CASR Announces New Director

The Centre for Automotive Safety Research is pleased to announce that in August this year, Dr Jeremy Woolley was appointed as the Acting Director of CASR. Jeremy has been with CASR since 2003 and was the Deputy Director prior to the new appointment.

Jeremy replaces Professor Mary Lydon who was Director of CASR from April 2008. Mary arrived at CASR with over 30 years of experience in roads and road safety, having held senior positions with state road authorities and the Australian Road Research Board. This previous experience allowed Mary to develop CASR into a dynamic research centre with an enviable record in attracting contract research. Key to this success has been the development of a culture centred around meeting clients’ needs while also maintaining scientific independence.

In July 2003, the speed limit on approximately 1,100 km of rural arterial roads in South Australia was reduced from 110 km/h to 100 km/h. Jamie MacKenzie, Craig Kloeden and Paul Hutchinson examined crash data for 10 years before the speed limit change and 10 years after the change. The crash data for rural roads with a speed limit that remained at 110 km/h over the same 20 year period were also examined.

‘Analysis of the data showed that crashes and injuries had decreased on roads with a reduced speed limit as well as on roads with a constant speed limit’ says Jamie MacKenzie. However, he adds, ‘for the roads with a reduced speed limit the decrease in crashes and injuries was 27.4 per cent greater compared to the roads with a constant speed limit’.

‘This improvement in road safety was estimated to have resulted in 12 less fatalities and 80 serious injuries and $6.7 million per year in economic savings to the community since the speed limit was lowered’, Jamie explains. Speed measurements on the roads where the speed limit was reduced were also investigated. Of the results he comments, ‘Analysis of the measured speed data suggested that speeds, and particularly high speeds, have continued to fall in the 10 years since the speed limit was reduced. This may be an indication that even greater crash and injury reductions can be expected over the long term’.

For more information please contact Jamie MacKenzie
jamie@casr.adelaide.edu.au
Message from the Director

I would like to welcome you to the first newsletter in my new role as Acting Director at CASR. It is certainly a privilege to lead such a select group of experienced, intelligent and committed individuals who I am sure will continue to make significant contributions to the field of road safety. I hope to build upon all the good work that the previous incumbent, Professor Mary Lydon, has performed over the last seven years and continue CASR’s proud tradition of delivering “research that makes a difference”.

This edition highlights some of the work we have been conducting in the areas of motorcycle safety, speed management and crash statistics. The new publications list reinforces the diversity of CASR activity in many areas of road safety and also across multiple disciplines. We also acknowledge three of our staff graduating with PhDs and it is very satisfying to see young researchers evolving as experts in their field.

There appears to be an increase in collaborative efforts nationally and I am happy to say that CASR is contributing to this in many different ways. A notable change this year is the combining of the annual Australasian College of Road Safety and Road Safety Research, Policing, Enforcement and Education conferences into a single conference in October. This is shaping up to be the pre-eminent road safety conference in the region and CASR has been a strong supporter of the conference. I encourage you to visit our exhibit and get to know the many CASR staff who will be attending if you have not met them before. Naturally CASR staff will be engaging with many stakeholders during the conference so please feel free to come and have a discussion with us.

This year, the South Australian Minister for Road Safety, the Hon Tony Piccolo, has been engaging with local government in forums about proposed speed limit changes on rural roads. Meetings have been scheduled in various parts of the state including Pt Pirie, Peterborough, Streaky Bay, Renmark and the South East. CASR has accepted an invitation to present at the forums to put forward the science behind speed management and perform some “mythbusting” in relation to the evidence of how best to improve road safety on our road network. It is encouraging to see that Department of Planning, Transport and Infrastructure (DPTI), the Motor Accident Commission (MAC), SA Police, and the Royal Automobile Association (RAA) and members of the opposition are also attending the forums in addition to the LGA participants. It is vital that the key leaders in our communities become more familiar with the evidence behind the best road safety countermeasures.

I trust that you will find this version of the newsletter interesting and I look forward to future interactions with you all in my new role.

StreetSmart 2015

In August, CASR held an exhibit at the annual StreetSmart event. The event is organised by the Royal Automobile Association (RAA) and was held at the Adelaide Entertainment Centre. Around 3500 high school students attended the event which involved demonstrations from the South Australian Police and Emergency Services as well as other organisations.

Postgraduate graduations

We would like to congratulate three of our staff who graduated with postdoctoral degrees earlier this year. Jamie MacKenzie completed his engineering based thesis titled “Crash avoidance by Electronic Stability Control on Australian high speed roads: an analysis of braking interventions”. James Thompson completed his thesis in psychology titled “Road safety and mobility of older drivers in rural versus urban areas”.

Congratulations also to Christopher Stokes who prior to starting work with CASR, completed his engineering doctorate on “Minimising the costs and greenhouse gas emissions associated with water distribution systems by considering the time dependency of emissions factors associated with electricity used for pumping purposes”.

