

2010 Annual Report

Centre for Automotive Safety Research



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Government
of South Australia
Department for Transport,
Energy and Infrastructure



Centre for
Automotive Safety Research



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Message from the Director

2010 was a year of growth for CASR as we welcomed three new young researchers and a new PhD candidate as well as a post doctoral fellow from France.



Our research program has continued to address important road safety issues in road design, vehicle technology, human behaviour and safe travel speeds. Highlights this year included our work challenging the accepted view of the relative safety of roadside barriers and clear zones, our examination of the role of extreme or aberrant behaviour in crashes and our analysis of the potential benefits of intelligent speed adaptation.

We were very proud that CASR staff were again recognised at the Australasian Road Safety Research, Policing and Education Conference with Sam Doecke being awarded the Peter Vulcan Award for Best Paper for his work on barriers and clear zones and James Thompson receiving the John Kirby Award for Best Paper by a Young Researcher for his work on the mobility and safety of older drivers. This is the third consecutive year CASR has received the best paper award

and the second consecutive year we have received both prizes.

It is important to build a close relationship with our clients and this year we were involved in our first secondment to a major client when Jeremy Woolley spent nine months acting in the role of Manager, Safer People at the Department of Transport, Energy and Infrastructure (DTEI). The secondment provided different capability and knowledge to DTEI and was an excellent development opportunity for Jeremy. It was agreed by all that this experience was a great success and we will look for more secondment opportunities in the future.

We have been pleased to be involved with the development of the new South Australian Road Safety Strategy through the roles of CASR staff on the Road Safety Advisory Council and its Task Forces and through



assisting DTEI with the preparation of the early drafts. This work will continue in 2011 and we look forward to an effective and challenging strategy for South Australia.

During 2010 South Australia showed its commitment to road safety by appointing a Thinker in Residence for the area. CASR was proud to work with Professor Fred Wegman (pictured left) from the Institute of Road Safety Research (SWOV), the Netherlands road safety organisation, and we anticipate his report being released in 2011. For much of the residency Jeremy Woolley acted as catalyst for Professor Wegman and so made direct contributions to the success of the residency.

Our relationship with the Australasian New Car Assessment Program (ANCAP) has continued and grown in 2010 with our mutual aim of improving the safety of pedestrians through vehicle design. This was our last year at our original Impact Laboratory at Keswick as we started the process of moving to our new Vehicle Testing Laboratory in Kent Town.

This move is being made in partnership with ANCAP and will allow us to demonstrate the issues of pedestrian safety to a much wider audience.

Overall 2010 was a rewarding year during which we carried out relevant, high quality research and worked with many organisations and the wider community to promote road safety. We would like to acknowledge that the work CASR does is only possible because of the ongoing support of the South Australian Department for Transport, Energy and Infrastructure and the Motor Accident Commission.

2011 is the start of the United Nations Decade of Action for Road Safety and we look forward to working with many other groups nationally and internationally to reduce the ongoing human and social cost of road trauma.

Pictured below left: Sam Doecke receiving the Peter Vulcan Award from Peter Vulcan for his paper 'Effective use of clear zones and barriers in a Safe Systems context'.

Pictured below right: James Thompson receiving the John Kirby Memorial Road Safety Award for Best Paper by a New Researcher from Kerry Fitzgerald, a Trustee of the NRMA-ACT Road Safety Trust for his paper 'Older drivers in rural and urban areas: comparisons of crash, serious injury and fatality rates'.



CASR overview

Communication and collaboration

Road safety research organisations need to collaborate to share expertise and knowledge and ensure that the quality of research is maintained. In 2010 CASR worked on projects with the Curtin Monash Accident Research Centre (CMARC) and ARRB Group and hosted visits from a number of national and international organisations. The Centre also continued the partnership with the University of South Australia and Flinders University on safe, sustainable and sufficient mobility for older South Australians. In 2011 CASR will host the first forum on road safety research in progress which will bring together the major Australian road safety research organisations to work together to address important issues.

In 2010 Jeremy Woolley spent nine months with the Department of Transport, Energy and Infrastructure (SA) as the acting Manager, Safer People in the Safety and Regulation Division.

Jeremy also spent one month as the assistant to Professor Fred Wegman who was visiting Adelaide as part of the Adelaide Thinker in Residence program.

Teaching and training

Undergraduate study

In 2010 CASR presented the Traffic Engineering and Design course for the Civil Engineering undergraduate degree. Mary Lydon, Jeremy Woolley and Paul Hutchinson all presented lectures in the areas of traffic management, modelling and impact assessment.

The Centre also delivered the Automotive Safety Engineering course for the Mechanical Engineering degree. The course taught students about the principles of active and passive safety in automobile design and the role of safe vehicles within a broader context of road safety.

As part of the Civil Engineering degree, two student honours groups elected to undertake traffic based honours projects. The first involved traffic issues in relation to the new land development at the former Cheltenham Racecourse site and the second investigated ways in which O'Bahn buses could be provided with better access into and out of the Central Business District from Hackney Road.

