

Proceedings of the 2015 Australasian Road Safety Conference

ISBN: 978-0-9585691-7-0

Year of Publication: 2015. **Publisher:** Australasian College of Road Safety

The Australasian Road Safety Conference, is a merger of two annual conferences run in Australia, namely the Road Safety Research, Policing and Education Conference and the Australasian College of Road Safety Conference. Both were popular annual events for both researchers and practitioners in the fields of road safety for a number of decades. However, it was deemed by Australia's road safety regulators, researchers, and experts that the two conferences should be merged into one large conference. This is the first year this merged conference is being run.

These proceedings describe research on road safety, the implementation of road safety programs and related enforcement activities, primarily in Australia but also internationally. Papers presented have come from University based research institutions, professional consultants, government agencies, community groups and interested individuals.

The Conference Organising Committee allowed five types of submissions for the Conference: keynote papers, full papers, extended abstracts, posters and conference symposia papers. Each abstract submitted was double blind peer-reviewed by two peer-reviewers. For those Abstracts accepted to the conference, the Authors had a choice of having their submissions peer-reviewed or submitted to the non-peer-review stream.

For those submissions where peer-review was requested a Conference Editor with senior peer status in the respective field of road safety was assigned as the submission handler. The Conference Editor then selected the Peer Reviewers and thereafter handled the peer-review process, submitting their decision of 'accept', 'revise' or 'reject' to the Proceedings Editors. Thus each paper was essentially peer-reviewed by three experts in the paper's classification field. Where necessary, authors amended papers to the satisfaction of the Peer Reviewers, the respective Conference Editor and Proceedings Editors. For those submissions that were peer-reviewed they are identified in the header as 'Peer review stream'.

Non-peer reviewed papers, extended abstracts, posters and conference symposia papers were reviewed only by select Conference Editors for applicable content and format. For those submissions that were not peer-reviewed they are identified in the header as 'Non-peer review stream'.

Copyright in each paper included in the proceedings is owned by the copyright owner(s) stated on that paper, or, if not stated, then by the first named author on behalf of all authors on that paper. Copyright in all other material provided in these proceedings is owned by the Australasian College of Road Safety.

The Proceedings Editors would like to thank in particular the Conference Editors who handled each paper and the Peer Reviewers of the papers and are most grateful to all these people for giving up their valuable time.

The Proceedings Editors would also like to warmly thank all the keynote speakers and presenters, the respective Conference Organising and Scientific Committees, the conference sponsors and session chairs. The valuable input and enthusiasm of all these people and groups for road safety will ensure the 2015 Australasian Road Safety Conference meet the needs of the diverse range of participants and contribute to the overall success of each event. More importantly it is hoped that these proceedings will contribute to the knowledge bank that will help reduce road trauma both in Australia and internationally.

Proceedings Editors:

Grzebieta RH, Armstrong K, Lewis I., Tunks L., Howe C. and Murray C.

Conference Organising Committee

Professor Narelle Haworth (Chair)

Centre Director

Centre for Accident Research and Road Safety – Queensland, Queensland University of Technology

Dr Kerry Armstrong

Senior Research Fellow

Centre for Accident Research and Road Safety – Queensland, Queensland University of Technology

Ms Therese Back

Project Officer

Australasian College of Road Safety

Ms Christine Bethwaite

Finance and Administration Officer

Australasian College of Road Safety

Dr Nerida Leal

Principle Advisor, Road Safety

Queensland Department of Transport and Main Roads

Dr Ioni Lewis

Postdoctoral Research Fellow

Centre for Accident Research and Road Safety – Queensland, Queensland University of Technology

Ms Lisa-Marie O'Donnell

Manager, Road Safety Strategic Development and Intelligence Unit

Queensland Police Service

Ms Jude Williams

Special Projects Officer

Centre for Accident Research and Road Safety – Queensland, Queensland University of Technology

The Scientific Review Committee

Dr Kerry Armstrong (Co-Chair)

Senior Research Fellow

Centre for Accident Research and Road Safety – Queensland, Queensland University of Technology

Dr Ioni Lewis (Co-Chair)

Postdoctoral Research Fellow

Centre for Accident Research and Road Safety – Queensland, Queensland University of Technology