Top (Left to right): Dr Jamie MacKenzie and Dr James Thompson with two of James’ supervisors Dr Matthew Baldock and Dr Lisa Wundersitz
Bottom: Dr Christopher Stokes
One of Mary’s most significant achievements during her relocation and enhancement of the CASR Vehicle Testing Laboratory, which is the official testing facility for the pedestrian component of the Australasian New Car Assessment Program (ANCAP). This is the only facility of its kind in Australia.

All the staff at CASR wish Mary all the best for the future and thank her for all she has done over the past seven years. We also welcome Jeremy into the Director role to continue Mary’s good work and to keep CASR at the forefront of road safety research in Australia. A process to formally appoint a new director will be undertaken later in 2015.

Previous research indicates that motorcyclists often fail to respond appropriately in emergency situations, particularly in relation to emergency braking.

Technologies that can assist a rider in emergency braking situations and maintaining control of their motorcycle offer much potential for improving motorcyclist safety.

Combined Braking Systems (CBS) can improve emergency braking performance by assisting a rider automatically actuate both the front and rear brakes with the application of only one brake control. CBS can improve stopping distance but cannot resolve issues of instability once a motorcycle is skidding.

Antilock Braking Systems (ABS) use sensors that continually monitor wheel speeds and wheel deceleration when a motorcycle is undergoing emergency braking. When brake lock-up is likely, ABS quickly and continually modulates the braking pressure to ensure that maximum braking can be achieved and maintained without allowing the motorcycle brakes to lock-up. This can result in improved stopping distances, increased stability, steering ability and control of a motorcycle particularly on poor friction surfaces such as wet pavements or pavements with debris.

Many international studies recognise ABS as the single most effective technology for motorcycles and is likely to have the greatest influence in reducing the number of motorcycle crashes and injuries. One such study estimated a reduction of 48% in serious and fatal motorcycle injuries. Given that this technology has enormous potential to reduce the number of motorcycle injuries and fatalities in South Australia, it should be actively promoted and motorcyclists should be strongly encouraged to purchase motorcycles with ABS; in critical situations ABS could literally mean the difference between life and death.

For more information please contact Giulio Ponte giulio@casr.adelaide.edu.au

Putting the brakes on motorcycle crashes

International Driverless Cars Conference

CASR is proud that Adelaide is hosting the International Driverless Cars Conference at the beginning of November and will be an active participant. Come along and have a chat with CASR staff about the safety benefits of autonomous systems or come and see the demonstration of our Autonomous Emergency Braking (AEB) testing capabilities. Further information can be found at http://dpti.sa.gov.au/driverlesscars

from page 1...

One of Mary’s most significant achievements during her relocation and enhancement of the CASR Vehicle Testing Laboratory, which is the official testing facility for the pedestrian component of the Australasian New Car Assessment Program (ANCAP). This is the only facility of its kind in Australia.

All the staff at CASR wish Mary all the best for the future and thank her for all she has done over the past seven years. We also welcome Jeremy into the Director role to continue Mary’s good work and to keep CASR at the forefront of road safety research in Australia. A process to formally appoint a new director will be undertaken later in 2015.
Mad March on our roads?

In The Advertiser on 30 March 2014 there was a headline by Ben Hyde that read “More die on SA roads during festival season of Mad March, statistics show”. Partly in response to this, CASR set out to examine the general seasonal trend in fatal and injury crashes in South Australia for the years 1982 to 2013.

Overall, no statistical difference was found in the fatal crash rate between the months of the year. It appears that the Advertiser story was primarily based on a slight peak in fatal crashes in March 2013. Such a peak is not unusual and is not meaningful in itself (especially because the peak was in rural areas and not in Adelaide). This is not to say that time of year and events do not influence fatal crash rates. It is just that any such effect would have to be very large to be observable in fatal crash numbers and there is no such large effect present.

When examining all injury crashes, a time of year effect was found (the larger number of such crashes makes finding small differences easier). January was found to have 11.7% fewer injury crashes than an average month and March was found to have 8.6% more. However, this pattern seems to have been in place over the entire time period examined including the years before all of the public events came into existence in March. So if the increasing number of events are affecting injury crash rates, the effect is too small to be observable in the injury crash numbers.

The reason that injury crash rates are low in January and high in March appears to be related to exposure. People take more holidays in January and so probably drive less overall. There also appears to be fewer injury crashes during school holidays which may explain why March, with no school holidays, is one of the higher months. Public holidays were also found to have low injury crash rates.

The full report is available on the CASR web site at: http://casr.adelaide.edu.au/publications/list/?id=1507.

Publications


For further information

Centre for Automotive Safety Research
The University of Adelaide, SA 5005, Australia
Telephone: +61 8 8213 5997
Email: casr@adelaide.edu.au
http://casr.adelaide.edu.au

MAC
Government of South Australia
Department of Planning, Transport and Infrastructure
CRICOS 00123M © The University of Adelaide. February 2015