UNSW AUSTRALIA

# Annual Report 2015

Transport and Road Safety Research Centre

Never Stand Still | UNSW Science | School of Aviation

# 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

T: +61 2 9385 5774 | F: +61 2 9385 6040 | E: tars@unsw.edu.au | W: www.tars.unsw.edu.au

# Table of Contents

**Director's Report** ..... **3**

**About the Centre** ..... **5**
- Who We Are ..... 5
- Background ..... 5
- Governance & Reporting ..... 5
- Skills and Expertise ..... 5
- Strategic Directions ..... 6

**Our Research** ..... **7**
- Overview ..... 7
- Research Resources ..... 7
- Collaborating Organisations ..... 7
- Prizes and Awards ..... 9

**Researcher Profiles** ..... **10**
- Areas of Leadership and Expertise ..... 10
- Academic Staff ..... 11
- Adjunct Appointees ..... 14

**Performance Targets and Achievements** ..... **15**
- Publications ..... 15
- Research Income ..... 15

**Engagement and Impact** ..... **16**
- Research Dissemination ..... 16
- Australian NDS Launch ..... 16
- Seminar and Workshop Series ..... 19
- Invited Lectures and Presentations ..... 19
- Submissions and Contributions to Policy Development ..... 20
- Conference Sponsorship ..... 21
- Media Profile and Engagement ..... 21

**Appendix A - Staff and Student List** ..... **22**
**Appendix B - External Appointments** ..... **23**
**Appendix C - Postgraduate Students** ..... **27**
**Appendix D - Research Grants and Funding** ..... **29**
**Appendix E - TARS Seminar and Workshop Series** ..... **32**
**Appendix F - Academic Publications and Presentations** ..... **32**

**Acknowledgments**

**Front cover artwork:** Based on a design developed by Jodi Lawton, Lawton Design Pty Ltd.
**Back cover photos:** Courtesy of the Australian Naturalistic Driving Study Consortium.

# Director's Report

2015 was another excellent year for TARS Research with important research projects for road safety authorities being completed and new, internationally important research projects commencing. The major highlights include production of the final report on our project on Quad bike safety for SafeWork NSW. Unfortunately, Quad bikes have a disturbingly poor safety record of rollovers and fatalities including for very young users of these forms of transport. This innovative project has helped us to understand more about why these injuries occur and has produced a safety rating system for quad bikes and side-by-side terrain vehicles that, for the first time, provides information to the purchasers and users of such vehicles for the workplace. The results of this project are contributing to changing the debate on quad bike and all-terrain vehicle safety internationally.

Another major highlight was the final report for our project on the Safety Camera Program in the ACT for the ACT government. This project showed a 6%-8% fall in speed that coincided with a 25% to 30% reduction in serious injury crashes on streets where cameras were present over the first few years of the program. The TARS research team found that the effect dissipated over time for reasons that are not entirely clear, but probably include reductions in enforcement of speeding infringements and reductions in public awareness of the program. This project reinforces the effectiveness of speed cameras especially mobile cameras for reducing speeding and importantly, it also suggested important directions for future action to strengthen and expand the benefits of programs using camera technologies.

One of the exciting developments of the year was the launch of the Australian Naturalistic Driving Study (ANDS). This project is the first of its kind in Australia and will involve collecting information on real-life driving behaviour of ordinary drivers over an extended period. The innovation in this project is that it gives us insights into what drivers normally do. How often and under what conditions do they take their driving to safety boundaries, such as exceed the speed limits, drive for very long periods without a break, take a corner a bit too fast, or take their eyes of the road for more than a few seconds? When these boundaries are approached or exceeded, why do drivers not crash? The other exciting aspect of this study is that it brings together four Australian universities as well as an American university which has experience in doing naturalistic driving studies as well as industry partners including government road safety authorities in five jurisdictions of Australia. TARS Research is leading the project and the ANDS team are very excited at the prospects that the results will present to change the way we think about road safety through changing the focus from reducing the impact of crashes to developing more creative ways of preventing them.

This year, TARS Research formally became a Centre of the University of New South Wales following a very favourable university review of our activities. While this addition to our name does not change what we do, it brings with it some more formal administrative structures. We now have a Steering Committee which is chaired by the Associate Dean Research for the Science Faculty, Prof Chris Tinney and includes the Faculty Finance Manager, Urania Stamios as a member. We are also very lucky to have Prof Richard Mattick from the National Drug and Alcohol Research Centre as an independent research representative. Richard has immense experience of running research centres in a related area and his wise counsel is very much appreciated. In addition, we will establish a Research Advisory Committee to assist us in shaping our research strategy and program.

This year we said farewell to three members of staff:  Dr Rebecca Mitchell, Dr Mike Bambach and Dr Joanna Wang, all of whom moved on to the challenges of research and teaching positions at other Sydney Universities. All had been at TARS Research for a number of years and while we will miss them, we will continue our collaborations.

Last, but certainly not least, TARS Research has continued with our community engagement and global outreach activities.  As can be seen in this Annual report, we have contributed to government inquiries on road safety on a wide range of activities.  TARS Researchers make a contribution to exceptionally broad range of road safety authorities, other government departments, industry and professional bodies both domestically as well as internationally. These outreach activities are an essential component of our work as they ensure that the results of our research and that of others is relevant and has influence in decision-making on road safety and on policy and practice to attempt to safeguard both Australians and other country's citizens in all transport activities.

**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 (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 Centres Procedure: Establishment, Management and Review of Centres and Institutes, a Steering Committee was established and met for the first time on the 24th of July, 2015. The TARS Steering Committee consists as follows with the Secretariat function provided by the Research Business Manager, TARS Research Centre:

- 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

## 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**
  - 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**
  - 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
  - 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 Research Council

Australian Transport Safety Bureau

Department of Defence

Department of Education and Training

National Health & Medical Research Council

National Transport Commission

**NSW Government**

Motor Accidents Authority of NSW

State Insurance Regulatory Authority (SIRA)

Transport for NSW

WorkCover Authority of NSW

**Other State and Territory Government**

ACT Health
Austroads Ltd
Department of State Growth (Tasmania)
Department of Transport and Main Roads (Queensland)
Main Roads Western Australia
Motor Accident Commission SA
Road Safety Commission (WA)
Transport Accident Commission Victoria
VicRoads

**Industry**

Australian Automobile Association
BHP Billiton Limited
KND Consulting Pty Ltd
LdeR Consulting
Learning Systems Analysis
NRMA Limited
NRMA/ACT Road Safety Trust
Seeing Machines
Transport Certification Australia Ltd
Trent Driving School
Youthsafe
Zurich Financial Services Australia

**International**

Accident Compensation Corporation NZ
Center for Injury Research (USA)
George Washington University
Korea Automobile Testing & Research Institute (KATRI)
Medical College of Wisconsin
New Zealand Ministry of Health
New Zealand Transport Agency
University of Bolton
Virginia Tech Transportation Institute

**Australian Universities**

Monash University
Queensland University of Technology
University of Adelaide
University of Sydney

## Prizes and Awards

### Fellow of the Royal Society of New South Wales

Prof Ann Williamson was elected Fellow on the 2nd of September, 2015.

The category of Fellow recognises the substantial contribution made by residents of NSW who are leaders in their fields within the disciplines of science, art, literature and philosophy.

### NSW SafeWork Certificate of Appreciation

On behalf of the Centre, TARS researcher Lori Mooren accepted a Certificate of Appreciation from SafeWork NSW for assisting the agency in the development of a program to address safety in the road-freight transport industry.

The road freight transport industry is one of the highest risk industries both nationally and in New South Wales (NSW) because of the high number and rate of injury and /or fatality. WorkCover NSW (now SafeWork NSW) invited Lori Mooren from TARS, and other leading stakeholders in the road freight industry to take part in the development of a program to address safety.

