

Curriculum vitae: Kristen Pammer  
Professor Level E  
Head of the School of Psychological Sciences

## ACADEMIC QUALIFICATIONS

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Ph.D.	The University of Wollongong	1997
Masters in Neuroanatomy	The University of NSW	1994
B.Sc. (Hons)	The University of Wollongong	1993
Graduate Certificate In Higher Education	The Australian National University	2014

## APPOINTMENTS

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### Current

Head of the School of Psychological Sciences, the University of Newcastle  
From Jan 2018

### Other

Adjunct Professor the Australian National University  
Research Associate, School of Psychology, University of Waikato (honorary position)  
Academic board member; ACAP  
Chair HODSPA (Heads of Departments and Schools of Psychology Australia)  
Secretary of the Psychology Foundation Australia

### Previous

Associate Dean Teaching and Learning, ANU	2015-2018
Associate Director of Science Education (Psychology)	2013-2018
Deputy Director of the Research School of Psychology (ANU)	2016-2018
University Education Scholar	2012-2013
Lecturer Level C at the Australian National University	2005-2010
Research Fellow RIKEN University, Japan	2007
Lecturer Level B at the Australian National University	1999-2005
Visiting researcher at Helsinki University of Technology	2004-2005
Postdoctoral research fellow at Newcastle University, UK	2000–2003
Lecturer Level A at the Australian National University	1996-1999
Maternity leave	1997 and 2000

## PRIZES and AWARDS

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Faculty of Science Global Engagement Award	2020
Vice-Chancellors award for Excellence in Indigenous Education	2017
Senior Fellow of the Higher Education Academy	2013
University Education Scholar	2012
ANU Top Supervisor Award for postgraduate supervision	2010
Australian Learning and Teaching Council Award for Outstanding	2009

Contributions to Student Learning  
The ANU Student's Association Award for Excellence in Teaching

2008

## LEADERSHIP INITIATIVES

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- In my role of the Head of School of Psychology over the last 3 years I have led a number of initiatives, including:
  - Indigenisation of Psychology curricula and securing a full time Indigenous Scholar
  - Navigated the school through the COVID-19 crisis and emerged with an increase in student feedback and student enrolments.
  - Doubling of student enrolments over the last 5 years from ~500 students to ~1000 students
  - Achieved an ERA of 5 for both Psychology FoR codes
  - Introduced 4 new programs (a Master of Professional Psychology, a clinical PhD and a Graduate Diploma in Psychology, a Bachelor of Psychological Science (Advanced))
  - Introduced 5 new combined degrees with Psychology
  - Managed an extensive change process
  - Chaired the HeadsUp team consisting of all the Heads of School at UoN
  - Developed a comprehensive outreach program
  - Developed a new faculty workload model
  - Set up the Master of Business Psychology in Singapore
  - Established PsycCares (a free 'pantry' for students stocked through donations)
  - Established international articulation arrangements with International Institutions (e.g., Temasek Polytechnic, Singapore Polytechnic, Ngee Ann Polytechnic, Manipal University and HouSen University)
  
- Achievements prior to my role as head of school at the University of Newcastle include:
  - Was one of the inaugural 8 academics in Australia to become a member of the Higher Education Academy and helped develop the first HEA assessment process in Australia.
  - Established an articulation program with Southwest University in China. This is a dual-degree program where students receive an ANU Psychology degree, and an SWU degree. This program started in 2016. Over 40 international students to articulated into the BSc(Psyc) program in July 2017, and another 17 in Feb 2018.
  - I designed an APAC accredited Master of Applied Psychology introduced in 2018.
  - As part of the SWU/ANU Psychology partnership, I started a research program looking at International Student's expectations and mental health in articulating to an Australian University.
  - I was the driving force behind a Summer STEM program for indigenous teenagers throughout Australia. The program was run for the first time in summer 2016 with great success, and it won the VC's award for Indigenous Education in May 2017.
  - I developed articulation programs with institutions in Singapore and Malaysia, such as HELP University, Singapore Polytechnic, Ngee Ann and Temasek. I oversee and administer these articulation programs, and these formed the model for other articulation programs within the ANU.
  - The ANU had no formal peer review process for teaching and learning, so I established a Peer Review program called Peer Partnerships. Similarly, the development of sessional staff is vital to the health of any education program, thus I started the first tutor training program in science which has now been adopted for development throughout science. I have also led the development of a Peer Assisted Learning program in Psychology which has been hugely successful. The overall results were very exciting, with a highly significant 9% increase in marks for students who attended PAL sessions, and the program was then adopted in 2<sup>nd</sup> year courses

## RESEARCH OUTPUT with citations (web of science) [5 year impact factor]

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### Scholarly Book Chapters

1. **Pammer, K.** (2011). The role of the dorsal pathway in word recognition. In J. Stein & Z. Kapoula (Eds.), *Visual Aspects of Dyslexia* (pp.137-170). Oxford: Oxford University Press.
2. **Pammer, K.** (2009). Features are fundamental in word recognition. In P. Cornelissen., P. Hansen., & K. Pugh (Eds.), *The Neural Basis for Reading*. (pp. 33-46). Oxford: Oxford University Press