In collaboration with the School of Psychology Matthew Baldock and Lisa Wundersitz co-supervised student Michaela Muscat in the completion of her thesis for an Honours Degree in Psychology. Her thesis titled "Social facilitation and distraction: the effects of passengers on young male drivers" examined the effects of an audience and of auditory distraction on the simulated driving performance of young males. She also investigated the extent to which driver characteristics influenced driving performance. The driving simulator and technical support for this project were kindly provided by Sydac. Michaela was awarded First Class Honours in Psychology.

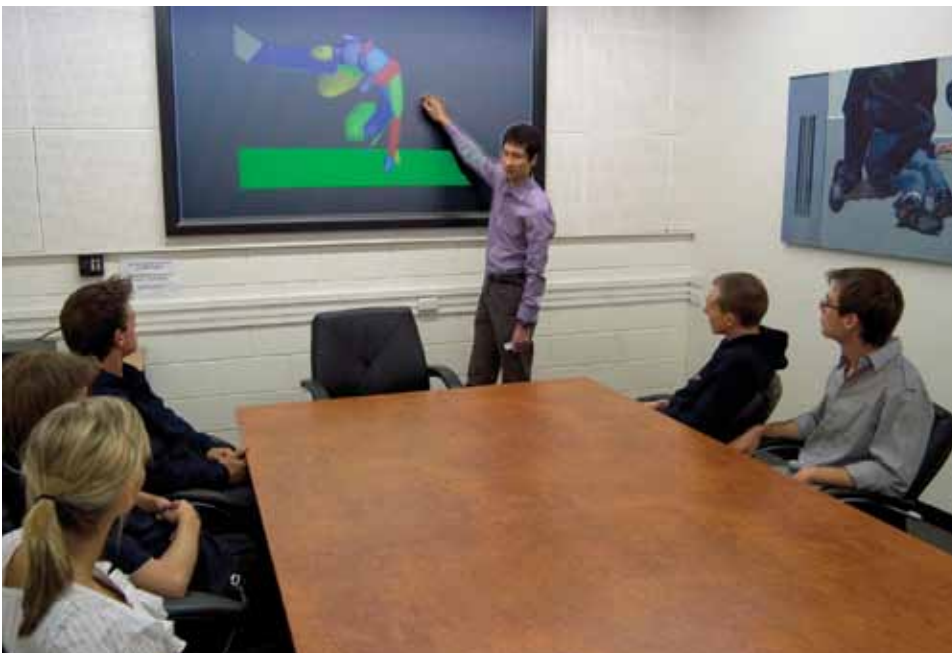
Postgraduate study

CASR supports six PhD students who are currently working on various engineering and psychology research projects.

- **Jeffrey Dutschke** – the effect of particular criteria for head injury on vehicle design
- **Jamie MacKenzie** – potential effects of electronic stability control (ESC) on crashes on Australian rural roads
- **Daniel Seanson** – characteristics of pedestrian headform impacts
- **James Thompson** – ageing and mobility (supported by the Royal Automobile Association of South Australia)
- **Blair Turner** – reducing road casualties on rural roads through reduced speeds
- **Adrian Weissenfeld** – causes of motorcycle crashes in Australia (supported by Motorcycling Australia)

Postgraduate research recognised at conference

In 2010 James Thompson presented a paper at the Australasian Road Safety Research, Policing and Education Conference. James won the John Kirby Memorial Road Safety Award for Best Paper by a New Researcher



for his paper titled 'Older drivers in rural and urban areas: comparisons of crash, serious injury and fatality rates'.

The paper presented results from research comparing older driver crash rates, with the crash rates of younger age groups. The database of police-reported road crashes in South Australia, the Traffic Accident Reporting System, was used to obtain crash, serious injury, and fatality data for 2004 to 2008.

The crash involvement of drivers of various age groups from both rural and urban areas was adjusted for population and licensure exposure measures. Crashes involving rural drivers aged 75 and over were more likely to have resulted in a serious or fatal injury than crashes involving their urban counterparts. The results indicate that rural older drivers present a unique road safety problem.

For more information please contact:

James Thompson

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Vehicle traffic safety seminars – Hunan University, China

The final seminar in a three-year program at Hunan University in Changsha, China was held in December 2010. Funded by the Chinese Ministry of Education and Hunan University, the program enabled experts from other countries to travel to China to present lectures on traffic safety, with emphasis on crash injury prevention. Jack McLean was invited from Australia, together with about a dozen other participants from Europe, Japan and the United States. The seminar coordinator was Professor Jikuang Yang of Hunan University, who also holds a professorial appointment at Chalmers University of Technology in Sweden. Jack also attended the eighth International Forum on Automotive Traffic Safety which was hosted in 2010 by the Chery Automobile Company in Wuhu.

CASR seminar series

CASR once again presented its seminar series program throughout 2010.

As part of the Centre's ongoing commitment to the dissemination of road safety research findings, the seminars addressed road safety topics and provided the opportunity to highlight the latest research both from CASR and road safety organisations worldwide.

