abstract
Andrew’s presentation will describe progress in road safety in the UK over the past 25 years and stress how, given that accidents are an inevitable artefact of the road transport system, the emphasis has changed from prevention of injuries to that of prevention of accidents altogether - and how knowledge from in-depth accident investigations has contributed to this change of approach.

Biography Speaker 2
Dr Nicole van Nes is a Senior Researcher at the Dutch National Road Safety Research Institute, SWOV, in the Netherlands. She holds an MSc degree in Industrial Design Engineering from Delft University of Technology and a PhD in Social Sciences. She has an academic background in
technology and behavioural sciences, specialising in the interplay between technology and behaviour and how to stimulate the desired behaviour by design. Nicole has been actively involved in several European Naturalistic Driving Study (NDS) initiatives co-funded by the European Commission, including the INTERACTION, DaCoTA and PROLOGUE projects.

Abstract
Currently, Dr van Nes is the coordinator of the EC-funded, trans-European, large-scale European Naturalistic Driving Study (UDRIVE; 10M€). Her presentation will provide an overview of the project and how it is expected to support future road safety improvements in Europe.

Acknowledgements
This seminar was conducted in conjunction with the UNSW School of Aviation and Australasian College of Road Safety.

Appendix F - Academic Publications and Presentations

Books and Chapters
Journal Articles


33. **Mooren, L., Williamson, A., Friswell, R., Olivier, J., Grzebieta, R., & Magableh, F.** (2014). What are the differences in management characteristics of heavy vehicle operators with high insurance claims versus low insurance claims?. *Safety Science, 70*, 327-338. doi:10.1016/j.ssci.2014.07.007


**Conference Papers, Abstracts and Presentations**


**Reports**


2. **Hatfield, J., Boufous, S., & Grzebieta, R.** (2014). *Pedestrian and cyclist safety on shared paths: Observational field study and user survey*.


Theses