In May 2013 as part of its Focus on Industry Program, WorkCover NSW launched the Road Freight Transport Industry Action Plan 2013 (the Plan) to address this issue. This Plan targets short and long distance and bulk freight sub-sectors of the industry with interventions designed to reduce fatalities, major claims, and musculoskeletal disorders.

SafeWork NSW team members worked with TARS and other industry, community and regulators to influence industry practices, achieve sustainable cost effective outcomes that aligned with the Australian Work Health and Safety Strategy 2012-2022.

From June 2013 to December 2014 the Plan targeted four key issues: onsite traffic management, manually loading/unloading trucks, driver wellness and return to work/injury management.

Solutions developed in consultation with social and regulatory partners include:

- targeted rebates
- safety coaching
- guidance material
- practical demonstrations of safety solutions
- sponsorships and driver wellness campaign
- communication/media awareness campaign using a case study approach
- an inspector visit program - providing onsite advice/ guidance, case management for high risk businesses and a follow up visit program to secure change.

TARS Research is pleased to have assisted in the development of this important initiative. The Certificate of Appreciation was awarded by Mr Peter Dunphy, Executive Director of SafeWork NSW, at a project closure event on the 29th October, 2015 at the Australian Technology Park in Sydney.

# Researcher Profiles

## Areas of Leadership and Expertise

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

**Ms Lori Mooren - Senior Research Fellow:** 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.

**Dr Garrett Mattos - Postdoctoral Research Associate**: has 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 his PhD at UNSW in which he 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 into rollover crashworthiness 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 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.

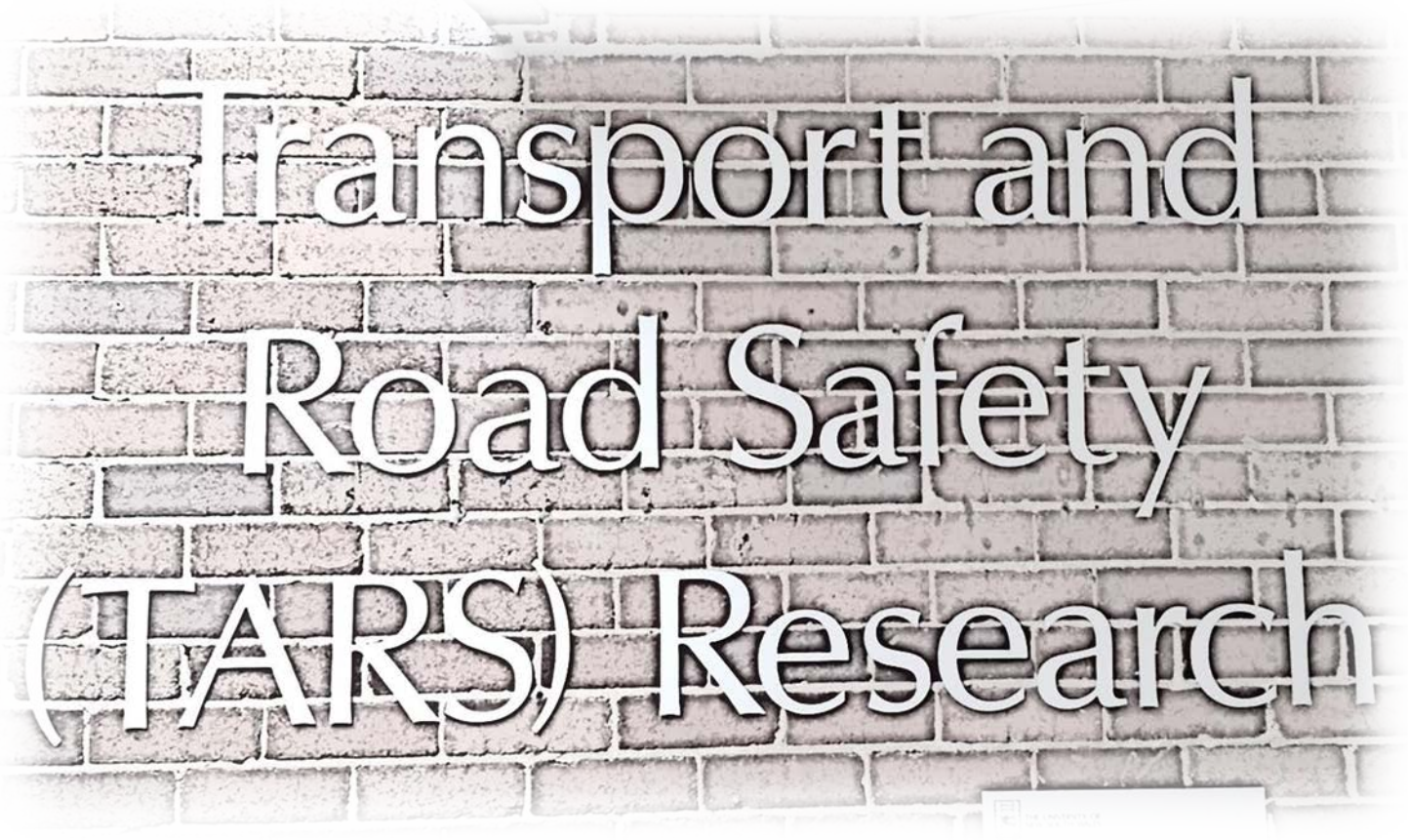
# Performance Targets and Achievements

## Publications

During 2015 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 2015 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.

## Australian NDS Launch

The launch of the Australian Naturalistic Driving Study (ANDS) was held on 21 April with attendees including Mr John Sidoti (NSW Parliamentary Secretary for Roads and Transport), Prof Ian Jacobs (Vice Chancellor, UNSW Australia) and senior representatives of most of the funding partner organisations. This aim of this project is to study everyday driving behaviour and examine how drivers react interact with normal demands of driving including interactions with other road users like pedestrians and cyclists as well as sudden and unexpected events. It is funded by Australian Research Council Linkage Infrastructure, Equipment and Facilities scheme and Linkage Project scheme grants with industry funding from six organisations with total funding of $4 million. TARS Research is the lead organisation in collaboration with four other universities including Virginia Tech Transport Institute.

**Pictured: (L-R):** John Sidoti, Hee Loong Wong (Hyundai Australia), Ann Williamson, Ian Jacobs, John Wall (NRMA Motoring & Services), Raphael Grzebieta, Evan Walker (Centre for Road Safety, Roads & Maritime Services, Transport for NSW).