### Refereed journal articles

(\* = student papers)

3. \*Keene, T; **Pammer, K**; Lord, B; Shipp, C. (2022). Dispatch information affects diagnosis in paramedics: an experimental study of applied dual-process theory. *International Journal of Emergency Services*. February (early access).
4. \*Friere, M. & **Pammer, K.** (2022). Reading as A Cultural Tool for Neurocognitive Development: A Complex Interactive Relationship between Reading Acquisition and Visuospatial Development for Indigenous and non-Indigenous Australians. *Journal of Cognition and Development*. Feb (early access).
5. \*McKerral, A. & **Pammer, K** (2022). Identifying objective behavioural measures of expert driver situation awareness. *Accident Analysis and Prevention*. 163. Dec. Early access.
6. Gauld, C; Watson, B; Lewis, I; White, KM; **Pammer, K.** (2021). An exploration of the effectiveness of in-person and online versions of the induced hypocrisy paradigm to reduce smartphone use among young drivers. *Transportation Research Part F. Traffic Psychology and Behaviour*. 82, 462-474.
7. **Pammer, K.**, McKerral, A. & Lui, Y. (2021). The contribution of memory to differences in situation awareness in expert and non-expert drivers. *Transportation Research Part F. Traffic Psychology and Behaviour*. 82, 154-166.
8. **Pammer, K**; Gauld, C; McKerral, A; Reeves, C. (2021). "They have to be better than human drivers!" Motorcyclists' and cyclists' perceptions of autonomous vehicles. *Transportation Research Part F. Traffic Psychology and Behaviour*, 78, 246-258.
9. **Pammer, K.**, Friere, M., Gauld, C. & Towney, N. (2021). Keeping safe on Australian roads; key determinants of health. *International Journal of Environmental Research and Public Health*. 18(5).
10. \*Hutchinson, B., **Pammer, K.** & Jack, B. (2021). Pre-stimulus alpha predicts inattentive blindness. *Consciousness and Cognition*, 87.
11. \*Archer, K., **Pammer, K.** & Vidyasagar, T.R. (2020). A temporal sampling basis for visual processing in developmental dyslexia. *Frontiers in Human Neuroscience*, 14(213).
12. \*Hutchinson, B., **Pammer, K.** & Bandara, K. (2020). tACS stimulation at alpha frequency selectively induces inattentive blindness. *Brain Topography*, 33(3), 317-326.
13. \*Friere, M. & **Pammer, K.** (2020). Influence of culture on visual working memory: evidence of a cultural response bias for remote Australian Indigenous children. *Journal of Cultural and Cognitive Science*. 4, 232-341.

14. Beanland, V., & Walsh, E. & **Pammer, K.** (2020). Undergraduate students' perceptions of and engagement in research participation to fulfill an introductory psychology course requirement. *Teaching of Psychology*, 47(1), 74-83.
15. \*Tulloch, K., & **Pammer, K.** (2020). Tablet computer games to measure dorsal stream performance in good and poor readers. *Neuropsychologia*. 130, 92-99
16. \*Freire, M. & **Pammer, K.** (2020). Reading between the lines; Neurocognition and reading acquisition in remote Indigenous Australia. *Journal of Cross-Cultural Psychology*, 50(3), 460-478.
17. \*Flint, S., & **Pammer, K.** (2019). It's the chicken, not the egg; dorsal visual deficits present in dyslexia are not present in illiterate adults. *Dyslexia*, 25(1), 69-83 .
18. \*Allen, R., & **Pammer, K.** (2018). The impact of concurrent noise on children with ADHD. *Journal of Attention Disorders*, 22(14), 1344-1353.
19. **Pammer, K.**, Rainari, A., Beanland, V., Bell, J, & Borzycki, M. (2018). Expert drivers are better than non-experts at rejecting unimportant information in static driving scenes. *Transportation Research Part F: 59*, 389-400.
20. **Pammer, K.**, & Blink. (2018). Visual processing in expert drivers: What makes expert drivers expert? *Transportation Research Part F: Psychology and Behaviour*. 55, 353-364.
21. \***Pammer, K.**, Sabadas, S. & Lentern, S. Allocating attention to detect motorcycles: The role of inattentional Blindness. *Human Factors*. 60(1), 5-19
22. \*Sloan, N., Doran, B., Markham, F., & **Pammer, K.** (2016) Does base map size and imagery matter in sketch mapping? *Applied Geography*, 71, 24-31 (1) [3.2]
23. \***Pammer, K.**, Bairnsfather, J., Burns, J. & Helsing, A. (2015). Not all hazards are created equal: The significance of hazards in inattentional blindness for static driving scenes. *Applied Cognitive Psychology*. 29, 782-788. [1.8]
24. \***Pammer, K.**, Korell, H. & Bell, J. (2014). Visual distraction increases the detection of an unexpected object in inattentional blindness. *Visual Cognition*, 22, 1173-1183. [1.5]
25. **Pammer, K.** Temporal sampling in vision and the implications for dyslexia. (2014). *Frontiers in Neuroscience*, 7. (6) [4] <http://journal.frontiersin.org/article/10.3389/fnhum.2013.00933/full>
26. **Pammer, K.** (2014). Brain Mechanisms and reading remediation: More questions than answers. *Scientifica*, 2014, 1-9.
27. \*Metcalf, O., & **Pammer, K.** (2014). Impulsivity and related neuropsychological features in regular and addictive first person shooter gaming. *Cyberpsychology Behaviour and Social networking*, 17, 147-152. (2) [3.2]
28. \*Fiveash, A., & **Pammer, K.** (2014) Music and language: Do they draw on Similar Syntactic Working Memory Resources? *The Psychology of Music*, 42, 190-209 (4) [2.4]
29. \*Metcalf, O., & **Pammer, K.** (2013). Sub-types of gaming addiction: Physiological arousal deficits in addicted gamers differ based on preferred genre. *European Addiction Research*, 20, 23-32. (4) [2.4]