The seminar series addressed topics such as motorcycle issues, speed, electronic stability control, and pedestrian safety and attracted considerable attention from the media and affiliated organisations.

At scene in-depth crash investigation

CASR was again active in its program of in-depth investigation of South Australian road crashes during 2010. The activity was focused on data collection for crashes in both urban and rural areas. Two hundred and forty seven crashes were investigated, 184 in rural areas and 63 in Metropolitan Adelaide. Data

from in-depth crash investigation was used in various CASR projects. These included a project auditing the Traffic Accident Reporting System database and an in-depth analysis of the crashes of young drivers. In-depth data is being used by Adrian Weissenfeld as part of his PhD project on motorcycle safety, which is being sponsored by Motorcycling Australia. Similarly, Jamie McKenzie used in-depth data in his PhD project, soon to be completed, on electronic stability control. The in-depth data was also used to provide the Adelaide Thinker in Residence, Professor Fred Wegman, with an indication of the role of extreme behaviour in road crashes in South Australia. This analysis was used to augment a similar analysis of Coroners reports on fatal road crashes.

The paper 'Effective use of clear zones and barriers in a Safe Systems context' by Sam Doecke which was awarded the Peter Vulcan Prize for Best Paper at the 2010 Australasian Road Safety Research Policing and Education Conference also depended on data from in-depth crash investigation.



Library

CASR holds the largest and most comprehensive collection of road safety material in Australia, including many resources not available at any other library.

The highly specialised library provides support to staff at the Centre by way of literature reviews, current awareness services and inter-library loans. Library staff also provide regular support to road safety professionals and organisations, other libraries, university students and members of the public.

The library holds a comprehensive collection of primary and secondary materials including the latest research reports, conference proceedings, journals and books from both Australia and overseas.

In 2010 the library received a grant from the Law Foundation of South Australia to develop a Road Safety Timeline, a database containing historical information about road safety related legislation.

For more information go to
<http://www.casr.adelaide.edu.au/library>

Vehicle Testing Laboratory

The CASR Impact Laboratory is a purpose built facility which measures the extent to which the design of new cars protects a pedestrian in the event of a collision. The laboratory is a central component of our pedestrian safety research, which considers both accident prevention and injury mitigation through vehicle design. After more than 10 years of operation at the Keswick premises the laboratory will be moving in early 2011 to a new facility in Kent Town. This will allow the laboratory to better promote the importance of pedestrian testing and provide room to expand its capabilities to other forms of impact testing.

The laboratory is the official testing facility for the pedestrian component of the Australasian New Car Assessment Program (ANCAP). ANCAP is a consortium of Australian and New Zealand motoring clubs, State Government departments, and motor injury insurance authorities. It provides vehicle buyers with information on the crash performance of vehicles, including side impact tests, offset-frontal tests and pedestrian tests. Since 1999

CASR has been contracted to perform the pedestrian tests and has tested about 100 vehicles for the program.

In 2010 CASR tested the Hyundai ix35, Great Wall X240, Ssangyong Actyon, Toyota Prado, Toyota Landcruiser Cab-Chassis, Hyundai i45, Nissan Patrol Cab-Chassis, Proton S16 and Suzuki Kizashi.

For more information on the program,
please visit <http://www.ancap.com.au>



Project summaries

Clear zones and barriers on rural roads

This project re-examined the use of clear zones or barriers as the preferred rural roadside treatment to reduce the severity of run off road crashes. Currently the Austroads guidelines recommend a clear zone of up to 10.5 metres on a straight road.

A sample of 132 crashes from CASR's in-depth crash investigations were analysed to determine the typical dynamics of vehicles in single vehicle run off road crashes. Crashes in which the driver lost control were found to have typical departure angles of 17 degrees. Crashes in which the vehicle drifted off the road had typical departure angles of seven degrees. Only four of the 18 vehicles in the cases in which no fixed object was struck did not travel beyond the 10.5 metre clear zone.

Computer simulations of 15 of the cases were performed. The cases chosen for simulation represented typical vehicle departure dynamics. Each case was simulated with the driver attempting to recover by steering input and then again with the driver employing emergency braking half a second after departing the road. The simulations revealed that a clear zone of 54 metres would be necessary to ensure an impact speed of 30 km/h or less if the vehicle then hit a fixed object. According to this criterion, a 10.5 metre clear zone was only found to be sufficient when the vehicle drifted off the road.

The simulations were also used to assess the appropriateness of barrier protection. A barrier placed four metres from the edge of the road was found to keep the impact

severity within acceptable limits to minimise injury. Impact conditions beyond those outlined in barrier testing standards were observed in the simulations of typical loss of control road departures. It was concluded that clear zones in their current form do not meet the requirements of a safe system. Barrier protection may fulfil the requirements of a safe system but further knowledge of how barriers perform under impact conditions typical of actual loss of control crash configurations is needed.