*Photo: Courtesy of UNSW Media Office.*

# AUSTRALIAN NATURALISTIC DRIVING STUDY

## How is the study progressing so far?
## December 2015 status update

**2 Study Sites**

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

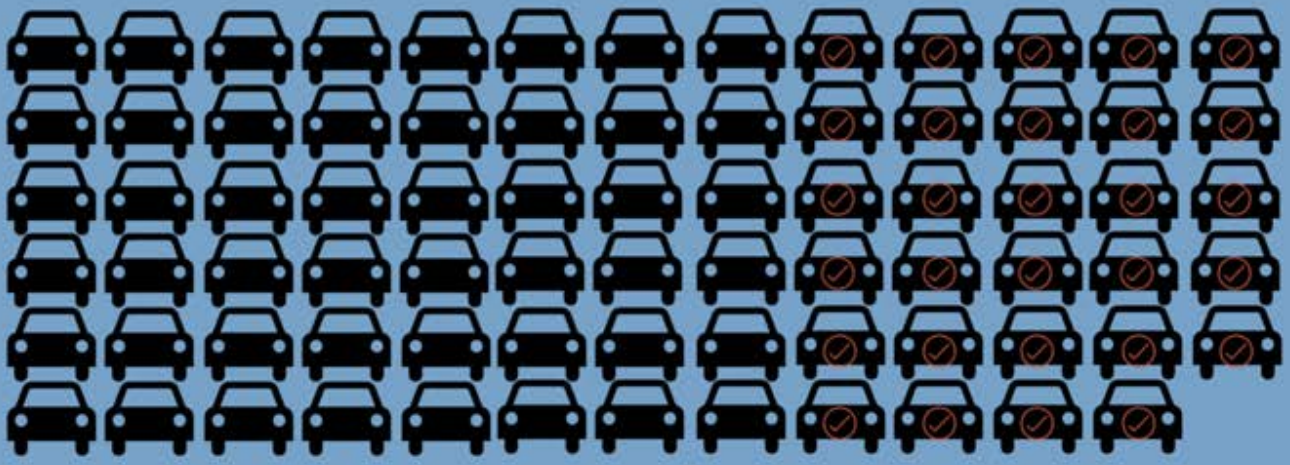
They have so far installed the ANDS hardware

-> including over 2,400 m of cables <-

in the vehicles of

**74 Participants**

45 active 29 completed



These participants have completed a total of

18.3 years of driving!

Equal to 284,199 km or 7 trips around the world

and enough data and video to fill up 1300 DVDs

We are well on our way to our goal of 360 participants and you can help us get there. If interested in participating visit:

ANDS.UNSW.EDU.AU

**ANDS**

AUSTRALIAN NATURALISTIC DRIVING STUDY

Interested? More info at

ANDS.UNSW.EDU.AU

9385-1000

## 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.

## Invited Lectures and Presentations

1. **Senserrick, T**. (2015) Human Factors Workshop: Is GDL Needed for Older Novice Drivers in the U.S.: Existing Evidence and Burning Research Questions. Transportation Research Board 94rd Annual Meeting, Washington DC, 11 January 2015.
2. **Mooren, L.** (2015) *Research History on the Relationship between Driver Compensation Levels and Safety (P15-6965).* Committee on Truck and Bus Safety (ANB70), Washington DC, 13 January, 2015.
3. **Senserrick, T**. (2015) VicRoads New Motorcycle Graduated Licensing System. Presentation to Victorian Motorcycle Training Providers. VicRoads, Kew VIC, 20 February 2015.
4. **Mooren, L.** (2015) *Research on Heavy Vehicle Safety.* Teleconference presentation to Australian Trucking Association (ATA) Safety Committee Meeting No. 2, 25 May, 2015.
5. **Williamson, A., Grzebieta, R.** (2015) *Road Safety Research at TARS.* Chalmers University of Technology, 15 June, 2015.
6. **Williamson, A.** (2015) Invited attendee at the National Road Safety Forum. Sydney, 4 August, 2015.
7. **Mooren, L.** (2015) *Safe System vehicle and fleet safety*. LeasePlan Interactive 2015, Sydney, 7 August, 2015.
8. **Williamson, A.** (2015) Systems HFE: Deciding what to tackle (first). Invited participant in a Workshop on Complex Systems and Human Factors and Ergonomic: Challenges and Opportunities. International Ergonomics Association meeting. Melbourne, 9-14 August, 2015.
9. **Mooren, L.** (2015) *Safe System vehicle and fleet safety*. LeasePlan Interactive 2015, Melbourne, 14 August, 2015.
10. **Mooren, L.** (2015) *Important safety management characteristics for truck operations*. ALC Supply Chain Safety & Compliance Summit, Sydney, 27 August, 2015.
11. **Senserrick T**. *GDL in Australia: Success introducing the first "full" model. International Symposium: Implementing a New GDL Framework*. National Safety Council (U.S.) and Traffic Injury Research Foundation (Canada), Omni Hotel, Nashville TN; 27-29 August 2015.
12. **Grzebieta, R.** (2015) *Motorcyclist impacts into roadside barriers*. Workshop of the Swedish Road Barrier Association, Jonkoping, 6 October, 2015.
13. **Senserrick, T**. (2015*) VicRoads New Motorcycle Graduated Licensing System: Pre-Learner Curriculum and Progress Report*. Presentation to Victorian Motorcycle Training Providers. Stay Upright, Hoppers Crossing VIC, 17 November 2015.
14. **Mooren, L.** (2015) *Integrating people into a safe system of work*. Gas 2015: Delivering Energy Diversity, Sydney, 26 November, 2015.
15. **Grzebieta, R.** (2015) *The Australian Quad Bike Performance Project*. Quad Bike Safety and Injury Prevention Symposium, 12th Australasian Injury Prevention and Safety Promotion Conference, Sydney, 27 November, 2015.

## Submissions and Contributions to Policy Development

1. **Williamson, A., Grzebieta, R.,** Olivier, J., **Rechnitzer, G.** (2015) *Submission to Inquiry into aspects of road safety in Australia*. APH Senate Standing Committee on Rural and Regional Affairs and Transport References Committee, 2 March 2015.

   Following our submission to Inquiry into aspects of road safety in Australia by Commonwealth Senate Standing Committee on Rural and Regional Affairs and Transport References Committee, Professors Grzebieta and Williamson were invited to make a presentation to the Senate Standing Committee in Canberra in September.
2. Ann **Williamson** and Lori **Mooren** met with a delegation of representatives of New Zealand road safety authorities on issues relating to speeding (26 May, 2015).
3. de Rome L, McRae D, **Senserrick** T, McTiernan D, Haley J, Meredith L, Williams B. (2015) *Submission to Inquiry into Motorcycle Safety in NSW*. Australasian College of Road Safety NSW (Sydney) Chapter. Joint Standing Committee on Road Safety (StaySafe), 9 September 2015.
4. Olivier, J., **Grzebieta, R., Boufous, S.** (2015) *Submission to Inquiry into Personal choice and community impacts*. APH Senate Standing Committees on Economics, 18 September, 2015.

   Prof Grzebieta, together with A/Prof Jake Olivier from the UNSW School of Mathematics and Statistics presented a submission and appeared before the Commonwealth Senate Economics Reference. This submission and presentation focused on the Mandatory Bicycle Helmet Law, in particular the efficacy of bicycle helmets in reducing brain injury in crashes.
5. **Grzebieta, R., Williamson, A.** (2015) *Submission to Inquiry into Motorcycle Safety in NSW*. Joint Standing Committee on Road Safety (StaySafe), 2 October 2015.

   We presented a submission and appeared before the NSW Parliamentary Staysafe Committee on inquiry into Motorcycle Safety (Prof Williamson and Grzebieta). A number of the points we raised were included in the final report released in late November.
6. NSW Joint Coronial inquest into deaths arising from the use of quad bikes

   Prof **Grzebieta**, Adjunct Prof **Rechnitzer** and Mr Keith **Simmons** gave evidence including a 130 page report on nine cases involving fatalities due to quad bike accidents to a NSW Joint Coronial inquest into deaths arising from the use of quad bikes'. The finding presented on 26th November drew strongly from the evidence presented by the TARS Research team.
7. Prof **Grzebieta** and Adj/Prof **Rechnitzer** held a meeting with the Indonesian Minister for Transport Ignatius Jonan on common road safety issues.
8. Prof **Grzebieta** and Adj/Prof **Rechnitzer** successfully defended the introduction of go-kart and go-kart barrier crash test requirements into the Australian Standard despite significant opposition from go-kart track owners and manufacturers. The Draft Standard on go-karts, including the requirement for testing, is about to be released.
9. Prof **Grzebieta** and Adj/Prof **Rechnitzer** successfully defended to road regulators the introduction of truck under-run barrier testing into the Australian Standard for 'Road safety barriers systems and devices'
10. In her role as part-time industry member of the Road Safety Remuneration Tribunal, Prof **Williamson** is on a Full Bench of the Tribunal currently considering a Draft Contractor Driver Minimum Payments Road Safety Remuneration Order.