30. Vanags, T., **Pammer, K.** & Brinker, J. (2013). Process-oriented guided-inquiry learning improves long-term retention of information. *Advances in Physiology Education*, 37, 233-241. (4) [1.7]
31. **Pammer, K.**, & Blink, C. (2013) Attentional differences in driving judgments for country and city scenes: Semantic congruency in Inattentive Blindness. *Accident Analysis and Prevention*, 50, 955-963 (6) [2.7]
32. \*Metcalf, O., & **Pammer, K.** (2013) Investigating Markers of Behavioural Addiction in Excessive Massively Multiplayer Online Role-Playing Gamers. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 6(3), (11) DOI: <http://dx.doi.org/10.5817/CP2012-3-4>
33. \*Beanland, V., & **Pammer, K.** (2012). Minds on the blink: The relationship between inattentive blindness and attentional blink. *Attention, Perception and Psychophysics*, 74, 322-330. (6) [2.2]
34. \*Metcalf, O., & **Pammer, K.** (2011). Attentional Bias in Excessive Massively Multiplayer Online Role-Playing Gamers Using a Modified Stroop Task. *Computers in Human Behavior*, 27, 1942-1947. (11) [3.7]
35. \*Beanland, V., Allen, R., & **Pammer, K.** (2011). Attending to music decreases inattentive blindness. *Consciousness and Cognition*, 20, 1282-1292. (9) [2.4]
36. \*Beanland, V & **Pammer, K.** (2010). Looking without seeing or seeing without looking? Eyemovements in sustained inattentive blindness. *Vision Research*, 50, 977-988. (14) [2.3]
37. Vidyasagar, T.R. & **Pammer, K.** (2010). Letter-order encoding is both bottom-up and top-down: Response to Whitney. *Trends in Cognitive Sciences*, 14(6), 238-239. (2) [23.9]
38. Vidyasagar, T.R. & **Pammer, K.** (2010). Dyslexia: a deficit in visuo-spatial attention, not in phonological processing. *Trends in Cognitive Science*, 14(2), 57-63. (168) [23.9]
39. **Pammer, K.**, Connell, E., & Kevan, A. (2009). Reading and spelling: Using visual sensitivity to explore separate or dual orthographic mechanisms. *Perception*, 39, 387-406. (4) [1.1]
40. \*Kevan, A., **Pammer, K.** (2009). Predicting early reading skills from pre-reading measures of dorsal stream functioning. *Neuropsychologia*, 47, 3174-3181. (29) [3.7]
41. **Pammer, K.**, (2009). What can MEG neuroimaging tell us about reading? *Journal of NeuroLinguistics*, 22, 266-280. (6) [1.5]
42. \*Kevan, A., & **Pammer, K.** (2008). Visual processing deficits in preliterate children at familial risk for dyslexia. *Vision Research*, 48, 2835-2839. (29) [2.3]
43. \*Kevan, A., & **Pammer, K.** (2008). Making the link between dorsal stream sensitivity and reading. *Neuroreport*, 19(4), 467-470. (15) [1.4]
44. \***Pammer, K.**, & Kevan, A. (2007). The contribution of visual sensitivity, phonological processing, and nonverbal IQ to children's reading. *Scientific Studies of Reading*, 11, 33-53. (9)
45. Kujala, J., **Pammer, K.**, Cornelissen, P., Roebroek, A., Formisano, E., & Salmelin R. (2007). Phase coupling in a cerebro-cerebellar network at 8-13 hz during reading. *Cerebral Cortex*, 17, 1476-1485. (61) [7.9]
46. **Pammer, K.**, Hansen, P., Holliday, I., Cornelissen, P. (2006). Attentional shifting and the role of the dorsal pathway in visual word recognition. *Neuropsychologia*, 44, 2926-2936. (43) [3.7]