Mr Eric Chalmers

Chief Executive

Kidsafe ACT

Chair

ACT and Region Chapter, Australasian College of Road Safety

Professor Raphael Grzebieta

Professor of Road Safety

Transport and Road Safety (TARS) Research Unit

University of New South Wales

Professor Narelle Haworth
Centre Director
Centre for Accident Research and Road Safety – Queensland, Queensland University of Technology

Dr Marilyn Johnson
Research Fellow
Monash University Accident Research Centre

Mr David McTiernan
Team Leader
ARRB Group Pty Ltd

Ms Clare Murray
Marketing and External Relations Coordinator
Centre for Accident Research and Road Safety – Queensland, Queensland University of Technology

Mr Peter Palamara
Research Fellow
Curtin Monash Accident Research Centre

Dr Bridie Scott-Parker
Research Fellow
University of the Sunshine Coast

Professor Mark Stevenson
Professor of Urban Transport and Public Health
University of Melbourne

Mr Joel Tucker
RACQ Senior Road Safety Advisor
RACQ

Ms Laurelle Tunks
ACRS Journal Managing Editor
Australasian College of Road Safety

Associate Professor Dr Jeremy Woolley
Centre for Automotive Safety Research

List of Conference Editors

Jeremy Woolley	The University of
Blair Turner	Adelaide
Joel Tucker	Melbourne
Richard Tay, PhD	Springwood
Mark Stevenson	Melbourne
Martin Small	Melbourne
Keith Simmons	Torrens Park
Teresa Senserrick, PhD	UNSW Sydney
Bridie Scott-Parker, PhD	UNSW Sydney
Chika Sakashita, BPsych, PhD	Sippy Downs
Carrie Ritchie	Adelaide
Michael Arthur Regan, PhD	Griffith University
	Sydney

George Rechnitzer, PhD	UNSW Sydney
Jeff Potter, PhD	Melbourne
Ashley Pedler	
Peter Gerard Palamara, MSc	Perth
Stuart Newstead	Monash University
Lori Mooren, M.A.	Sydney
Lynn Meuleners, PhD	Perth
David McTiernan	Ultimo
David Logan	Monash University
Ioni Lewis	Kelvin Grove
Mike Lenné, PhD	Melbourne
Peter John Kolesnik	Brisbane
Craig Kloeden	Adelaide
Mark Johann King, PhD	Kelvin Grove
Lisa Keay, PhD MPH	Sydney
Marilyn Johnson, PhD	Clayton
Raymond Soames Job, BA, PhD, GAICD	Adelaide
Rebecca Ivers	Sydney
Timothy Paul Hutchinson	Adelaide
Narelle Haworth	Kelvin Grove
Julie Hatfield	Sydney
Rena Friswell	UNSW Sydney
Judy Fleiter, PhD	Kelvin Grove
Jeff Dutschke	University of Adelaide
Sam Doecke	Adelaide
Liz de Rome, PhD	Randwick
Jeremy Davey	Brisbane
Luke Connelly	Brisbane
Eric Chalmers, M.B.A	Mawson
Nimmi Candappa	clayton
Peter Cairney	VERMONT SOUTH
Samantha Buckis	Geelong
Julie Brown, PhD	Randwick
Soufiane Boufous	Sydney
	The University of
Mike Bambach	Sydney
Kerry Armstrong	Kelvin Grove

List of Peer Reviewers

William Young, MBA, Phd	Melbourne
Lisa Wundersitz	Adelaide
	The University of
Jeremy Woolley	Adelaide
Sharon Wishart	Melbourne
Hollie Wilson, PhD	Brisbane
Ann Williamson	UNSW Sydney
Catherine Wilkins, PhD	Docklands
Michael Anthony White, PhD	Adelaide
Christopher N Watling, MAppSc	Brisbane
Karen Vlok, RN, Bnurs	melbourne