## Conference Sponsorship

Inaugural 2015 Australasian Road Safety Conference (ARSC2015), Gold Coast Convention and Exhibition Centre, QLD, from 14-16 October 2015.

## 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 2** 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 2015.

| Media Category | Number |
|---|---|
| **Media Releases** | 1 |
| **Opinion Pieces** | 4 |
| **TV and Radio Interview** | 24 |
| **Print and Other Media** | 22 |
| **Total** | **51** |

# Appendix A - Staff and Student List

## Academic Staff

Prof Ann Williamson, Director, NHMRC Senior Research Fellow (0.5 FTE)

Prof Raphael Grzebieta, Professor of Road Safety (1.0 FTE)

A/Prof Teresa Senserrick, Associate Professor (1.0 FTE)

Dr Julie Hatfield, Senior Research Fellow (0.7 FTE)

Dr Mike Bambach, Senior Research Fellow (1.0 FTE)

Ms Lori Mooren, Senior Research Fellow (1.0 FTE)

Dr Soufiane Boufous, Senior Research Fellow (1.0 FTE)

Dr Mario Mongiardini, Postdoctoral Research Fellow (1.0 FTE)

Dr Rena Friswell, Research Fellow (1.0 FTE)

Dr Garrett Mattos, Postdoctoral Research Associate (1.0 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 Mike Regan, Adjunct Professor

Dr Soames Job, Adjunct Professor

Dr Bruce Simons-Morton, Adjunct Professor

Dr George Rechnitzer, Adjunct A/Professor

## Visiting Appointments

Dr Victoria Kendrick
*Endeavour Research Fellow*

Dr Elodie Labeye
*Endeavour Research Fellow*

Ms Benedetta Arosio
*Politecnico di Milano*

## Research Assistants

Ms Amy Chung

Mr David Hicks

Mr Praneel Maharaj

Mr Garrett Mattos

Mr Edgar Schilter

Mr Tana Tan

Mr Rainer Zeller

Mr WuYi Zheng

## Postgraduate Students

Mr Thomas Bayley

Ms Amy Chung

Mr David Hicks

Mr Faisal Magableh

Mr Garrett Mattos

Ms Lori Mooren

Ms Nikki Olsen

Mr Mat Petrenko

Ms Louise Raggett

Ms Louise Shaw

Mr Keith Simmons

Ms Vivien Shi

Mr Tana Tan

Ms Kim Thai

Mr Rainer Zeller

# 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 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**

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

**Ms Lori Mooren**

Co-chair, Alternative Compliance Subcommittee, US Academy of Sciences Transportation Research Board

Co-chair, Global Road Safety Subcommittee, US Academy of Sciences Transportation Research Board

Fellow, Australasian College of Road Safety

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

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

Member, United Nations Road Safety Collaboration

**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

**Prof Raphael Grzebieta**

Executive Board Member International Safe Systems Institute for Road Safety (2012-2015)

**Ms Lori Mooren**

NSW WorkCover Road Freight Transport Action Plan Partner

## Editorial Boards

**Prof Ann Williamson**

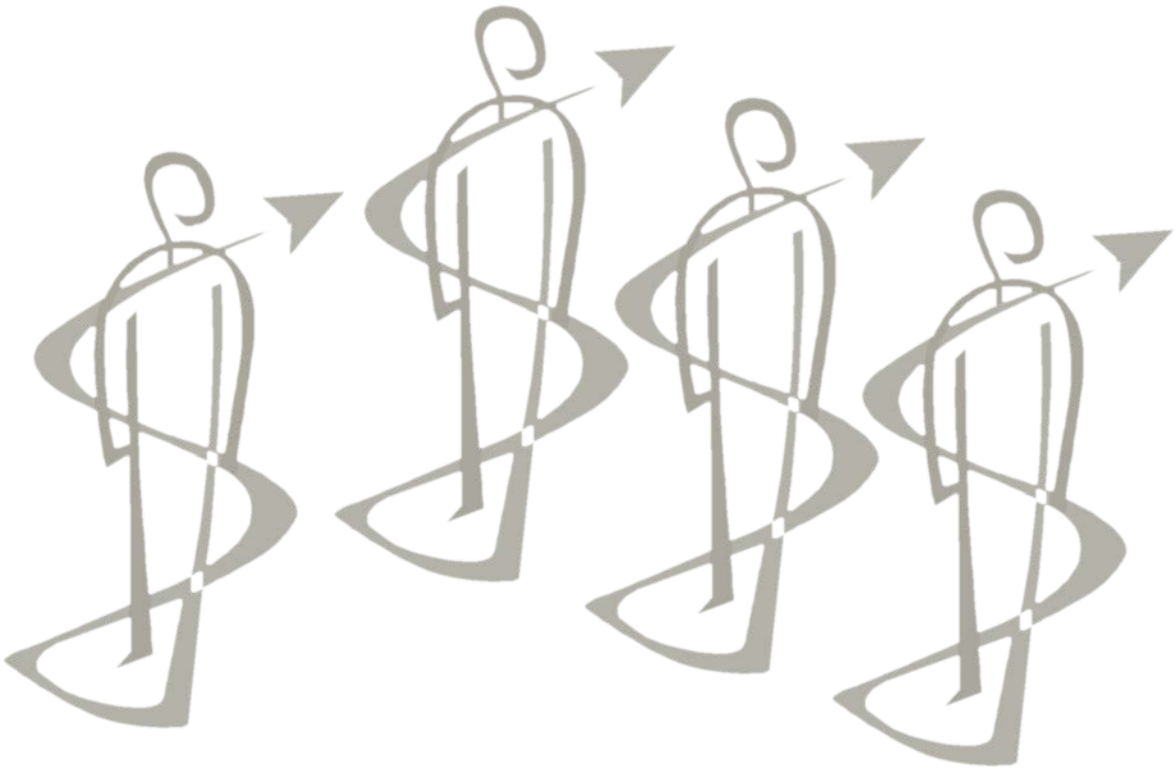
Member of Editorial Board, Aviation Psychology and Applied Human Factors
Member of Editorial Board, Ergonomics Australia
Member of Editorial Board, Journal of Safety Research
Member of Editorial Board, International Open Access Journal 'Safety'

**Prof Raphael Grzebieta**

Editor-in-Chief, International Open Access Journal '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
Peer-Review Editor in Chief, Journal of the Australasian College of Road Safety
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



# 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:** 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

**Mr Faisal Magableh**

**Project:** An investigation into human factors influencing driver behaviour and traffic law enforcement in Jordan

**Supervisor:** Prof Raphael Grzebieta

**Mr Garrett Mattos**

**Project:** Characteristics of serious head injuries in pure rollover crashes and an evaluation of their replication in a dynamic rollover test

**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 Managing Human Performance Tested in Aviation Ground Safety

**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

**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:** 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:** 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.