47. **Pammer, K.**, & Vidyasagar, TR. (2005) Integration of the visual and auditory networks in dyslexia: a theoretical perspective. *Journal of Research in Reading*, 28, 320-331. (30) [2.9]
48. **Pammer, K.** What's in a name? (2005) *Special Education Perspectives*, 14, 3-7
49. **Pammer, K.**, Lavis, R., Cooper., Hansen, P., & Cornelissen, P. (2005) Symbol string sensitivity and adult performance in lexical decision. *Brain and Language*, 94, 278-296. (19) [3.3]
50. **Pammer, K.**, Lavis,R., Hansen, P.,Cornelissen, P (2004). Symbol string sensitivity and children's reading. *Brain and Language*, 89, 601-610. (59) [3.3]
51. **Pammer, K.**, Hansen, P., Kringelbach, M., Holliday., I Barnes, G., Hillebrand, A., Singh, K., Cornelissen, P (2004). Visual word recognition: the first half second. *Neuroimage*, 22, 1819-1825. (109) [6.8]
52. **Pammer, K.**, Lavis, R., & Cornelissen, P. (2004).Visual encoding mechanisms and their relationship to text presentation preference. *Dyslexia*, 10, 77-94. (11) [1.6]
53. **Pammer, K.** & Wheatley, C (2001). Isolating the M(y)-cell response in dyslexia using the spatial frequency doubling illusion. *Vision Research*, 16, 2139-2147. (39) [2.3]
54. **Pammer, K.**, & Lovegrove, W. (2000). The influence of colour on transient system activity: Implications for dyslexia research. *Perception and Psychophysics*, 63(3), 490-500. (13) [2.3]
55. Vidyasagar, T, R., & **Pammer, K.** (1999). Impaired visual search in dyslexia relates to the role of the magnocellular pathway in attention. *NeuroReport*, 10, 1283-88. (109) [1.4]
56. Avons, S., Wright, K., & **Pammer, K.** (1994). The word-length effect in probed and serial recall. *Quarterly Journal of Experimental Psychology – Human Experimental Psychology*. 47 A(1) 207-231. (60) [2.5]

#### **Refereed conference papers (extended abstracts)**

57. **Pammer, K.**, & Sabadas, S. (2016). Coming out of no-where: Attention and motorcycle detection. *Australasian College of Road Safety Journal*, 2016.  
<http://acrs.org.au/files/papers/arcs/2016/Pammer%2000039%20EA.pdf>
58. **Pammer, K.** (2015). Driven to Distraction: Exploring the role of healthy distraction on driver performance. *Australasian College of Road Safety Journal*.  
<http://acrs.org.au/files/papers/arcs/2015/PammerK%20089%20Exploring%20the%20role%20of%20healthy%20distraction%20on%20driver%20performance.pdf>.
59. Beanland, V., **Pammer, K.**, Sledziowski, M. & Stone, A. (2015). Drivers' attitudes and knowledge regarding motorcycle lane filtering practices immediately preceding the Australian Capital Territory lane filtering trial. *Australasian College of Road Safety Journal*.  
<http://acrs.org.au/files/papers/arcs/2015/BeanlandV%20077%20Drivers%20attitudes%20and%20knowledg e%20regarding%20motorcycle%20and%20filtering%20practices.pdf>
60. Flint, S., & **Pammer, K.** (2013). Principles of Test development in Papua New Guinea. IACCP. Proceedings of the 20th International Association for Cross Cultural Psychology  
[http://iaccp.org/sites/default/files/stellenbosch\\_pdf/Flint.pdf](http://iaccp.org/sites/default/files/stellenbosch_pdf/Flint.pdf)
61. Beanland, V., & **Pammer, K.** (2010). Gorilla watching: Effects of exposure and expectations on inattentional blindness. In W. Christensen, E. Schier, & J. Sutton (Eds.), ASCS09: Proceedings of the 9th Conference of the Australasian Society for Cognitive Science. Sydney: Macquarie Centre for Cognitive Science.

<http://www.cogsci.mq.edu.au/news/conferences/2009/ASCS2009/pdfs/Beanland.pdf>

## RESEARCH FUNDING Chief Investigator

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### Awarded

The Australian Automobile Association (2021). Understanding in-car distraction	\$1.2 mill
Department of Infrastructure, Transport, Regional Development and Communications (2020). Connecting humans and self-drive cars: a safe vision for smart cities	\$192,528
Spearpoint Solutions and Technology (2020) Integrated Digital Helmet	\$102,600
ACT Government Autonomous Vehicle Trials (co CI) (2017)	\$1.34 mill
Questacon/ANU co-funded PhD scholarship (2016) Understanding the reach of national outreach in STEM	\$90,000
ANU Major Equipment Grant (2014) Haptic feedback driving simulator for road safety research	\$100 000
ARC Linkage (2013) Attention and hazard perception while driving; how experts see the scene	\$151 884
Teaching Enhancement Grant (2012) Evaluating best practice and the development of a working model of peer-review of teaching	\$8 644
NRMA Road Safety Trust (2010) Understanding “looked-but-failed-to-see” crashes the role of inattentive blindness <i>Category 2 funding</i>	\$90,000
Aston Visiting Scholar Award (2008) Cortical mechanisms of visuo-spatial attention	\$6000
VC’s Discretionary Award (2007) BESA neuroimaging software	\$20,000
ARC LEIF large equipment grant (2005) Magnetoencephalographic neuroimaging system	\$734,124
The AAC International Collaboration grant (2005) Using MEG to assess cortical interactions in colour-sound synaesthesia	\$11,000

