

Australasian Conference on Robotics and Automation (ACRA 2025)

Joondalup, Australia
1-3 December 2025

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ACRA 2025 Program

Day 1: Monday 1st December 2025

8:00 – 8:45	Registration & Morning Tea / Coffee
8:45 – 9:00	Welcome Message
9:00 – 10:00	Keynote 1: Effective Human Robot Teaming (Prof. Dana Kulic)

Oral Session 1 (Chair: Dr Syed Shams ul Islam)	
Machine Vision 10:00-11:00	
103 - Multi-Modal Camera-Based Detection of Vulnerable Road Users...1	
115 - Robots Watching Robots - Pose Estimation Applied to Humanoid Robots...11	
118 - LAPX: Lightweight Hourglass Network with Global Context...20	
121 - Automated Bud Counting in Ornamental Woody Plants Using Multi-View Photogrammetry and Deep Learning...30	

11:00 – 11:30	Morning Tea
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Oral Session 2 (Chair: Dr Jumana Abu-Khalaf)	
Industrial Robotics and Automation 11:30-12:30	
116 - Design and Evaluation of Assistive Modes in a Lower Back Exoskeleton for Sheep Shearing: a Case Study...39	
138 - Big Robots, Small Tasks -Task Scale Reduction Using a Simple Pantograph Mechanism...58	
157 - Wear-Aware Reinforcement Learning for Supervisory Control of SABC Grinding Circuits...66	
173 - A Service Robot's Guide to Interacting with "Busy" Customers...75	

12:30 – 13:30	Lunch Break
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Oral Session 3 (Chair: Dr Leimin Tian)	
Human Machine Interfaces 13:30-14:30	
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113 - Influence of Operator Expertise on Robot Supervision and Intervention...95	
130 - Towards Senior-Robot Interaction: Reactive Robot Dog Gestures...105	
136 - Continual Learning for User Specific sEMG Complex Gesture Recognition Using CNN and Elastic Weight Consolidation...115	

14:30 – 15:30	<i>Robotics Experts Panel Discussion – Session Chair: Prof. Will Brown</i>
15:30 – 16:00	<i>Afternoon Tea</i>

Oral Session 4 (Chair: Dr Akansel Cosgun)	
Artificial Intelligence and Biomimetics 16:00-17:30	
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119 - Leveraging Human Motion Intention Prediction for Grasping Moving Objects in Human-Robot Collaboration...133	
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137 - Addressing Sim-To-Real Gap for Autonomous Racing of F1Tenth Cars...162	
175 - PanoStereo: Unleashing Video Diffusion Models for Stereoscopic Image Generation...172	

18:15 – 20:30	<i>Welcome Reception (Birra Bar)</i>
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Day 2: Tuesday 2nd December 2025

8:00 – 8:30	Registration & Morning Tea / Coffee
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151 - Conservative Bias in Multi-Teacher Learning: Why Agents Prefer Low-Reward Advisors...199	
162 - PIPE-i Mini - Navigation and Exploration for a Multi-Sensor Robotic Platform Used in Surveying Environments...209	

9:30 – 10:30	Keynote 2: Safe, collaboration-friendly, user-acceptable perception and localization for autonomous systems (Prof. Michael Milford)
10:30 – 11:00	Morning Tea and Robot Demonstration

Oral Session 6 (Chair: Dr Md Moniruzzaman)	
Autonomous Vehicles 11:00-12:00	
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12:00 – 13:00	Women in Engineering & Automation Workshop – Session Chair: Jumana Abu-Khalaf – Senior Panellist: Prof Dana Kulic.
13:00 – 14:00	Lunch Break

Oral Session 7 (Chair: Dr Naeha Sharif)	
Machine Vision 14:00-15:00	

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172 - Emergent Herding Behaviour Through Decentralised Reinforcement Learning...364
176 - A Framework for Empathy Enhancement in Social Service Robotics...372

18:30 – 22:00 | **Dinner & Awards, AGM (Joondalup Resort)**

Day 3: Wednesday 3rd December 2025

8:00 – 8:30	Registration & Morning Tea / Coffee
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167 - Sampling-based Predictive Control for Non-prehensile Manipulation...407	

9:00 – 10:00	Keynote 3: Robotic exploration of Deep Space (Prof Paulo de Souza)
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10:00 – 10:30	Morning Tea
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Oral Session 11 (Chair: Dr Eduardo Sandoval)	
Autonomous Vehicles / Manipulators 10:30-11:30	
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11:30 – 12:30	Rio Tinto Tutorial: Considerations when transitioning from manual to autonomous operations – Iron Ore Train Operations Use Case
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12:30 – 13:30	Lunch Break
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15:30 – 16:00	<i>Afternoon Tea</i>
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Oral Session 14 (Chair: Dr Md Moniruzzaman)
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