# Appendix D - Research Grants and Funding

## Projects under Management

(Source: InfoEd)

| Start Date | TARS Investigator(s) | Project Title / Collaborators |
|---|---|---|
| **2010** | **Grzebieta, R**<br>Williamson, A<br>Job, S | **Safety Management System for Heavy Vehicle Transport**<br><br>**Australian Research Council**<br>**Motor Accidents Authority of NSW**<br>**National Transport Commission**<br>**NSW Centre for Road Safety**<br>**Transport Certification Australia Ltd**<br>**Zurich Financial Services Australia** |
| | **Hatfield, J** | **Road crash injuries - cost and prevention - Employing information collected during crash investigations to address several road safety issues**<br>**Austroads Ltd** |
| **2011** | **Grzebieta, R**<br>Bambach, M | **Dynamic Rollover Occupant Protection (DROP): evaluation and regulation**<br>**Australian Research Council**<br>**BHP Billiton Limited**<br>**Center for Injury Research (USA)**<br>**George Washington University**<br>**Korea Automobile Testing & Research Institute (KATRI)**<br>**Medical College of Wisconsin**<br>**Monash University**<br>**NSW Centre for Road Safety**<br>**Office of Road Safety (WA)**<br>**Transport Accident Commission Victoria**<br>**University of Bolton**<br>**University of Sydney** |
| | **Hatfield, J**<br>Williamson, A | **The provision of research evaluation services for the novice driver program trial**<br>**Monash University (Administering Organisation)**<br>**VicRoads** |
| | **Hatfield, J**<br>Williamson, A<br>Job, S | **Preventing injuries in crashes involving young drivers: Development and evaluation of impulse control training**<br><br>**Australian Research Council**<br>**NSW Centre for Road Safety**<br>**Youthsafe**<br>**Trent Driving School** |
| **2012** | **Grzebieta, R** | **Performance Testing Quad Bikes**<br>**WorkCover Authority of NSW**<br>**Australian Competition & Consumer Commission**<br>**Department of Defence** |

| Start Date | TARS Investigator(s) | Project Title / Collaborators |
|---|---|---|
| **2013** | **Boufous, S** | **Falls risk associated with cataract and after first and second eye cataract surgery.**<br>**Sydney University (Administering Organisation)**<br>**National Health & Medical Research Council** |
| | **Grzebieta, R**<br>Williamson, A<br>Regan, M | **Integrated Facility for Recording Driver and Road User Behaviour**<br>**Australian Research Council**<br>**Main Roads Western Australia**<br>**Monash University**<br>**Motor Accident Commission SA**<br>**Queensland University of Technology**<br>**Transport Accident Commission Victoria**<br>**Transport for NSW**<br>**University of Adelaide**<br>**VicRoads** |
| | **Hatfield, J** | **Helping ACT kids to cycle safely: Evaluation of the Safe Cycle**<br>**NRMA/ACT Road Safety Trust** |
| **2014** | **Grzebieta, R**<br>Williamson, A<br>Senserrick, T | **The Australian Naturalistic Driving Study: Innovation in Road Safety Research and Policy**<br>**Australian Research Council**<br>**NRMA Limited**<br>**Transport Accident Commission Victoria**<br>**Transport for NSW**<br>**VicRoads**<br>**Seeing Machines** |
| | **Grzebieta, R** | **The Australian Naturalistic Driving Study: Key Research Services in NSW**<br>**Transport for NSW** |
| | **Senserrick, T**<br>Williamson, A | **Development of a compulsory curriculum for pre-learner motorcyclists**<br>**VicRoads** |
| **2015** | **Friswell, R**<br>Williamson, A | **Queuing and waiting arrangements for long distance truck drivers**<br>**State Insurance Regulatory Authority (SIRA)** |
| | **Grzebieta, R** | **Advanced Road Safety Investigation**<br>**Australian Transport Safety Bureau** |
| | **Hatfield, J** | **Safe Cycle Program Year 5 and 6 Evaluation**<br>**ACT Health** |
| | **Mongiardini, M** | **Numerical Investigation of the Effect of Vehicle Roof Shape on the Potential for Occupant Injuries in SUV Rollover Crashes**<br>**UNSW Early-Career Research Grant** |

| Start Date | TARS Investigator(s) | Project Title / Collaborators |
|---|---|---|
| | **Mooren, L**<br>Boufous, S<br>Hatfield, J<br>Job, S<br>Senserrick, T<br>Williamson, A | **Human factor considerations for driver licensing point system**<br>**New Zealand Transport Agency** |
| | **Senserrick, T** | **The DRIVE Study: risk factors for injury of young drivers**<br>**Sydney University (Administering Organisation)**<br>**NRMA-ACT Road Safety Trust** |
| | **Senserrick, T**<br>Boufous, S<br>Hatfield, J<br>Olivier, J | **Evaluation of Queensland's Graduated Licensing System**<br>**Department of Transport and Main Roads, Queensland Government** |
| | **Senserrick, T**<br>Boufous, S | **Evaluation of the impact of keys2drive**<br>**Australian Automobile Association** |
| | **Senserrick, T**<br>Boufous, S | **Novice motorcyclists crash data analysis**<br>**Department of State Growth, Tasmania** |
| | **Senserrick, T**<br>Boufous, S | **RIDE: prospective cohort and naturalistic riding study of novice motorcyclists**<br>**UNSW Goldstar** |
| | **Senserrick, T**<br>Williamson, A | **Development of Victoria's new motorcycle learner permit and licence tests**<br>**VicRoads** |
| | | **Development of Motorcycle learner stage Check Rides program**<br>**VicRoads** |
| | **Tan, T** | **2015 Enhanced Safety of Vehicle Conference, Gothenburg Sweden.**<br>**UNSW Postgraduate Research Support Scheme** |

# Appendix E - TARS Seminar and Workshop Series

## Advanced Road Safety Investigation Course

**Speakers:** Raphael Grzebieta, George Rechnitzer, Andrew McIntosh

**Date:** 25-29 May 2015


### Abstract

This project designed, developed and delivered a course on crash investigation for road safety professionals in Indonesia for the Australian Transport Safety Bureau.


# Appendix F - Academic Publications and Presentations

## Books and Chapters

1. **Grzebieta R.H**., Armstrong K, Lewis I., Tunks L., Howe C. and Murray C., 2015. Editors Proceedings Australasian Road Safety Conference, Gold Coast, Australia, 14 - 16 October 2015.

2. **Hatfield, J., Boufous, S**., & Poulos, R. G. (2015). An epidemiological profile of cycling injury in Australia and New Zealand. In *Cycling Futures* (pp. 63-87). doi:10.20851/cycling-futures

## Journal Articles

1. Forouzanfar, M. H., Alexander, L., Anderson, H. R., Bachman, V. F., Biryukov, S., Brauer, M., ... **Boufous, S.**, ... Basu, S. (2015). Global, regional, and national comparative risk assessment of 79 behavioural, environmental and occupational, and metabolic risks or clusters of risks in 188 countries, 1990-2013: A systematic analysis for the Global Burden of Disease Study 2013. *The Lancet*, *386*(10010), 2287-2323. doi:10.1016/S0140-6736(15)00128-2

2. Kendrick, V. L. (2015). Introduction to crowd science.. *Ergonomics*, *58*(12), 2101-2102. doi:10.1080/00140139.2015.1052610

3. **Mongiardini, M.**, **Grzebieta, R. H.**, **Mattos, G. A.**, & **Bambach, M. R.** (2016). Computer modelling of vehicle rollover crash tests conducted with the UNSW Jordan Rollover System. *International Journal of Crashworthiness*, *21*(3), 173-190. doi:10.1080/13588265.2015.1123342

4. **Bambach, M. R.**, & **Mitchell, R. J.** (2015). Estimating the human recovery costs of seriously injured road crash casualties. *Accident Analysis & Prevention*, *85*, 177-185. doi:10.1016/j.aap.2015.09.013

5. Murray, C. J. L., Barber, R. M., Foreman, K. J., Ozgoren, A. A., Abd-Allah, F., Abera, S. F., ... **Boufous, S.**, ... Başara, B. B. (2015). Global, regional, and national disability-adjusted life years (DALYs) for 306 diseases and injuries and healthy life expectancy (HALE) for 188 countries, 1990-2013: Quantifying the epidemiological transition. *The Lancet*, *386*(10009), 2145-2191. doi:10.1016/S0140-6736(15)61340-X