### Research output context

I have published more than 60 journal articles and book chapters, with a career total of 57 journal articles, 2 book chapters, 42 abstracts/presentations at a conference, and 1 creative work. I am sole author on 6 (10%), first named author on 21 (35%), and the last named author on 25 (42%) (the latter reflecting lab lead). My publications feature in high quality journals; 42 (74%) of the Scopus/SciVal indexed articles are included in Q1 of journals in their SJR subject category. Of my publications, 26 (46%) have been mapped to one or more of the United Nations Sustainable Development Goals; Good Health and Wellbeing (num publications = 8, FWCI 0.39), Quality Education (num publications = 18, FWCI = 1.89, and Sustainable Cities and Communities (num publications = 5, FWCI = 0.41)

My publications have been cited 1,693 times in 1288 publications from 160 institutions in 65 countries, and 71% of my publications indexed in Scopus and SciVal have received at least 1 citation. Importantly, the majority (>90%) of these are not self-citations. The average citation per publication for all years is 33.23 (SciVal). McNally (2010) benchmarks scholarly impact for Psychology academics in Australia, indicating that the average number publications for a Professor in Psychology in Australia is 30 with an average citation rate of 315. This indicates that my output is above the Australian average for professor level. Of these, 17% include international co-authors. The average FWCI for these publications is 1.52, indicating that they are cited 52% above world average.

Scopus' citation percentile indicates how citations received by an article compare with the average for similar articles. 22 of my publications indexed in Scopus have a citation benchmark percentile of 70 and above. Eight of these publications have a percentile of 90 or above, placing them in the top 10% within their subject category. My publications; Vidyasagar & Pammer, 2010 has a citation percentile of 99, placing it in the top 1% within their subject category and is a Web of Science 'Highly Cited in Field'.

My h-index 23 (Google Scholar) 20 (SciVal), is higher than the average in the Social Sciences in Australia of 9.8 (Harzing, 2014), and is consistent with the GO8 average, it is above the Australian average for Psychology professors.

My FWCI is 1.15 which means that on average each of my publications are cited 15% more often than publications of the same age, publication type and discipline. 44% of my publications indexed in Scopus have a FWCI above 1, indicating that the publication is more cited than expected compared to the world average. 8 of my publications indexed in SciVal are included in the top 10% of cited publications: 4 of these publications are included in the top 5% within their topic area, and 1 publication is included in the top 1% within five fields (Cognitive neuroscience; Experimental and Cognitive Psychology; Neuropsychology & Physiological Psychology; Neuroscience and Psychology); Dyslexia: A deficit in visuo-spatial attention, not in phonological processing (FWCI = 9.27)

The Altmetric Attention Score provides a weighted count of the amount of attention tracked for a research output. At least on one of my papers is in the top 25% of all research outputs scored by Altmetric, 3 publications have been cited by 5 patents, 17 of my publications have attracted 62 tweets by 59 unique tweeters over 13 countries, and 2 of my publications have been mentioned in 8 news stories in 7 countries

### **HIGHER DEGREE SUPERVISION Primary Supervisor (Chair of supervisory panel)**

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#### **Current**

Caitlin Reeves	Trust in autonomous vehicles; implications for driver capability	Student started 2021
Kimberly Archer	Cortical connectivity and implications for dyslexia	Student started 2020
Angus McKerral	Human action and situation awareness in autonomous vehicles	Student started 2019
Toby Keen (PhD) [PT]	Clinical decision making in paramedics	Student started in 2016
Iris Carter (PhD Clin):	Implications of dorsal pathway atrophy in aging	estimated submission: Dec 2017 (extension)
Fauve D'Souza (DPsyc)	Mindfulness in the classroom	Student started with me (from another supervisor) in 2017

### **COMMUNITY AND BUSINESS ENGAGEMENT**

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AAA  
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Australian Trucking Association

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Seeing Machines and the ACT Government

*We had a large grant to work together on human factor interactions with Autonomous Vehicles.*

ACT Road Ready (Ascent Training).

*I have strong research connections with Ascent Training who runs the ACT Road Ready course, which is the pathway for novice drivers to gain their drivers license in the ACT*

The Motorcycle Council of NSW

*I work closely with the Chair and Secretary of the Road Safety Committee as part of our community engagement in road safety. We present our research at their national forums and engage in research collaboration.*

Questacon/ANU co-funded PhD scholarship; Understanding the reach of national outreach in STEM

*The development and management of the RSP's first industry collaborative PhD scholarship.*

ARC Linkage Grant: Attention and hazard perception while driving; how experts see the scene

*The development and management of this project required bringing together 6 institutions: the Australian National University, Monash University Accident Research Centre (MUARC), Monash University, The ACT-NRMA Road Safety Trust, Ambulance Victoria and ACT Ambulance Service. This project has required the successful negotiation of a diverse range of objectives and required deliverables across different sectors.*

Student-community engagement

*A new co-curricular initiative is being established for the ANU (ANU+) in which students can engage in co-curricular activities as a way of both enhancing their entry mark, and adding the value of the co-curricular engagement towards their university award.*

Road Safety: Justice and Community Safety

*As part of our road safety research and the development of our ACTS Lab (Applied Cognition and Transport Safety), we have been involved in evaluating a trial of 'lane splitting' in the ACT. Lane splitting is when a motorcycle moves between two lanes of vehicles. The aim is to address motorcycle safety in the ACT.*