For more information please contact:

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Medical conditions as a contributor in crash causation

In 2010 CASR continued working on a project to examine the extent to which medical conditions contribute to crash causation. The primary aim of this study is to determine the proportion of casualty crashes that can be associated with the effects of a medical condition or an acute medical event. The project involves examination of the medical records for all drivers, riders, pedestrians and cyclists involved in road crashes on public roads in South Australia who presented to the Royal Adelaide Hospital (RAH), between January 2008 and December 2010.

Medical records are matched with a number of other data sources including Vehicle Collision Records (VCR's) generated by the South Australian Police Department, the Traffic Accident Reporting System (TARS), licensing records from the SA Department of Motor Registration and drug and alcohol screening records generated by the Forensic Science Centre of South Australia. This detailed examination of the circumstances surrounding each person's involvement in a crash enables identification of those crashes that are directly related to medical conditions, as opposed to those for which a crash participant's pre-existing medical conditions are not related.

For more information please contact:
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Cost benefit analysis of intelligent speed adaptation

This project examined the potential costs and benefits of intelligent speed adaptation (ISA) in Australia. Quantitative results from ISA trials reported in the literature were reviewed and the benefits of ISA in terms of reducing the mean speed, 85th percentile speed and exceeding the speed limit were identified. The literature also revealed a high variability in these benefits from trial to trial.

An analysis of speeding crashes was conducted using mass crash data collected by the six Australian states from 2004 to 2008. This analysis was limited by data issues but allowed some general conclusions to be drawn. There was an overrepresentation of young drivers and motorcyclists in both metropolitan and rural areas.

A detailed analysis was conducted to determine the benefits of advisory, supportive and limiting ISA. This analysis suggested advisory ISA would reduce injury crashes by 7.7% and save \$1,226 million per year, supportive ISA would reduce injury crashes by 15.1% and save \$2,240 million and limiting ISA would reduce injury crashes by 26.4% and save \$3,725 million per year.

A cost benefit analysis was conducted considering different implementation scenarios including: all vehicles, new vehicles, fleet vehicles, market driven, heavy vehicles, young drivers and navaid devices. The "all vehicles" and "new vehicles" scenarios were found to produce the greatest benefit cost ratios.

For more information please contact:
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Safety features of passenger vehicles in South Australia

This project described South Australian passenger vehicles according to attributes related to safety, vehicle classification and mass, and the type of original buyer. Data by year of sale was examined so changes to the uptake of technology and the changes in other attributes of the general registered fleet could be described. Crashes were examined in the same way so that crashed vehicles and vehicles in general in South Australia could be compared.

It was found that 71% of vehicles registered in South Australia were originally sold new in the state, with the other 29% originating interstate. More than half of all vehicles on the road were originally bought for use in either a private fleet, government fleet or for some other type of non-private use. The data shows that vehicles with electronic stability control (ESC) systems are under-represented in crashes. The introduction of a safety technology into new vehicles has generally taken between 10 and 20 years to reach saturation (for those technologies that have achieved an almost 100% fitment rate). ESC was present in 50% of the registered vehicle sample bought new in 2008 and 2009, but in only 13% of the fleet overall.

For more information please contact:

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Evaluation of the effectiveness of the Community Policing and Education Project

VicRoads has commissioned CASR to evaluate the effectiveness of the Community Policing and Education Project, which uses education and enforcement to improve motorcycle safety. The two year project, which was launched in January 2009, aims to reduce the incidence of risk-taking behaviours by riders and drivers of other vehicles that put motorcyclists at risk of a crash or injury in the event of a crash.

CASR's evaluation of the project includes a process evaluation, an analysis of crash and offence data, a series of on-road speed surveys, roadside observations of Victorian road users, and an online survey of Victorian motorcyclists. The evaluation is scheduled for completion in 2011.

For more information please contact

Matthew Baldock

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Best practice in OHSW mass media campaigns

Mass media campaigns can play an important part in occupational health, safety and welfare (OHSW) by promoting safe workplace practices to a large part of the population. Safework SA commissioned CASR to review what is currently known about OHSW mass media campaign design and evaluation. The research builds on existing collective OHSW knowledge by improving the evidence base for conducting effective mass media campaigns.

Part of this project involved an industry review to investigate the specific role of mass media in promoting OHSW issues. Interviews with key personnel involved in OHSW communication campaigns provided insight into the processes involved in developing and evaluating mass media campaigns. Australian and international public health literature published during the last decade was also reviewed to examine what elements make an OHSW mass media campaign effective and how future campaigns might be enhanced.

Recent OHSW campaign evaluations were reviewed to highlight current key issues in OHSW campaign evaluation research. There were very few published evaluations of OHSW mass media campaigns and the quality of evaluations varied. Around half of the studies reported objective work-related behavioural measures while the other half were primarily based on indicators of message awareness, attitudes, beliefs, behavioural intentions or self-reported behaviours. Consistent with best practice, the majority of mass media campaigns were integrated with other activities such as education initiatives, inspections and stakeholder engagement.