6. Casey, P. P., Feyer, A. M., & Cameron, I. D. (2015). Course of recovery for whiplash associated disorders in a compensation setting. *Injury*, *46*(11), 2118-2129. doi:10.1016/j.injury.2015.08.038

7. Olsen, N. S., & **Williamson, A.** M. (2015). Development of safety incident coding systems through improving coding reliability. *Applied Ergonomics*, *51*, 152-162. doi:10.1016/j.apergo.2015.04.015

8. **Mitchell, R. J.**, **Williamson, A.**, & Molesworth, B. (2015). Use of a human factors classification framework to identify causal factors for medication and medical device-related adverse clinical incidents. *Safety Science*, *79*, 163-174. doi:10.1016/j.ssci.2015.06.002

9. Ivers, R. Q., Sakashita, C., **Senserrick, T.**, Elkington, J., Lo, S., **Boufous, S.**, ... De Rome, L. (2016). Does an on-road motorcycle coaching program reduce crashes in novice riders? A randomised control trial. *Accident Analysis and Prevention*, *86*, 40-46. doi:10.1016/j.aap.2015.10.015

10. Martiniuk, A. L. C., Chen, H. Y., Glozier, N., Patton, G., **Senserrick, T.**, **Williamson, A.**, ... Ivers, R. (2015). High alcohol use a strong and significant risk factor for repetitive self-harm in female and male youth: A prospective cohort study. *American Journal of Drug and Alcohol Abuse*, *41*(5), 465-473. doi:10.3109/00952990.2015.1062023

11. Casey, P. P., Feyer, A. M., & Cameron, I. D. (2015). Associations with duration of compensation following whiplash sustained in a motor vehicle crash. *Injury*, *46*(9), 1848-1855. doi:10.1016/j.injury.2015.06.018

12. **Mitchell, R. J.**, **Bambach, M. R.**, & Toson, B. (2015). Injury risk for matched front and rear seat car passengers by injury severity and crash type: An exploratory study. *Accident Analysis & Prevention*, *82*, 171-179. doi:10.1016/j.aap.2015.05.023

13. Gregson, S., Hampson, I., Junor, A., Fraser, D., Quinlan, M., & **Williamson, A.** (2015). Supply chains, maintenance and safety in the Australian airline industry. *Journal of Industrial Relations*, *57*(4), 604-623. doi:10.1177/0022185615582234

14. Vos, T., Barber, R. M., Bell, B., Bertozzi-Villa, A., Biryukov, S., Bolliger, I., ... **Boufous, S.**, ... Artaman, A. (2015). Global, regional, and national incidence, prevalence, and years lived with disability for 301 acute and chronic diseases and injuries in 188 countries, 1990-2013: A systematic analysis for the Global Burden of Disease Study 2013. *The Lancet*, *386*(9995), 743-800. doi:10.1016/S0140-6736(15)60692-4

15. **Mitchell, R. J.**, **Senserrick, T.**, **Bambach, M. R.**, & **Mattos, G.** (2015). Comparison of novice and full-licenced driver common crash types in New South Wales, Australia, 2001-2011. *Accident Analysis and Prevention*, *81*, 204-210. doi:10.1016/j.aap.2015.04.039

16. **Boufous, S.**, & Olivier, J. (2015). Recent trends in cyclist fatalities in Australia. *Injury Prevention*. doi:10.1136/injuryprev-2015-041681

17. Keay, L. J., Coxon, K., Chevalier, A., Brown, J., Clarke, E., Billot, L., Bundy, A., **Boufous, S.**, Ivers, R. (2015). Behind the wheel: a randomised controlled trial evaluating a safe transport program for older drivers. In *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE* Vol. 56 (pp. 3 pages). Denver, CO: ASSOC RESEARCH VISION OPHTHALMOLOGY INC. Retrieved from http://gateway.webofknowledge.com/gateway/Gateway.cgi?GWVersion=2&SrcApp=PARTNER_APP&SrcAuth=LinksAMR&KeyUT=WOS:000362882205124&DestLinkType=FullRecord&DestApp=ALL_WOS&UsrCustomerID=891bb5ab6ba270e68a29b250adbe88d1

18. **Mattos, G. A.**, McIntosh, A. S., **Grzebieta, R. H.**, Yoganandan, N., & Pintar, F. A. (2015). Sensitivity of Head and Cervical Spine Injury Measures to Impact Factors Relevant to Rollover Crashes. *Traffic Injury Prevention*, *16*, 140-147. doi:10.1080/15389588.2015.1012585

19. Poulos, R. G., **Hatfield, J.**, Rissel, C., Flack, L. K., Murphy, S., **Grzebieta, R.**, ... McIntosh, A. S. (2015). Characteristics, cycling patterns, and crash and injury experiences at baseline of a cohort of transport and recreational cyclists in New South Wales, Australia. *Accident Analysis and Prevention*, *78*, 155-164. doi:10.1016/j.aap.2015.02.008

20. Koo, T. T. R., Caponecchia, C., & **Williamson, A.** (2015). Measuring the effect of aviation safety risk reduction on flight choice in young travellers. *Safety Science*, *73*, 1-7. doi:10.1016/j.ssci.2014.10.008

21. Poulos, R., **Hatfield, J.**, Rissel, C., Flack, L., Murphy, S., **Grzebieta, R.**, ... McIntosh, A. (2015). An exposure based study of crash and injury rates in a cohort of transport and recreational cyclists in New South Wales, Australia. *Accident Analysis and Prevention*, *78*, 29-38. doi:10.1016/j.aap.2015.02.009

22. **Senserrick, T.**, & Williams, A. F. (2015). *Summary of Literature of the Effective Components of Graduated Driver Licensing* (AP-R476-15). Sydney, NSW: Austroads. Retrieved from https://www.onlinepublications.austroads.com.au/items/AP-R476-15

23. **Mitchell, R. J.**, Cameron, C., McClure, R., & **Williamson, A.** (2015). Data linkage capabilities in Australia: practical issues identified by a Population Health Research Network "Proof of concept project".. *Australian and New Zealand Journal of Public Health*. doi:10.1111/1753-6405.12310

24. Stolle, C. S., Reid, J. D., Faller, R. K., & **Mongiardini, M.** (2015). Dynamic strength of a modified W-beam BCT trailing-end termination system. *International Journal of Crashworthiness*, *20*(3), 301-315. doi:10.1080/13588265.2015.1009308

25. Fleiter, J. J., & **Senserrick, T.** (2015). Social Policy Implications Relating to Road Trauma in a Rapidly Motorizing World: The Example of China. *Asian Social Work and Policy Review*, *9*(1), 70-78. doi:10.1111/aswp.12040

26. **Mitchell, R. J.**, **Grzebieta, R.**, & **Rechnitzer, G.** (2015). Capture and surveillance of quad-bike (ATV)-related injuries in administrative data collections. *International Journal of Injury Control and Safety Promotion*. doi:10.1080/17457300.2014.992353

27. **Mitchell, R. J.**, **Bambach, M. R.**, Foster, K., & Curtis, K. (2015). Risk factors associated with the severity of injury outcome for paediatric road trauma. *Injury*, *46*(5), 874-882. doi:10.1016/j.injury.2015.02.006

28. Nguyen, H., & **Williamson, A.** (2015). When Practice Does Not Make Perfect: Effects of Strategic Cognitive Processes on Errors During Skill Development. *Applied Cognitive Psychology*, *29*(2), 299-308. doi:10.1002/acp.3108