Student entry programs

*I was responsible for the outreach programs that identify and attract students with high academic achievement, including ANU extension, Science Olympiads and the Youth Science Forum*

Local community: research

*As an expert in learning and learning disorders, I am engaged in a number of community organisations, such as SPELD, P&C and school committees*

Local community: education

*I regularly go to schools in the ACT and NSW region to talk about studying Psychology, and STEM subjects in general. As a woman in science, and having 2 daughters, and 2 step daughters I am particularly committed to our local girl's schools in this regard. I also give regular workshops, public speaking events and seminars within schools and colleges around the ACT and NSW. I have also advised on the ACT Schools and Colleges Curriculum Committee for the development of school curricula in Psychology.*

## EDUCATION ACTIVITIES: TEACHING

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Over my career I have held the following positions:

Associate Dean of Teaching and Learning (Previous title: Deputy Director of Science Education)

The Associate Director of Science Education (Psychology)

Associate Director of Education (Research School of Psychology)

Convenor of the B(Psychology) program

Convenor of the Psychology Undergraduate Research Experience course (PSYC3030)

College of Science Undergraduate Psychology advisor

Coordinator of the 4<sup>th</sup> Year Honours Program.

Convenor of the Graduate Diploma Psychology

First Year Convenor (>10 years in this role)

### Lecturing (course coordinator)

1 <sup>st</sup> Year Sex, Drugs and Serial Killers (developed and delivered course from scratch)	2020-current
1 <sup>st</sup> Year Introduction to Psychology	2007-2018
1 <sup>st</sup> Year Life Issues in Psychology	2009-2018
4 <sup>th</sup> Year Honours course	2007-2018
3 <sup>rd</sup> Year Research Special Topics course	2007-2018
3 <sup>rd</sup> Year Psychology Undergraduate Research Experience course	2014-2018

### Guest Lecturer:

2 <sup>nd</sup> Year Developmental Psychology	1998 - current
2 <sup>nd</sup> Year Cognitive Processes	1996 - current
2 <sup>nd</sup> Year Biological Basis of Behaviour	1996 - 2000
3 <sup>rd</sup> Year Issues in Cognitive Psychology	1996 - current
3 <sup>rd</sup> Year Perception.	1996 - 1997
ANU Medical School Lecture Series: Cognitive Psychology	2004 - 2007
Psychology Clinical program	2008 – current

All of these courses have received above average student. My engagement on these courses formed the basis for my local and national teaching awards.

## SERVICE

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### Committee membership (current)

HeadsUp (Chair)  
 Australian College of Applied Psychology; Academic board  
 Curriculum management committee  
 College strategic planning committee  
 College teaching and learning committee  
 Enabling change committee  
 Inspiring people committee

### **Committee membership (ANU, pre 2018)**

University Education Committee  
CMBE/CPMS Education Committee  
College of Arts and Social Sciences Education committee  
CMBE/CPMS First Year Coordinators committee  
The Research School of Psychology Education Committee  
The Research School of Psychology Senior Staff Advisory Committee  
STLC Steering Group  
Statistics Curriculum Committee  
Cognitive Psychology Committee:  
Developmental Psychology Curriculum Research Committee

### **Membership of professional organisations**

Australasian College of Road Safety  
Organisation for Human Brain Mapping  
Australian Neuroscience Society  
Macquarie Centre for Cognitive Science  
Australasian Society for Psychophysiology  
The Society for the Scientific Study of Reading  
The International Brain Research Organisation  
DDOLL network (Developmental Disorders of Language and Literacy)

### **Scientific administration**

I am a regular reviewer for a number of international journals, including:

Traffic Psychology and Behaviour  
Accident Analysis and Prevention  
Safety Science  
Human Factors  
Nature Neuroscience  
Neuropsychologia  
Current Biology  
Vision Research  
Dyslexia  
Human Brain Mapping  
Cognitive Brain Research  
Journal of Research in Reading  
The Study for the Scientific Study of Reading  
Neuroreport  
Brain and Language  
Cortex

I have been a grant assessor on national (NHMRC and ARC) and international (e.g., the Open Programme of the Netherlands Organisation for Scientific Research, Canadian Health Research Council) research proposals.

### **Conference organisation**

19<sup>th</sup> Australasian Conference on Science and Mathematics Education, ANU, September 2013  
53<sup>rd</sup> Experimental Psychology Conference, ANU April 2007.  
5<sup>th</sup> annual Conference of the Australian Society for Psychophysiology, ANU Dec 2006.

### **COMMUNITY AND OUTREACH**

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### **Service activities and public education**

Most recently, I have applied my knowledge of cognition and reading to Indigenous education, and have recently been associated with Our Lady of the Sacred Heart School in Wadeye conducting collaborative research to understand cognitive strengths in Indigenous children and how such strengths apply to reading. In my capacity as the HoS of Psychology at the UoN, I have secured an academic Indigenous Scholar position in the school. The individual in this role guides and advises the school in the Indigenisation of our curriculum and in developing community-led research. I also collaborate with the Wiyiliin Ta Counselling service; a local Indigenous counselling service for Indigenous children and teenagers, developing and fostering links between the service and the UoN. Under my lead, the school has led the faculty in the development of Indigenisation of undergraduate and postgraduate teaching, and it is my ambition that the School of Psychology will be an Australian leader in the education of Indigenous Psychology professional practice.