While behaviour change might occur many years after an OHSW campaign ends, longer-term effects are largely unknown and are difficult to measure.

For more information please contact:

Lisa Wundersitz

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Speed surveys

The management and control of vehicle speeds is an important road safety measure. In order to evaluate the effects of the general speed reduction program, CASR has been monitoring the speeds of vehicles at approximately 130 sites around South Australia each year since 2007 and will continue to do so into the future. The consistency of the surveys allows changes in vehicle speeds on different road types to be tracked over time.

For more information please contact:

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Development of safety network performance measures

CASR was awarded University of Adelaide, Faculty of Engineering, Computing and Mathematical Sciences research funding to develop a new area of research in safety network performance measures. The work is based on the premise that current management of the road network is seen as a compromise between mobility and safety. There are known traffic management and network design practices that could dramatically enhance safety that are not implemented because of a belief that they will unacceptably increase travel times and delays. Network performance indicators and descriptors are usually expressed in mobility terms involving measures of delays, congestion and travel time. Equivalent performance measures focused on safety would assist in changing the relative importance of safety and mobility in overall network management.

The main objective of the project is to develop a set of safety metrics that demonstrate the feasibility of taking safety into account when managing and assessing road networks. A microsimulation model of the Adelaide Central Business District, North Adelaide and surrounding ring roads is being used to demonstrate a real world application of the concept. Work is expected to continue into 2011 where findings from the project will be published and discussed with road authorities around Australia.

For more information please contact:

Jeremy Woolley

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The relative contribution of system failures and extreme behaviour in South Australian crashes

It is often thought that a large proportion of crashes, particularly fatal crashes, are due to extreme behaviour by drivers, rather than simple mistakes or errors considered to be 'system failure'. Crashes resulting from system failures can be addressed through improvements to road system design more readily than crashes resulting from extreme behaviours. Therefore, the classification of crash causation in terms of system failures or extreme behaviour is important for determining the extent to which a Safe System approach (i.e. improvements to road transport system design to serve compliant road users) is capable of reducing the number of crashes.

To examine the relative contribution of system failures and extreme behaviour in South Australian crashes, two datasets were used: Coroner's investigation files and databases of in-depth crash investigations conducted by CASR. The findings indicate that the majority of crashes do not involve extreme behaviour but involve people making normal road user errors. This means that improvements to the road transport system can be expected to be much more effective in reducing crashes than concentrating on preventing extreme behaviour. Such a strategy could reduce the incidence and severity of a large proportion of crashes in South Australia.

For more information please contact:

Lisa Wundersitz

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Staff profiles



Professor Mary Lydon
Director,
PhD, MEngSci,
BSc(Hons)

Mary Lydon joined the University of Adelaide as Director of the Centre for Automotive Safety Research in March 2008. Mary has over 30 years experience in roads and road safety including senior positions in both research and operations.

She has qualifications in civil engineering, operations research and transport and is a Fellow of the Institution of Engineers. She is a member of the South Australian Road Safety Advisory Council (RSAC) and the Standards Australia Committee on Road Safety Management.

Mary's research interests include rural road safety, road design, traffic management and road safety management.



Associate Professor Robert Anderson
Deputy Director,
PhD, BE(Hons)

Robert specialises in the biomechanics of crash injury, computer simulation, and impact testing. He also conducts evaluations of road and vehicle safety effectiveness including modelling effects of vehicle safety attributes at the fleet level.

His current research interests include the tolerance of the brain to physical insults, the modelling of rate dependent contact behaviour in impact testing, the relative efficacy of head impact test criteria, modelling pedestrian impacts, the effectiveness of electronic stability control and investigating the deployment of safety features in the registered vehicle fleet. He has also been investigating effects of new vehicle design on the changing road toll.

Robert won the Elizabeth Penfold Simpson Prize in 2003 for neurotrauma research and the Peter Vulcan Award for Best Scientific Paper at the Australasian Road Safety Research, Policing and Education Conference in 2002 and again in 2009.

Robert is a member of the Engineers Australia Injury Biomechanics Panel and chairs the RSAC Emerging Vehicle Technology Task Force. He is also a Committee member on the Standards Australia Committee for Child Restraint Use in Motor Vehicles. He teaches automotive safety and restraint design to final-year mechanical engineering students.



Dr Matthew Baldock
Research Fellow,
PhD, BA(Hons)

Matthew specialises in research involving older drivers, motorcyclists, drugs and alcohol, and in-depth crash investigation.

His current projects include an evaluation for VicRoads of the effectiveness of a Community Policing and Education project aimed at motorcycle safety in Victoria, an in-depth review of recent fatal crashes in South Australia, studies examining the use of protective clothing by motorcyclists, bicycle exposure and crash involvement and in-depth investigation of South Australian road crashes.

In 2008 Matthew won the Peter Vulcan Award for Best Paper presented at the Australasian Road Safety Research, Policing and Education Conference. The project, conducted with James Thompson, also won the 2008 Elsie Harwood Award, a national award for empirical research in the field of ageing conducted as part of a fourth year or Masters program in psychology.