## Conference Papers, Abstracts and Presentations

1. **Senserrick, T.**, & Hawkes, E. (2015, November 25). Keeping Your Mob Safe: A guide to making roads safer in your community. In *12th Australasian Injury Prevention and Safety Promotion Conference*. The University of Sydney, New South Wales 2006. Retrieved from http://event.icebergevents.com.au/uploads/contentFiles/files/2015-AIPN/Teresa-Senerrick.pdf

2. Keay, L., Coxon, K., Chevalier, A., Clarke, E., Billot, L., **Boufous, S.**, Ivers, R.,Brown, J. (2015). Behind the Wheel: a randomised controlled trial evaluating a safe transport program for older drivers. In *Proceedings of the 2015 Australasian Road Safety Conference*. Gold Coast, Australia. Retrieved from http://papers.acrs.org.au/index.cfm?action=main.paper&id=664

3. Sakashita, C., Ivers, R., **Senserrick, T.**, Lo, S., De Rome, L., Elkington, J., **Boufous, S.** (2015). Development and Evaluation of an On-ride Motorcycle Coaching Program in

Victoria: How well was VicRide implemented and received by the target novice motorcycle riders?. In *Proceedings of the 2015 Australasian Road Safety Conference*. Gold Coast, Australia. Retrieved from http://papers.acrs.org.au/index.cfm?action=main.paper&id=596

4. **Senserrick, T.**, Russell, M., McRae, D., Wallace, P., Blythe, R., Mitsopoulos-Rubens, E., ... **Williamson, A.** (2015). Development of Victoria's New Motorcycle Graduated Licensing System. In *Australasian Road Safety Conference*. Gold Coast QLD. Retrieved from http://papers.acrs.org.au/index.cfm?action=main.paper&id=663
5. **Simmons, K. K.**, **Mongiardini, M.**, **Grzebieta, R.**, & **Rechnitzer, G.** (2015). Effect of Vehicle Roof Shape on Rollover Safety. In *Proceedings of the 2015 Australasian Road Safety Conference*. Gold Coast, Australia. Retrieved from http://papers.acrs.org.au/index.cfm?action=main.paper&id=673
6. Ivers, R., Sakashita, C., **Senserrick, T.**, Elkington, J., **Boufous, S.**, & de Rome, L. (2015). Effectiveness of an on-road motorcycle rider coaching program: a randomised control trial. In *Proceedings of the 2015 Australasian Road Safety Conference*. Gold Coast, Australia. Retrieved from http://papers.acrs.org.au/index.cfm?action=main.paper&id=636
7. **Mooren, L. E.**, **Williamson, A.** M., & **Grzebieta, R.** (2015). Evidence that truck driver remuneration is linked to safety outcomes: a review of the literature. In *Proceedings of the 2015 Australasian Road Safety Conference*. Gold Coast, Australia. Retrieved from http://papers.acrs.org.au/index.cfm?action=main.paper&id=533
8. **Bambach, M.**, & **Grzebieta, R.** (2015). Motorcyclist collisions with roadside barrier motorcyclist protection systems. In *Proceedings of the 2015 Australasian Road Safety Conference*. Gold Coast, Australia. Retrieved from http://papers.acrs.org.au/index.cfm?action=main.paper&id=630
9. **Williamson, A.**, **Grzebieta, R.**, **Eusebio, J**., **Zheng, W**., Wall, J., Charlton, J., ... **Senserrick, T.**,… Cornish, M. (2015). The Australian Naturalistic Driving Study: from beginnings to launch. In *Proceedings of the 2015 Australasian Road Safety Conference*. Gold Coast, Australia. Retrieved from http://papers.acrs.org.au/index.cfm?action=main.paper&id=681
10. **Williamson, A.**, **Friswell, R.**, Olivier, J., **Grzebieta, R.**, & **Zeller, R.** (2015). Understanding drivers' motivation to take a break when tired. In *Proceedings of the 2015 Australasian Road Safety Conference*. Gold Coast, QLD, Australia. Retrieved from http://papers.acrs.org.au/index.cfm?action=main.paper&id=677
11. **Boufous, S.**, Aboss, A., & Montgomery, V. (2015, October 14). Coverage of cyclist crashes in Australian newspapers, 2010-2013. In *Australasian Road Safety Conference*. Gold Coast, QLD, Australia. Retrieved from http://acrs.org.au/wp-content/uploads/ARSC2015-Draft-Program.pdf
12. **Mattos, G. A.**, **Grzebieta, R. H.**, **Bambach, M. R.**, & McIntosh, A. S. (2015). Review of injury mitigation strategies and methods of assessment for passenger vehicle rollover crashes in Australia. In R. A. P. H. A. E. L. Grzebieta (Ed.), *Australasian Road Safety Conference*. Gold Coast, QLD, Australia: Australasian College of Road Safety. Retrieved from http://papers.acrs.org.au/index.cfm?action=main.paper&id=628
13. **Magableh, F.**, **Grzebieta, R.**, Job., & **Boufous, S.** (2015, October 14). The Role of Gender in Road Safety in Jordan. In *Australasian Road Safety Conference*. Gold Coast, QLD, Australia. Retrieved from http://acrs.org.au/wp-content/uploads/ARSC2015-Draft-Program.pdf

14. Krasnova, O., Molesworth, B., & **Williamson, A.** (2015). The effect of cognitive-based training interventions on driver speed management behavior: A driving simulator study. In *Human Factors and Ergonomics Society 59th Annual Meeting* Vol. 59 (pp. 1796-1800). Los Angeles, USA: SAGE. doi:10.1177/1541931215591388

15. **Hatfield, J.**, Eveston, T., & Wojcik, K. (2015). Teach the children: Can cycling training/education increase safety and participation?. Presented In *Velo-city 2015*. Nantes, France. Retrieved from http://www.velo-city2015.com/en/event/cycle-safe-fun/

16. Krasnova, O., Molesworth, B., & **Williamson, A.** (2015). The effect of training approaches and feedback for young and novice drivers on the relationship between the actual and perceived speed.. In *Proceedings 19th Triennial Congress of the IEA* Vol. 9 (pp. 14-21). Melbourne, VIC, Australica. Retrieved from http://ergonomics.uq.edu.au/iea/proceedings/Index_files/papers/860.pdf

17. **Hicks, D.**, **Simmons, K.**, **Grzebieta, R.**, **Rechnitzer, G.**, **Mongiardini, M.**, Sherry, D., ... Dal Nevo, R. (2015). Analysis of Quad-Bike Loss-Of-Control Caused by Bump Perturbations Using Experimental and Simulated Dynamic Bump Tests. In *Proceedings of the 24th International Technical Conference on the Enhanced Safety of Vehicles* Vol. Paper Number: 15-0133-O. Gothenburg, Sweden: National Highway Traffic Safety Administration. Retrieved from http://www-nrd.nhtsa.dot.gov/departments/esv/24th

18. **Mongiardini, M.**, **Grzebieta, R.**, **Mattos, G.**, **Bambach, M.**, **Rechnitzer, G.**, McIntosh, A., ... Dal Nevo, Ross. (2015). Analysis of Vehicle Roof Weakness and Potential for Neck Injuries from Experimental and Simulated Dynamic Rollover Tests. In *Proceedings of the 24th International Technical Conference on the Enhanced Safety of Vehicles* Vol. Paper Number: 15-0131-O. Gothenburg, Sweden: National Highway Traffic Safety Administration. Retrieved from http://www-nrd.nhtsa.dot.gov/departments/esv/24th