The other major impact of my research is in the area of road safety where I have demonstrated the following benefits outside academia:

- *Motorcycle safety:* My research on Inattention Blindness for motorcycles has fostered significant interest in the general motorcycle community. I am regularly invited to the Motorcycle Torque Festival in Sydney to present my research and talk to motorcyclists. I am now working with the motorcycle council of NSW to look at incidences of looked-but-failed-to-see-crashes involving motorcyclists, with the aim to put in place road safety strategies and public awareness campaigns to reduce incidences of SMIDSYs (Sorry Mate I Didn't See You).
- *Road safety policy development:* As a consequence of my involvement in road safety research, I have been invited to work on assisting road safety strategies and strategic government policy development. For example, for the Justice and Community Service sector I assisted in the evaluation of the government's trial introduction of 'lane splitting', by investigating driver awareness of motorcycle behaviour before and after the implementation of the trial period. I have also been asked to provide strategic research advice on the ACT government's trial of autonomous vehicles. In this, we have been discussing distraction and disengagement for autonomous vehicle operators, particularly looking at how quickly passengers can take control of the vehicle if required.
- *Driver training:* I meet regularly with Ascent Training - the company running the Road-Ready course in the ACT for learner drivers, and motorcycle training throughout Australia. I have advised them on visual, cognitive and attentional factors that are important in learner drivers, particularly in the context of situational awareness and hazard detection. On the basis of this, they have included an 'Inattention Blindness' module into their driver training program.
- *Drug driving:* Until recently, I sat on the ACT working party on drug driving, in which we are formulating public policy around drug driving detection, monitoring and research.
- *Emergency services driver training:* The outcomes of the ARC Linkage grant LP130100181 has also had a significant impact on driver training policy for the emergency services. We have demonstrated important differences between expert drivers (paramedics) and non-expert drivers in terms of their situational awareness, attention to road detail, attentional prioritising when driving, and visual scanning behaviour. These outcomes have been incorporated into the driver training programs.

**In the context of my reading/dyslexia research:** I am considered to be an internationally respected authority on reading difficulties, and I am consulted regularly by parents and health professionals who have been referred to me as a source of advice regarding teaching reading, dyslexia and learning difficulties. I frequently talk at schools and community groups about reading and reading disorders. I am a consultant contact for Australia on the World of Dyslexia Website ([http://www.dyslexia-parent.com/world\\_of\\_dyslexia.html](http://www.dyslexia-parent.com/world_of_dyslexia.html)), and the site Developmental Disorders of Literacy and Language <http://www.cogsci.mq.edu.au/ddoll/>, and as such I receive requests for advice from people all over the world. In this capacity I have given a number of keynote addresses at national and international conferences, such as the *Australasian Society for Psychophysiology*,

*The HCSNet workshop on Cognitive Science and Text, and the 3<sup>rd</sup> Oxford-Kobe Symposium on Dyslexia, as well as requested review articles.*

- I was instrumental in re-establishing SPELD (Specific Learning Difficulties) in the ACT and I was co-founder of the Canberra and Region Learning Disabilities Support Group. I frequently (approximately 1-2 times a month) go out to schools and community groups to discuss issues about dyslexia. As a result of my community work, I have access to a large network of dyslexic individuals and their families.

I regularly talk on radio and media outlets about my research, and the following *Altmetrics* (Alternative Metrics Scores) provide an indication of the amount of attention that my research has received, based on sources such as media, blogs, social media etc. The scores represent a weighted amount of attention tracked from these sources for a research output, only articles in the top 25% are included here.

*In the top 25% of all research outputs scored by Altmetric \* relevant to current study (Altmetric attention score)*

- **\*Pammer, K., Sabadas, S., & Lentern, S. (2018).** Allocating Attention to Detect Motorcycles: The Role of Inattentive Blindness. *Human Factors*, 60(1), 5-19 (52)
- Beanland, V., & **Pammer, K. (2010).** Looking without seeing or seeing without looking? Eye movements in sustained inattentive blindness. *Vision Research*, 50(10), 977-988. (31)
- Vidyasagar, T. R., & **Pammer, K. (2010).** Dyslexia: a deficit in visuo-spatial attention, not in phonological processing. *Trends in Cognitive Sciences*, 14(2), 57-63. (15)
- Flint, S. & **Pammer, K. (2018).** It is the egg, not the chicken; dorsal visual deficits present in dyslexia are not present in illiterate adults. *Dyslexia* (8)
- **Pammer, K. (2014).** Brain mechanisms and reading remediation: more questions than answers. *Scientifica*, 2014, 802741. (7)
- Vidyasagar, T. R., & **Pammer, K. (1999).** Impaired visual search in dyslexia relates to the role of the magnocellular pathway in attention. *NeuroReport*, 10(6), 1283-1287. (6)
- Metcalf, O., & **Pammer, K. (2014).** Impulsivity and related neuropsychological features in regular and addictive first person shooter gaming. *Cyberpsychology, Behavior, and Social Networking*, 17(3), 147-152. (4)

