



Australian Government  
Department of Defence  
Defence Science and  
Technology Organisation

## Defence Science and Technology Organisation and University of South Australia Joint Symposium on Cognitive Neuroengineering and Computational Neuroscience

<b>Thursday 5 February, 2015</b>			
0830-0850	<b>Registration</b>		
0850-0855	<b>Housekeeping</b>	<i>Bernie</i>	
0855-0900	<b>Professor Nanda Nandagopal</b> <i>Chair Defence Systems</i>	<i>University of South Australia</i>	Symposium Chair Welcome
0900-0915	<b>Professor Simon Beecham</b> <i>PVC: ITE&amp;E</i>	<i>University of South Australia</i>	Opening Address (Including Traditional Owner Acknowledgement)
0915-1000	<b>Rear Admiral Robyn Walker</b> <i>Commander Joint Health and Surgeon- General, Australian Defence Force</i>	<i>ADF</i>	<b><u>Keynote Speech</u></b>

1000-1030	<b>Dr. Paul Gaertner</b> <i>Head, DSTO Operations Support Centre Group Leader Land Mathematical Science</i>	<i>DSTO</i>	The importance of Cognitive Neuroengineering and Computational Neuroscience for Defence
1030-1100	<b>Morning Tea</b>		
<b>Session 2:</b>	<b><u>Chair: Bernadine Cocks</u></b>		
1100-1130	<b>Bernadine Cocks</b>	<i>University of South Australia</i>	Small Worlds, Rich Clubs and Other Network Measures (for the mathematically challenged)
1130-1200	<b>Dr. R. (Viji) Vijayalakshimi</b> <i>Associate Professor</i>	<i>PSG Institutes, Coimbatore, Tamil Nadu, India</i>	<b>Feature Speaker:</b> Graph theoretic Analysis of Functional Brain Networks and Thresholding
1200-1230	<b>Dr Tara Hamilton</b>	<i>University of Western Sydney</i>	Neuromorphic Engineering: New Computational Paradigms Inspired by the Brain
1230-1330	<b>Lunch</b>		
<b>Session 3:</b>	<b><u>Chair: Bernadine Cocks</u></b>		
1330-1400	<b>Dr Dan Navarro</b>	<i>University of Adelaide</i>	What can statistical theory tell us about human cognition?
1400-1430	<b>Dr Saeid Mehrkanoon</b>	<i>University of Tasmania</i>	Whole-brain dynamic functional connectivity in resting-state and motor skill learning

	<i>Postdoctoral Research Fellow Brain Dynamics and Signal Processing Lab</i>		
1430-1450	<b>Migel Tissera</b> <i>PhD Candidate</i>	<i>University of South Australia</i>	Deep Extreme Learning Machines: Supervised Auto- Encoding Architecture for Classification
1450-1510	<b>Bahar Moezzi</b> <i>PhD Candidate</i>	<i>University of South Australia</i>	Computational modelling of the auditory pathway via stochastic vesicle release: Modifying the model to match the results.
1510-1540	<b>Afternoon Tea</b>		
<b>Session 4:</b>	<b>Chair: David Crone</b>		
1540-1610	<b>Bernadine Cocks</b>	<i>University of South Australia</i>	Cognitive Augmentation: The good, the bad and the downright questionable!
1610-1635	<b>Nabaraj Dahal</b> <i>CNeL PhD Candidate</i>	<i>University of South Australia</i>	Modelling and Simulation of EEG during audio distracted driving
1635-1700	<b>Md. Hedayetul Islam Shovon</b> <i>CNeL PhD Candidate</i>	<i>University of South Australia</i>	Transfer Entropy and Information Flow Patterns in Functional Brain Networks during Cognitive Activity
1700-2000	<b>Evening Reception</b>		

**Friday 6 February, 2015**

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0830-0850	Coffee		
<b>Session 1:</b>	<b>Chair: Bernadine Cocks</b>		
0845-0850	Housekeeping		
0850-0930	<b>Captain (A/P) Simon Atkinson</b>	<i>Royal Australian Navy: The Australian Test &amp; Evaluation Office (ADTEO)/ University of Sydney</i>	<b>Feature Speaker:</b> Instrumenting and Modelling War – Reporting from the Front Line
0930-1000	<b>Ahmad Rauf Subhani</b> <i>PhD Candidate</i>	<i>Universiti Teknologi PETRONAS, Malaysia</i>	Assessment of Psychosocial Stress levels and Stress Mitigation in Urban workplace
1000-1030	<b>Drs Steven E Davis and Glenn Smith</b>	<i>DSTO</i>	Non-invasive Brain Stimulation: Opportunities and Implications for the Australian Defence Force (TBC)
1030-1100	<b>Morning Tea</b>		
<b>Session 2:</b>	<b>Chair: David Crone</b>	<b>DSTO</b>	



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1100-1200	<b>Trevor Brown</b> <i>PhD Candidate</i>	<i>University of New England</i>	<b>Feature Speaker:</b> Performance enhancement using neurofeedback (esp elite athlete performance)
1200-1230	<b>Professor Nanda Nandagopal and Bernadine Cocks</b>	<i>University of South Australia</i>	Adaptive Neurofeedback
1230-1330	<b>Lunch</b>		
<b>Session 3:</b>	<b>Chair: Bernadine Cocks</b>		
1330-1430	<b>Panel Discussion and Q&amp;A: Cognitive Augmentation – where will we be in 20 years?</b>		
1430-1500	<b>Professor Nanda Nandagopal</b> <i>Chair Defence Systems</i>	<i>University of South Australia</i>	Closing comments