Andrew L van den Berg	Kent Town
Michael Tziotis, M Eng Sci	Vermont South
Blair Turner	Melbourne
Joel Tucker	Springwood
Olga Troynikov, PhD	melbourne
James Thompson, PhD	Adelaide
Claire Thompson	East Perth
Richard Teale	Brisbane
Richard Tay, PhD	Melbourne
Chris Stokes, PhD	Adelaide
Mark Stevenson	Melbourne
Amir Sobhani	Melbourne
Martin Small	Torrens Park
Vic Siskind, PhD	Brisbane
Keith Simmons	UNSW Sydney
Teresa Senserrick, PhD	UNSW Sydney
Bridie Scott-Parker, PhD	Sippy Downs
Giovanni Savino	Florence
Chika Sakashita, PhD	Adelaide
Paul Roberts, PhD	Perth
Carrie Ritchie	Griffith University
Michael Arthur Regan, PhD	Sydney
George Rechnitzer, PhD	UNSW Sydney
Gemma J. M. Read	Sippy Downs
Gemma J. M Read	Sippy Downs
Simon Raftery	Adelaide
Jeff Potter, PhD	Melbourne
Giulio Ponte, BEng, PGradDip (Transport and Traffic)	Adelaide
Steven Perry	
Ashley Pedler	
Shane Panoho	Nambour
Peter Gerard Palamara, MSc	Perth
Jennie Oxley, PhD	Monash University
Florin Opreescu	
Lisa O'Donnell	Brisbane
Stuart Newstead	Monash University
Clare Murray	Kelvin Grove
Lori Mooren, M.A.	Sydney
David Milling, Associate Degree Civil Engineering	albion
Lynn Meuleners, PhD	Perth
David McTiernan	Ultimo
Jamie Mackenzie, PhD	Adelaide
David Logan	Monash University
Tori Lindsay	
Ioni Lewis	Kelvin Grove
Michael Levasseur	Ultimo
Mike Lenné, PhD	Melbourne
Brendan Lawrence	Clayton
Sjaan Koppel	Monash University
Peter John Kolesnik	Brisbane

Larissa Knight	Fortitude Valley
Craig Kloeden	Adelaide
Mark Johann King, PhD	Kelvin Grove
Lisa Keay, PhD MPH	Sydney
Chris Jurewicz	Vermont South
Peter Johnston, MA	Canberra
Marilyn Johnson, PhD	Clayton
Raymond Soames Job, PhD, GAICD	Adelaide
Rebecca Ivers	Sydney
Claire Irvine	Brisbane
Kelly Imberger, Grad Dip Road Safety	Melbourne
Timothy Paul Hutchinson	Adelaide
Christopher James Hurren, PhD	Waurm Ponds
Kate Hunter, PhD	Sydney
Narelle Haworth	Kelvin Grove
Julie Hatfield	Sydney
Jenelle Catherine Hartman, PhD	Brunswick
Simon Harrison	Brisbane
Peter Harris, BEng BBus	Bulleen
Allan Hales	
Raphael Grzebieta, PhD	UNSW Sydney
Rena Friswell	UNSW Sydney
James Freeman	Kelvin Grove
Judy Fleiter, PhD	Kelvin Grove
Peter Flanders	Brisbane
Ashleigh Filtness, PhD	Kelvin Grove
Ian Faulks	Kelvin Grove
Rita Excell, Bachelor of Engineering	Adelaide
Colin Edmonston	North Rockhampton
Jeff Dutschke	University of Adelaide
Jon Douglas	Brisbane
Sam Doecke	Adelaide
Sebastien Demmel, PhD	Kelvin Grove
Angelo D'Elia	Monash University
Liz de Rome, PhD	Randwick
Jeremy Davey	Brisbane
Kristy Coxon	Sydney
Luke Connelly	Brisbane
Belinda Clark	Clayton
Chi Ngok Chow, PhD	Bentley
Anna Chevalier	
Eric Chalmers, M.B.A	Mawson
Peter John Carmichael	Brisbane
Nimmi Candappa	clayton
Max Cameron, PhD	Clayton
Peter Cairney	VERMONT SOUTH
Laurie Budd, M. Biostatistics	Clayton
Samantha Buckis	Geelong
Julie Brown, PhD	Randwick
Phillip Brooks	Huntingwood

Soufiane Boufous
Martin Boorman
Ross Blackman, PhD
Kenn BEER
Lyndel Bates
Ben Barnes

Mike Bambach
Matthew Baldock
Trevor Bailey, Ed.D, M.Ed
Samuel Bailey, BA (Theo) Hons; BPsyc (Hons)
Kerry Armstrong
Trevor Allen, PhD
Hafez Alavi
Joesph Affum, PhD

Sydney
Docklands
Brisbane
Brunswick
Mt Gravatt
Haymarket
The University of
Sydney
University of Adelaide
Adelaide
Fortitude Valley
Kelvin Grove
Monash University
Geelong
Brisbane