Matthew is a member of the International Council on Alcohol, Drugs and Traffic Safety (ICADTS) and Chair of the RSAC Motorcycle Safety Task Force. He is also affiliated with the University of Adelaide School of Psychology.



Stephen Crotty
Research Assistant,
BE, GDMathSc

Stephen joined CASR in 2010 as a research assistant focusing on computer modelling of traffic networks using microsimulation software.

Stephen's current projects include simulating the effects of intelligent speed adaptation (ISA) on a variety of network conditions and the development of road safety metrics for use in future traffic management and network design philosophies.



Sam Doecke
Research Officer,
BE(Hons)

Sam specialises in computer aided crash reconstruction and simulation, in-depth crash investigation and automotive engineering. He also models the effect of vehicle and roadside technologies

His current research includes evaluating roadside safety measures on high speed roads using simulation of real world crashes, modelling the effect of intelligent speed adaptation, in-depth crash investigation and determining casualty crash reductions from reducing various levels of speeding.

In 2010 Sam authored the paper that won the Peter Vulcan Award for Best Paper at the Australasian Road Safety Research, Policing and Education Conference.



Jeffrey Dutschke
Postgraduate student,
BE(Hons), BSc

Jeffrey is currently undertaking a PhD, investigating how crashworthiness is affected by the use of one of the many criteria that are available to evaluate potential head injury.

In 2009 Jeffrey was awarded the John Kirby Memorial Road Safety Award for Best Paper by a New Researcher, at the Australasian Road Safety Research, Policing and Education Conference for his work investigating the effect of lower speed limits.



Jennifer Grigo
Research Officer,
BBehSc(Hons)

Jennifer specialises in in-depth crash investigation.

Jennifer works as part of the in-depth crash investigation team. Her current projects include evaluating the measurement and influence of sleepiness on driver performance and crashes, and investigating the benefits of protective clothing for motorcyclists in differing locations and crash configurations. She has also been involved in conducting roadside motorcycle observations and analysing performance indicators of enforced driver behaviour.



Dr Paul Hutchinson
Senior Research Fellow,
PhD, MA

Paul specialises in trying to understand data across a wide range of fields, starting from the data and theoretical ideas and actively looking for confirmation or disconfirmation. Data sources that he has experience with include accident records, behavioural observations, and engineering experiments. Some of his work has implications outside of road safety, for mainstream statistics, psychology, engineering, or transport.

Recent projects have included a comparison of the injury severities of the drivers of the older car and the newer car in the same crash, estimating the effects of car mass and mass ratio on driver injury severity, analysis of pedestrian and cyclist accidents in Adelaide, comparing crash numbers before and after speed limit reductions, reviews of the blackspot treatment process, media campaign evaluations, the intoxicated pedestrian problem, and obtaining appropriate measures of travel activity.

Paul is a member of the British Psychological Society, the Royal Statistical Society and the Statistical Society of Australia.



Craig Kloeden
Research Fellow,
BA

Craig's main area of specialisation is the analysis of large data sets particularly in relation to the crash experience of drivers and the speeding behaviour of motorists.

Craig has a thorough understanding of the South Australian Traffic Accident Reporting System database (TARS) consisting of nearly one million crashes and is continuing to develop web based interfaces for exploring this data.

Craig also analyses annual speed data collected each year from around 130 sites throughout South Australia in order to track the changing speed behaviour of motorists over time.

Craig is a member of the RSAC Speed Task Force.



Tori Lindsay
Senior Research Officer,
RN RM, Dip App Sc,
BN Ed

Tori specialises in the relationship between medical health status and crash involvement and health outcomes as a result of crash involvement, including Abbreviated Injury Scoring.

Her current projects include a study related to medical conditions as a contributing factor to crash causation. This comprehensive project involves examination and analysis of information from multiple sources related to collisions occurring on public roads in South Australia. The study is to be conducted over a three year period and it is expected that approximately 1,500 collisions will be investigated during the course of the project.

Tori is a member of the International Traffic Medicine Association.



Brett Linke
Research Officer,
BE(Hons)

Brett specialises in in-depth crash investigation.

Brett has conducted evaluative research into the next generation of intelligent vehicle safety technologies (IVTs) and is currently involved in computer aided crash simulation and reconstruction. Brett is also part of the pedestrian sub-system testing team.



Jamie Mackenzie
Postgraduate student,
BE(Hons)

Jamie is currently undertaking a PhD, analysing the braking interventions made by electronic stability control (ESC) during high speed, rural road crash scenarios.

Typical high speed crash scenarios on Australia rural roads have been developed based on the in-depth crash investigation work of CASR. With the assistance of Bosch Australia, these crash scenarios have been simulated with and without ESC active. The differences in the crash outcomes, and the braking interventions responsible for the differences, are then analysed.



