

**2014 IEEE Symposium on
Computational Intelligence,
Cognitive Algorithms, Mind,
and Brain**

(CCMB 2014)

**Orlando, Florida, USA
9-12 December 2014**



IEEE Catalog Number: CFP1498M-POD
ISBN: 978-1-4799-4548-1

TABLE OF CONTENTS

IEEE SSCI 2014 General Committee	v	
IEEE CCMB 2014 Committee.....	vi	
Keynote Talk: CCMB'14.....	vii	
Wednesday, December 10		
9:20AM-10:00AM		
CCMB'14 Keynote Talk		
<i>Toward Physics of the Mind</i>		
Leonid Perlovsky		
10:20AM-12:00PM		
CCMB'14 Session 1: Cognitive, Mind, and Brain		
Chair: Daniel S. Levine		
10:20AM	<i>Learning Visual-Motor Cell Assemblies for the iCub Robot using a Neuroanatomically Grounded Neural Network</i>	1
	Samantha Adams, Thomas Wennekers, Angelo Cangelosi, Max Garagnani and Friedemann Pulvermueller	
10:40AM	<i>Grounding Fingers, Words and Numbers in a Cognitive Developmental Robot</i>	9
	Alessandro Di Nuovo, Vivian De La Cruz and Angelo Cangelosi	
11:00AM	<i>Neuromodulation Based Control of Autonomous Robots in ROS Environment</i>	16
	Biswanath Samanta and Cameron Muhammad	
11:20AM	<i>Combined Linguistic and Sensor Models For Machine Learning.....</i>	24
	Roman Ilin	
11:40AM	<i>Completion and Parsing Chinese Sentences Using Cogent Confabulation</i>	31
	Zhe Li and Qinru Qiu	
1:30PM-3:10PM		
CCMB'14 Session 2: Cognitive, Mind, and Brain		
Chair: Angelo Cangelosi		
1:30PM	<i>Assessing real-time cognitive load based on psycho-physiological measures for younger and older adults</i>	39
	Eija Ferreira, Denzil Ferreira, SeungJun Kim, Pekka Siirtola, Juha Roning, Jodi F. Forlizzi and Anind K. Dey	
1:50PM	<i>Toward a Neural Network Model of Framing with Fuzzy Traces.....</i>	49
	Daniel Levine	
2:10PM	<i>An Arousal-Based Neural Model of Infant Attachment.....</i>	57
	David Cittern and Abbas Edalat	
2:30PM	<i>Solving a Cryptarithmetic Problem Using a Social Learning Heuristic</i>	65
	Jose Fontanari	
2:50PM	<i>iflows: A Novel Simulation Model for Predicting the Effectiveness of a Research Community</i>	71
	Alex Doboli and Simona Doboli	

3:30PM-5:10PM

CCMB'14 Session 3: Cognitive, Mind, and Brain

Chair: Robert Kozma

3:30PM	<i>Limit Cycle Representation of Spatial Locations Using Self-Organizing Maps</i>	79
	Di-Wei Huang, Rodolphe Gentili and James Reggia	
3:50PM	<i>Self Organizing Neuro-Glial Network, SONG-NET</i>	85
	Hajer Landolsi and Kirmene Marzouki	
4:10PM	<i>Joint decision-making on two visual perception systems</i>	92
	Henrique Valim, Molly Clemens and D. Frank Hsu	
4:30PM	<i>Statistical Analysis and Classification of EEG-based Attention Network Task Using Optimized Feature Selection</i>	100
	Hua-Chin Lee, Li-Wei Ko, Hui-Ling Huang, Jui-Yun Wu, Ya-Ting Chuang and Shinn-Ying Ho	
4:50PM	<i>The Effect of tDCS on ERD Potentials: A Randomized, Double-Blind Placebo Controlled Study</i>	106
	Ahmed Izzidien, Sriharsha Ramaraju, Mohammed Ali Roula, Jenny Ogeh and Peter McCarthy	

Thursday, December 11

5:10PM-6:45PM

Poster Session: SSCI'14 Poster Session

P107	<i>Effect Of tDCS Application On P300 Potentials: A Randomized, Double Blind Placebo Controlled Study</i>	111
	Sriharsha Ramaraju, Ahmed Izzidien, Mohammed Ali Roula and Peter McCarthy	
P108	<i>EEG dynamics in Inhibition of Left-hand and Right-hand Responses during Auditory Stop Signal Task</i>	115
	Rupesh Kumar Chikara, Ramesh Perumal, Li-Wei Ko and Hsin Chen	
P109	<i>An Adaptive EEG Filtering Approach to Maximize the Classification Accuracy in Motor Imagery</i>	121
	Kais Belwafi, Ridha Djemal, Fakhreddine Ghaffari and Olivier Romain	
P110	<i>Modulation of Brain Connectivity by Memory Load in a Working Memory Network</i>	127
	Pouya Bashivan, Gavin Bidelman and Mohammed Yeasin	
P111	<i>Distributed Robust Training of Multilayer Neural Networks Using Normalized Risk-Averting Error</i>	134
	Hiroshi Ninomiya	
P112	<i>Multi-Layer Cortical Learning Algorithms</i>	141
	Pulin Agrawal and Stan Franklin	
	AUTHOR INDEX	148