### Promoting the university and discipline

I work closely with schools in NSW, (and previously in the ACT and Victoria) delivering workshops and lectures to students, teachers, careers counsellors and parents talking about studying science and psychology. As a consequence of my dyslexia research, I engage extensively with schools, parents and child development organisations in the context of learning difficulties and the scientific status of reading remediation. Internationally, I have been instrumental in the development of articulation programs with institutions in Singapore and Malaysia, such as HELP University, Singapore Polytechnic, Ngee Ann and Temasek Polytechnics. I oversee and administer these articulation programs, and these now form the model for other articulation programs within the university. I developed and managed combined degree programs with Southwest University in China, (with ANU Psychology in my previous role), and received a teaching excellence award from the International Agency AEMG for International teaching. In addition to this, I regularly visit international agents and schools, attending agent fairs and presenting to international groups about studying science and Psychology. Aligned with this I have had a role in government-sector policy development in education as an advisor on the ACT –based Psychology teaching curriculum committee which is responsible for the development of Psychology teaching in the High School and College sector.

### Other professional activities

I have shown innovation and leadership in education, both within my discipline and throughout the college of sciences; as a University Education Scholar, one of the founding Senior Fellow of the Higher Education Academy in Australia, and an assessor for the Higher Education Academy (HEA) Fellowship scheme. Through my teaching journey, I have won a number of local and national teaching awards, including *The ANU Student's Award for Excellence in Teaching (2008)*, *ALTC Award for Outstanding Contributions to Student Learning (2009)*, *ANU Top Supervisor Award for postgraduate supervision (2010)* and *Vice-Chancellors Award for Excellence in Education (2017)*.

Since 2010 my research has shifted to include understanding the visual-attentional mechanisms that are involved in identifying hazards when driving. The aim of our research has been to move beyond the physical characterisation of Inattentive Blindness, to understanding what the phenomenon means for cognitive models of attention, and in the applied setting – what this means for situational awareness. On the basis of this research, I received a grant from the NRMA-ACT Road Safety Trust in 2010 to investigate visuo-spatial attention in driving within the context of Inattentive Blindness. This was the first study to use of Inattentive Blindness in a 'real life' environment such as driving, and was significant in demonstrating that the notion of attentional set is applicable in real-world scenarios. It also established that visuo-spatial attention such as hazard detection and vigilance is dependent upon the expectations that we have for driving situations. The Road Safety Trust grant was then followed by an ARC Linkage grant to look at attention and cognition in expert drivers. This grant has resulted thus far in 5 research articles and refereed conference articles, 9 conference papers, and 4 invited talks. In addition it has resulted in 12 undergraduate student projects, and 4 honours projects. With the increasing interest and success in our research, we received a \$100K Large Equipment grant to fund the set-up of a driving laboratory, and then following this, with the company Seeing Machines, \$1.3 million from the ACT Government to explore human factors in autonomous vehicle use. Most recently we received \$192K to explore human factors and road safety in the context of autonomous vehicles.

However, the long term theme of my research has been in understanding the brain mechanisms and visual processes that are involved in reading and dyslexia. Specifically, I have used behavioural and brain imaging technology to understand how very fast visual signals in the brain can guide attention to construct letters and words and guide the eye across the page when reading. My research has been instrumental in demonstrating that such processes are deficient in dyslexic readers, and I have pioneered techniques to identify poor readers at early ages, particularly before they learn to read, I was one of the first to demonstrate that changes in cortical frequency dynamics can have correlates in cognition such as reading. This research has been fundamental in understanding the perceptual and brain mechanisms involved in reading and dyslexia.

My 20 years of research to understand the cognition and neuropsychology of reading has been the back-bone of our research to understand the cultural context of cognition. Prior to our research very little research had been done to understand how culture can influence basic cognitive processes such as memory and attention. The accepted belief was (and still is to many researchers) that these are unvarying and inflexible aspects of neurocognition, such that understanding memory in a white middle-class group of 1<sup>st</sup> year university students is a satisfactory foundation for understanding memory in all people, in all communities. Our research has demonstrated that this is not the case. Basic cognitive processes can be shaped by cultural experience, and particularly by Indigenous ways of knowing, being, and, doing, and this is important in understanding the applied role of cognition in areas such as language acquisition, and how we teach children to read. Our research has been instrumental in changing the narrative around Indigenous literacy education, and how we understand complex cognition within a framework of Indigenous ways of knowing being and doing.

Most recently I have combined my expertise in driving research with our research incorporating Indigenous knowledge. We have experienced enthusiastic support from our local Indigenous communities, including Wandiyali community centre, Hunter River High, Taree High, Tuggerah Lakes Secondary College. My

emerging expertise in Indigenous road safety also led to an invitation to contribute to a special edition of International Journal of Environmental Research and Public Health; (*Keeping safe on Australian roads: Overview of key determinants of passenger injuries and fatalities for Indigenous populations*).

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## REFERENCES

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