Professor Jack McLean
Professorial Research
Fellow,
FTSE, PhD, MSc, ME, BE

A Fellow of the Australian Academy of Technological Sciences and Engineering, Jack's research areas include crash injury biomechanics, with a particular interest in head injury. He also has extensive experience in the role of human factors in crash causation and vehicle, road, and traffic factors in both crash and injury causation.

He is a past President of the International Council on Alcohol, Drugs and Traffic Safety and is currently a Director of the Australian Institute for Motor Sport Safety and a member of the National Track Safety Advisory Committee of the Confederation of Australian Motor Sport.

Jack has received numerous awards including a Centenary Medal, Commonwealth of Australia, an Award for Engineering Excellence from the United States National Highway Traffic Safety Administration and an International Distinguished Career Award from the American Public Health Association. In 2010 he received the David Dewhurst Award from the College of Biomedical Engineers of the Institution of Engineers Australia.



Giulio Ponte
Research Engineer,
BE

Giulio is an experienced crash investigator and an accredited Road Safety Auditor.

Currently specialising in pedestrian crash safety and other impact testing, he is part of the pedestrian sub-system testing team, conducting testing for both the Australasian New Car Assessment Program (ANCAP) and vehicle manufacturers.

He is also currently undertaking a Masters in Traffic Engineering.



Simon Raftery
Senior Research Officer,
BPsych(Hons)

Simon specialises in in-depth crash investigation and road safety education.

His recent work includes a review of current approaches for road safety education and an investigation of restraint use in fatal crashes. Simon is also involved in the evaluation of the VicRoads Community and Education Policing project aimed at improving motorcycle safety in Victoria.

Simon is completing his PhD examining the relationship between substance use and offending behaviour at the University of South Australia.



Baptiste Sandoz
Research Fellow,
PhD, BS(Hons)

In 2010, Baptiste, a postdoctoral research fellow, worked with CASR on two biomechanical studies with Robert Anderson. The studies were in close collaboration with the Centre for Neurological Diseases at the Hanson Institute. These projects were a study on non-accidental head injury in infants (shaken baby syndrome) and a study on the injury response to direct cortical deformation.

His doctoral studies in France concerned understanding injuries to the child trunk from crash forces. Baptiste also holds masters degrees in robotics and biomechanics.



Daniel Searson
Postgraduate student,
BE(Hons)

Daniel is currently undertaking a PhD studying the influence of test conditions in pedestrian headform impact testing.

Pedestrian impact testing is conducted as part of EuroNCAP and ANCAP, and also for compliance with the United Nations Global Technical Regulation on pedestrian safety. The results of the tests indicate the relative level of protection provided by a vehicle to a struck pedestrian.

Daniel's thesis seeks to examine how choices of headform mass and test speed influence the results of such testing, both in the laboratory and in a real-world context. This has been achieved using a combination of theory and empirical data, from testing conducted in the CASR pedestrian testing laboratory.



James Thompson
Postgraduate student,
BHSc(Hons)

James is currently undertaking a PhD in ageing and mobility after receiving the Road Safety Research Scholarship from the Royal Automobile Association of South Australia.

James is focusing his research on older drivers who live in rural or remote areas of South Australia. He hopes to identify possible ways of minimising their risk on the road while still maintaining their mobility.

As part of this research James authored a paper that was awarded the John Kirby Memorial Road Safety Award for Best Paper by a New Researcher at the 2010 Australasian Road Safety Research, Policing and Education Conference.



Andrew van den Berg
Impact Laboratory
Manager,
BE(Hons)

Andrew is the Manager of the Centre's Vehicle Testing Laboratory, specialising in pedestrian crash safety, impact testing, instrumentation and signal processing.

He is currently completing pedestrian sub-system testing for both the Australasian New Car Assessment Program (ANCAP) and vehicle manufacturers. Andrew also completes specialised impact testing on a contractual basis.

In 2010 Andrew was focused on relocating the CASR Vehicle Testing Laboratory to the new facility at Kent Town.



Adrian Weissenfeld
Postgraduate student,
BA(Hons)

Adrian Weissenfeld commenced a PhD in August after receiving a scholarship from Motorcycling Australia to study a topic in the area of motorcycling safety. Adrian hopes to identify the causes of motorcycle crashes in Australia. His initial research will involve analyzing in-depth crash investigation data with the aim of developing a course of study that examines rider behaviour, attention and awareness.





Dr Jeremy Woolley
Senior Research Fellow,
PhD, BE(Hons)

Jeremy specialises in road infrastructure design and traffic management and is an accredited road safety auditor. He plays a key role in reviewing CASR in-depth crash investigations and is in constant liaison with State and Local Government road authorities regarding road safety issues. Jeremy has spent a considerable part of his career researching the benefits of speed limit changes and has conducted many road safety evaluations to inform policy decision makers.

Jeremy's current activities include providing advice to road agencies on findings from CASR in-depth crash investigations, informing on policies for roadside hazard treatments and the adoption of centreline safety barriers and general advice on how to retrofit Safe Systems principles into the road transport system. He has extensive experience working with transport, police and insurance agencies in several jurisdictions.

