



Australian Government
Department of Defence
Defence Science and
Technology Organisation



UNSW
AUSTRALIA

**EMERGING DISRUPTIVE TECHNOLOGIES
ASSESSMENT SYMPOSIUM
2015**

**PROGRAM
15-17 JULY 2015**

TIME		DAY 1 - 15 July 2015	
8:30		<i>Registration Desk Open</i>	
9:00		Opening Comments	
Chair: Dr Nigel McGinley	9:10	UNSW Australia Welcoming	Prof Les Field, Vice-President & Deputy Vice-Chancellor (Research) (UNSW Australia)
	9:20	Welcome and Symposium Official Opening	Dr Alex Zelinsky, Chief Defence Scientist (DST)
	9:40	Plenary Future Ground Vehicle Robotics	Dr Paul Rogers (US Army TARDEC, USA)
	10:10	UNSW Australia - Robotics & Automation	Prof Maurice Pagnucco (UNSW Australia)
10:30		MORNING TEA	
Chair: Dr Alfredo Martinez-Gall	11:10	Innovation Keynote - Break Through Innovation	Dr Steve Brodie (UNSW Australia)
	11:30	Innovation Keynote - Playing Nice Across Time and Space	Mr Mike Conroy (NASA, USA)
	12:00	Student Innovation Prize	
12:40		LUNCH	
Chair: Dr Richard Davis	13:40	Opportunities for Trusted Autonomy for HADR	Dr Todd Mansell (DST)
	14:10	Autonomous Systems for Humanitarian Assistance and Disaster Response	Mr Corey Cook (Lockheed Martin)
	14:30	Trust in Humans and Machines	Prof Hussein Abbass (UNSW Australia)
14:50		AFTERNOON TEA	
Chair: Dr Nigel McGinley	15:20	A Solar Superstorm - What If?	Dr Foster Langbein (Risk Frontiers)
	15:40	Calibrated trust and what makes a trusted autonomous system	Dr Brian Mekdeci (University of SA)
	16:00	Workshop Overview	Mr Andrew Balmaks (Noetic Group)
16:10		WORKSHOP 1 - Trusted Autonomy Foundations	
17:20		Closing Comments	
Networking Session (including Capability Cards) 1800-1900			

TIME		DAY 2 - 16 July 2015	
8:30		<i>Registration Desk Open</i>	
9:00		Opening Comments	
Chair: Mr Jim Smelt	9:10	Autonomous Unmanned Surface Vessels (USVs) for Ocean Monitoring and Surveillance	Dr Robert Dane (Ocius Technology)
	9:30	Micro-UAV Challenges: Exploring the Solutions and their Implications for Capability	Dr Simon Ng (DST)
	SETUP		
	10:00	Plenary Challenge and Opportunities in Human Robot Collaboration	Prof SK Gupta (University of Maryland) via Skype*
10:30		MORNING TEA	
Chair: Dr Jason Scholz	11:10	Industry Experience in Breaking Down the Barriers of Trust in Unmanned Autonomous Systems	Mr Ashley Searl (BAE Systems Australia)
	11:30	Towards Cognitive Sensor Fusion in Unstructured Environments	Dr David Johnson (Australian Centre for Field Robotics, University of Sydney)
	11:50	Swarm Intelligence - From Biology to Robots	Dr Jan Carlo Barca (Monash University)
	12:10	Rapid Modelling Technique for Modelling and Simulation of Large Complex Systems	Prof Saeid Nahavandi (Centre For Intelligent Systems Research, Deakin University)
12:30		LUNCH	
Chair: Dr Nigel McGinty	13:30	Cooperative and Non-Cooperative Decision Making for UAS Detect-and-Avoid: A Novel Unified Approach	Prof Roberto Sabtini, RMIT
	13:50	Towards Machine Plasticity	Dr Jason Scholz (DST)
	14:10	Experiences With Formalising Trustworthy Behaviours Systems	Dr John Zic (CSIRO)
	14:30	The Intelligent Watchdog: Sensors, Air and Land Vehicles Working Together as a Team	Andrew Lucas (Agent Oriented Software)
	14:50	Acceptance, Expectation and Trust in Human-Automation Interaction	Prof Liz Sønenberg (University of Melbourne)
15:10		AFTERNOON TEA	
Chair: Mr Peter Kerr	15:40	Autonomous Learning Systems: Design, Development and Deployment	A/Prof Chee Pong (Centre For Intelligent Systems Research, Deakin University)
	16:00	Assessment of Autonomy - Handling Uncertainty about Behaviours and Decisions	Prof Tristan Perez (Queensland University of Technology)
16:20		WORKSHOP 2 - Trusted Autonomy Roadmap	
17:20		Closing Comments	
Symposium dinner Dinner Speaker - Prof R.E. Burnett (National Defense University, USA) - A Survey of Humans and Autonomy 1830-1930 (pre-dinner drinks), 1930-2130 (dinner)			

TIME		DAY 3 - 17 July 2015	
8:30		<i>Registration Desk Open</i>	
9:00		Opening Comments	
Chair: Dr Richard Davis	9:10	Undersea Search and Sensors	Dr David Battle (DST)
	9:30	Plenary Incremental Steps to Full Autonomy	Mr Ron Allum - Deepsea Services
	10:00	Robotic Systems: Autonomy, Collaboration and Physical Assistance	Dr Alen Alempijevic (UTS)
	10:20	Trusting technology in a complex world	Dr Peter Dortmans (DST)
10:40		MORNING TEA	
Chair: Dr Nigel McGinty	11:10	Panel Session - Trust in Autonomous Technology	Mr Tim McFarland (University of Melbourne)
			Dr Brian Mekdeci (University of SA)
			Dr Jai Galliot (UNSW Australia)
			Prof R.E Burnett (National Defense University, USA)
			Dr Jason Scholz (DST)
12:10		Workshop - scene setting - objectives and scenario	
12:30		LUNCH	
13:00		WORKSHOP 3 - PART A - Trusted Autonomy & HADR	
15:00		AFTERNOON TEA	
15:30		WORKSHOP 3 - PART B - Trusted Autonomy & Defence Operations	
16:40		Symposium Conclusions	Dr Todd Mansell (DST)
17:00		<i>Registration Desk Closes - baggage collection</i>	