

Ruth Jennifer Schulz – Curriculum Vitae

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Profile:

- I am a cognitive scientist and robot enthusiast who enjoys using robots to do interesting things. My research interests include robot language, navigation, artificial intelligence, social robots, and human-robot interactions.

Career Development:

- **Research Fellow**, QUT, *January 2014 – Present*
Research on the ARC Discovery Project “*Human Cues for Robot Navigation*”; Supervising PhD students
- **Lecturer**, QUT, *July 2013 – December 2013*
Lecturing half of the Introduction to Robotics course; Organising the QUT SEF Showcases for final year students completing capstone projects in Engineering, IT, and Games
- **Research Scientist**, CSIRO, *January 2013 – June 2013*
Producing quality research and technical input for the Mobile Telepresence for Museums and Strategic Lightweight Robotics projects
- **Research Fellow**, The University of Queensland, *July 2008 – December 2012*
Lecturing COMP3702/7702 Artificial Intelligence; Research with robots and language: “*Lingodroids*”; Supervising honours and masters students
- **Robotics Tutor**, The University of Queensland, *February 2005 – December 2005*
Tutoring introductory robotics to school classes (year 5 to year 12); Assisting with the organisation of a robotics competition
- **Design Engineer**, EDM Limited, *February 2004 – February 2005*
Investigating the usability of metering software; Research and development of a wireless metering device
- **Research Assistant**, The University of Queensland, *December 2000 – January 2004*
Assisting with cognitive science projects

Education History:

- **Doctor of Philosophy in Computer Science**, The University of Queensland, *Completed 27/11/2008*
Topic: *Spatial Language for Mobile Robots: The Formation and Generative Grounding of Toponyms*
- **Bachelor of Engineering (Electrical) with Honours Class I and Bachelor of Science (Computer Science)**, The University of Queensland, *Completed 8/12/2003*
Thesis Topic: *Interface for an Automated Cocktail Maker*

Awards and Achievements:

- CSIRO ICT Centre Teamwork Award 2013 as part of the Mobile Telepresence for Museums Project
- Australian Postgraduate Award 2006-2008
- COSNet Overseas Travel Grant to attend Evolang, March 2008
- Valedictorian for the Faculty of Engineering, Physical Sciences and Architecture, School of Information Technology and Electrical Engineering, 2003

Publications:

According to Google Scholar on 24/12/14: 22 publications, 100 citations, h-index = 6, i10-index = 4

- *Book Chapter*

Wyeth, G., Milford, M., Schulz, R., and Wiles, J. (2011). The RatSLAM project: Robot spatial navigation. In Jeffrey L. Krichmar and Hiroaki Wagatsuma (Ed.), *Neuromorphic and brain-based robots* (pp. 87-108) Cambridge, United Kingdom: Cambridge University Press.

- *Journal Papers*

Milford, Michael & Schulz, Ruth (2014) Principles of goal-directed spatial robot navigation in biomimetic models. *Philosophical Transactions of the Royal Society B : Biological Sciences*, 369(1655), pp. 1-13.

Schulz, R., Wyeth, G., and Wiles, J., (2012). Beyond here-and-now: Extending shared physical experiences to shared conceptual experiences, *Adaptive Behavior*. 20(5), 360-387.

Heath, S., Schulz, R., Ball, D., and Wiles, J. (2012). Long summer days: Grounded learning of words for the uneven cycles of real world events, *IEEE Transactions on Autonomous Mental Development*. 4(3), 192-203.

Schulz, R., Wyeth, G., and Wiles, J. (2011). Lingodroids: Socially grounding place names in privately grounded cognitive maps. *Adaptive Behavior*, 19 6: 409-424.

Schulz, R., Wyeth, G., & Wiles, J. (2011). Are We There Yet? Grounding Temporal Concepts in Shared Journeys. *IEEE Transactions on Autonomous Mental Development*, 3(2), 163-175.

Milford, M., Schulz, R., Prasser, D., Wyeth, G., & Wiles, J. (2007). Learning spatial concepts from RatSLAM representations. *Robotics and Autonomous Systems - From Sensors to Human Spatial Concepts*, 55(5), 403-410.

- *Selected Conference Papers (see full list on Google scholar)*

Lam, Obadiah, Dayoub, Feras, Schulz, Ruth, & Corke, Peter (2014) Text recognition approaches for indoor robotics : a comparison. In 2014 Australasian Conference on Robotics and Automation, 2-4 December 2014, University of Melbourne, Melbourne, VIC.

Heath, S., Ball, D., Schulz, R., and Wiles, J., (2013). Communication between Lingodroids with Different Cognitive Capabilities, *ICRA 2013, The International Conference on Robotics and Automation*, Karlsruhe, Germany, May 2013.

Schulz, R., Ward, B., Roberts, J., (2013). Interactions with a Museum Telepresence Robot, *ICRA 2013 Workshop Human Robot Interaction (HRI) for Assistance and Industrial Robots, Scientific Knowledge, Standards and Regulatory Framework. How do I design for the real world?*, Karlsruhe, Germany, May 2013.

Schulz, R., Glover, A., Milford, M., Wyeth, G., & Wiles, J. (2011) Lingodroids: Studies in Spatial Cognition and Language, *ICRA 2011, The International Conference on Robotics and Automation*, Shanghai, China, May 2011

Community Activities and Volunteer Work:

- Bai Rui Taekwon-do Tournament Organisation Committee 2007 – present
- Editor of Bai Rui Taekwon-do Newsletter 2008 – 2012
- Member Bai Rui Taekwon-do Demonstration Team 2005 – 2011, 2013
- Volunteer for Robocup Junior National Competition 2003 – 2005

Extracurricular Activities and Interests:

- Taekwon-do (Training with Bai Rui Taekwon-do since 2004, Instructor since 2009, currently a 4th Degree Black Belt), Sewing, Running, Reading, Swimming