Jeremy is currently South Australian Branch President of the Australasian College of Road Safety. In 2010 Jeremy served on the RSAC Speed Management, Heavy Vehicle and Roadside Hazards task forces.



Dr Lisa Wundersitz
Research Fellow,
PhD, BA(Hons)

Lisa specialises in research involving younger drivers, road user attitudes and behaviour, evaluations of road safety programs and mass media campaigns, and in-depth crash investigation.

Her current projects include an examination of the relative contribution of system failures and extreme behaviour in South Australian crashes, a review of best practice for OHSW mass media campaigns, an exploration of the differences in seat belt usage rates between fatal crashes and observational surveys, analyses of young driver crashes using in-depth crash investigation data, a review of current road safety education programs for school students, and in-depth investigation of casualty crashes.



Leonie Witter
Business
Manager



Jaime Royals
Information
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Sommariva**
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Assistant,
BSc



**Phil Jensen-
Schmidt**
Administrative
Officer



Jen Herman
Administrative
Officer



Publications

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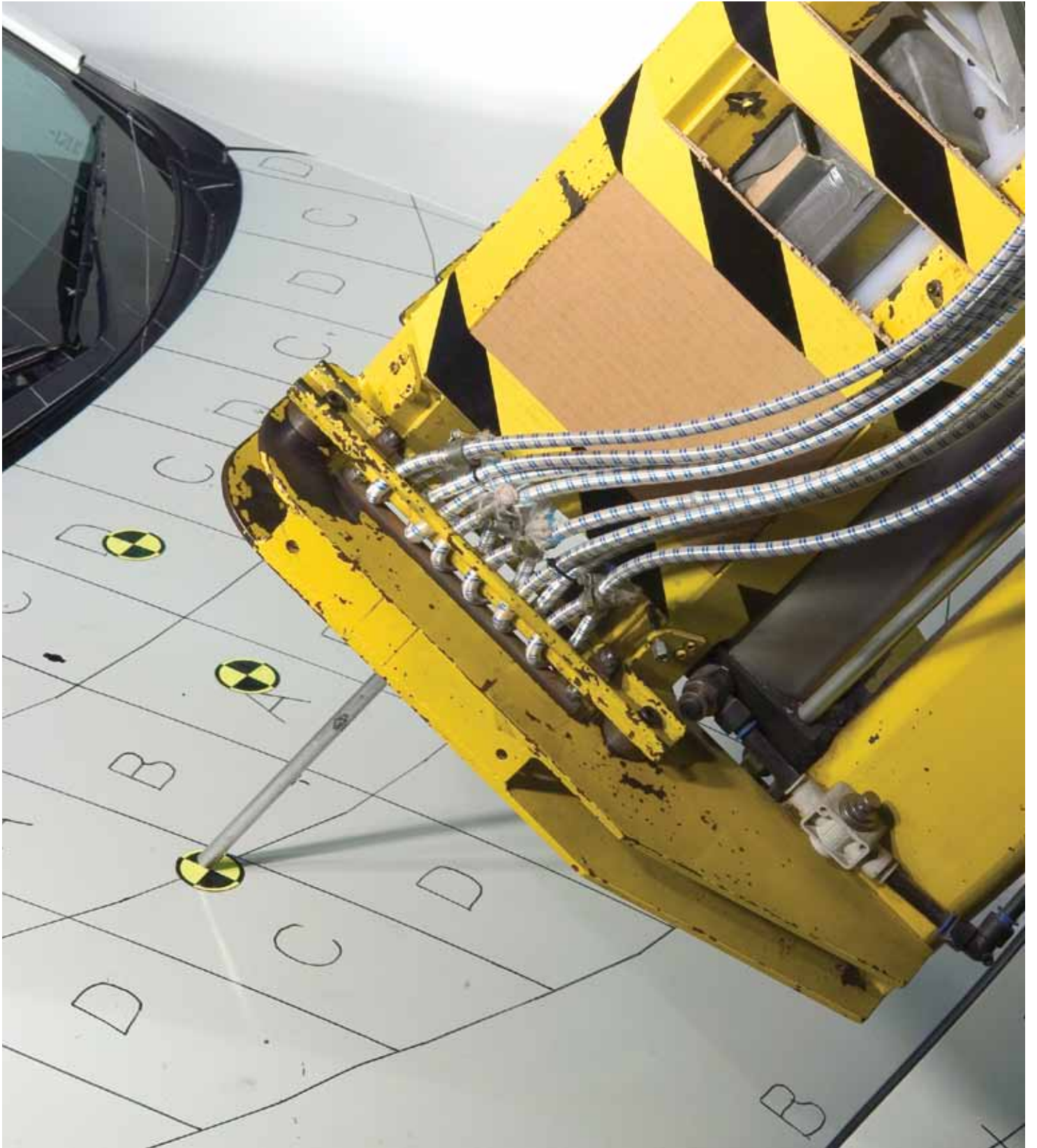
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