19. **Tan, T.**, **Grzebieta, R.**, **Bambach, M.**, Olivier, J., & McIntosh, A. (2015). Association Between Vehicle Panel Damage and Thoracic Injury in Rollover Crashes. In *Proceedings of the 24th International Technical Conference on the Enhanced Safety of Vehicles* Vol. Paper Number: 15-0145-O. Gothenburg, Sweden: National Highway Traffic Safety Administration. Retrieved from http://www-nrd.nhtsa.dot.gov/departments/esv/24th

20. **Grzebieta, R.**, **Rechnitzer, G.**, **Simmons, K.**, **Hicks, D.**, Patton, D., **Mongiardini, M.**, ... Dal Nevo, R. (2015). The Australian Terrain Vehicle Assessment Program (ATVAP). In *Proceedings of the 24th International Technical Conference on the Enhanced Safety of Vehicles* Vol. Paper Number: 15-0144-W. Gothenburg, Sweden: National Highway Traffic Safety Administration. Retrieved from http://www-nrd.nhtsa.dot.gov/departments/esv/24th

21. **Williamson, A.** (2015, March 23). Effective fatigue risk management: Is it keeping up with the research evidence. In *9th International Conference on Managing Fatigue*. Perth, WA. Retrieved from http://www.fatigueconference2015.com.au/docs/Managing-Fatigue-2015-Conference-Program.pdf

22. **Williamson, A.**, & **Friswell, R.** (2015, March 23). The relationship between fluctuations in sleepiness and performance over a 2 hour drive. In *9th International Conference on Managing Fatigue*. Perth, WA. Retrieved from http://www.fatigueconference2015.com.au/docs/Managing-Fatigue-2015-Conference-Program.pdf

## Reports


1. de Rome, L., McRae, D., **Senserrick, T.**, McTiernan, D., Haley, J., Meredith, L., ... Williams, B. (2015). *Submission to Staysafe Inquiry into Motorcycle Safety in NSW*.
2. **Friswell R, Boufous S, Williamson A.** (2015). *Smart Rest Area Trial Evaluation*. Report for Transport for NSW, UNSW Australia
3. **Grzebieta, R., Rechnitzer, G., & Simmons, K.** (2015). *Quad Bike Performance Project: Dynamic Handling Test Results* (Research Report No 2). UNSW, Sydney: Transport and Road Safety Research Centre.
4. **Grzebieta, R., Rechnitzer, G., Simmons, K.,** & McIntosh, A. (2015). *Quad Bike Performance Project: Final Summary Project Report: Test Results, Conclusions, and Recommendations* (Research Report No 4). UNSW, Sydney: Transport and Road Safety Research Centre.
5. **Grzebieta, R., Rechnitzer, G.,** & McIntosh, A. (2015). *Quad Bike Performance Project: Rollover Crashworthiness Test Results* (Research Report No 3). UNSW, Sydney: Transport and Road Safety Research Centre.
6. **Grzebieta, R., Rechnitzer, G., & Simmons, K.** (2015). *Quad Bike Performance Project: Static Stability Test Results* (Research Report No 1). UNSW, Sydney: Transport and Road Safety Research Centre.
7. **Hatfield, J.**, **Friswell, R.**, & **Williamson, A.** (2015). *Road Crash Injuries: Cost and Prevention* (AP-R491-15). Sydney NSW 2000 Australia: Austroads Ltd.. Retrieved from https://www.onlinepublications.austroads.com.au/items/AP-R491-15
8. **Senserrick, T.**, McRae, D., Wallace, P., de Rome, L., Rees, P., & **Williamson, A.** (2015). *Development of motorcycle learner stage 'Check Rides' program: development of a specific Check Ride program* (Contract No. 9053: Stage 3 Deliverable Report).
9. **Senserrick, T.**, McRae, D., Wallace, P., de Rome, L., & Rees, P. (2015). *Development of Victoria's new motorcycle learner permit and licence tests: draft test development and trial design – licence tests.* (Contract No. 8972: Stage 3+4 Deliverables Report).
10. **Senserrick, T.**, McRae, D., Wallace, P., de Rome, L., Rees, P., & **Williamson, A.** (2016). *Development of motorcycle learner stage 'Check Rides' program: principles for Check Rides.* (Contract No. 9053: Stage 2 deliverable. Report.).
11. **Senserrick, T.**, McRae, D., Wallace, P., de Rome, L., Rees, P., & **Williamson, A.** (2015). *Development of Victoria's new motorcycle learner permit and licence tests: trialling, refinement, documentation and induction program – learner permit tests.* (Contract No. 8972: Stage 5+6 Deliverables Report).
12. **Senserrick, T.**, McRae, D., Wallace, P., de Rome, L., Rees, P., & **Williamson, A.** (2015). *Pre-learner motorcyclist curriculum development: pilot and evaluate draft instructor materials.* (Contract No. 8651: Stage 7 deliverable.).
13. **Senserrick, T.**, McRae, D., Wallace, P., de Rome, L., Rees, P., & **Williamson, A.** (2015). *Pre-learner motorcyclist curriculum development: pilot and evaluate draft trainer materials and draft pre-learner curriculum.* (Contract No. 8651: Stage 5 and 6 Deliverables.).
14. **Senserrick, T.**, McRae, D., Wallace, P., de Rome, L., Rees, P., & **Williamson, A.** (2015). *Development of motorcycle learner stage 'Check Rides' program: principles for Check Rides.* (Contract No. 9053: Stage 2 deliverable. Interim report.).

15. **Senserrick, T.**, McRae, D., Wallace, P., de Rome, L., Rees, P., & **Williamson, A.** (2015). *Development of Victoria's new motorcycle learner permit and licence tests: draft test development and trial design – learner permit tests.* (Contract No. 8972: Stage 3+4 Deliverables Report).

16. **Senserrick, T.**, McRae, D., Wallace, P., de Rome, L., & **Williamson, A.** (2015). *Development of Victoria's new motorcycle learner permit and licence tests: review and select target competencies and testing methodologies.* (Contract No. 8972: Stage 2 Deliverable Report).

17. **Senserrick, T.**, McRae, D., Wallace, P., de Rome, L., Rees, P., & **Williamson, A.** (2015). *Pre-learner motorcyclist curriculum development: develop draft curriculum including instructor, trainer and pre-learner materials.* (Contract No. 8651: Stage 4 Deliverable).

18. **Senserrick, T.M.**, Williams, A.F. *Summary of Literature of the Effective Components of Graduated Driver Licensing: Austroads Research Report AP-R476-15*. Sydney NSW: Austroads; February 2015. Retrieved from https://www.onlinepublications.austroads.com.au/items/AP-R476-15

19. Sakashita, C., Ivers, R., **Senserrick, T.**, Elkington, J., Lo, S., **Boufous, S.**, ... de Rome, L. (2015). *A randomised control trial in the state of Victoria, Australia: evaluation of the VicRide on-road coaching program for newly-licensed motorcyclist.* (Final Report for Contract No. 7559).

20. **Hatfield, J.**, **Boufous, S.**, Maharaj, P., Patton, D., & Eveston, T. (2015). *An evaluation of the effects of a school-based cycling education program on participation and safety*. UNSW: Transport and Road Safety Research. Retrieved from http://www.roadsafetytrust.org.au/c/rtt?a=sendfile&ft=p&fid=1452037355&sid=

## Theses

1. **Mattos, G.** (2015*). Characteristics of serious head injuries in pure rollover crashes and an evaluation of their replication in a dynamic rollover test*. (PhD Thesis). **Supervisor:** Grzebieta, R.

**The Australian Naturalistic Driving Study aims to gain a better understanding of how drivers behave, to make our roads safer and smarter.**

**www.ands.unsw.edu.au**

## TARS Research

**A private and publically funded research centre @ UNSW**

**Advancing** transport and road **safety** through **high quality research**;

**Building** research **capacity**;

**Translating** the results of **research** into **policy** and **practice**.