Frontiers in Brain Inspired Computing - Magnetism meets Topology

A satellite event of the School of Excellence in Brain Inspired Computing

July 26-28, 2017, Messina, Italy
Aula Magna, Department of Engineering, University of Messina

PROGRAM

DAY 1 – Wednesday 26

15:00 – 17:00   **WELCOME AND INTRODUCTION:**

Giovanni Finocchio, University of Messina
Director of the School of Excellence

FACILITATED WORKSHOP

Moderators:

Pedram Khalili Amiri, University of California Los Angeles, USA
Lecturer of the School of Excellence

Zhongming Zeng, Suzhou Institute of Nano-tech and Nano-bionics, China
Lecturer of the School of Excellence

DAY 2 – Thursday 27

Moderator: **Giuseppina D'Aguì**, University of Messina

9:00 – 9:20   **WELCOME AND INTRODUCTION:**

Giovanni Finocchio, University of Messina
Director of the School of Excellence

Giuseppe Anastasi, Chair of the Department of Biomedical Sciences, Dental Sciences and Sciences of Morphological and Functional Images, University of Messina

Antonino D'Andrea, Chair of the Department of Engineering, University of Messina

Fortunato Neri, Chair of the Department of Mathematical and Computer Sciences, Physical Sciences and Earth Sciences, University of Messina

Luigia Puccio, Department of Mathematical and Computer Sciences, Physical Sciences and Earth Sciences, University of Messina
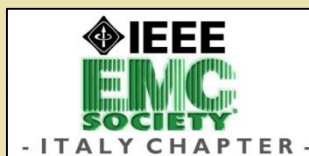
9:20 – 9:40   **PRESENTATION OF IEEE ITALY SECTION:**

Tiziana Tambosso, Chair of IEEE Italy Section

INVITED TALKS:

9:40 – 10:05   *"Magnonics in skyrmion-hosting chiral magnets"*
Markus Garst, Technische Universitat Dresden, Germany
Lecturer of the School of Excellence

10:05 – 10:30	*"Brain-network inspired algorithms for complex big data"* **Carlo Vittorio Cannistraci**, Technische Universitat Dresden, Germany Lecturer of the School of Excellence
10:30 – 10:45	*"Origin of temperature and field dependence of magnetic skyrmion size in ultrathin nanodots"* **Riccardo Tomasello**, University of Perugia, Italy
10:45 – 11:00	*"Investigating brain structural abnormalities in Parkinson's disease via tractography"* **Alessandro Calamuneri**, University of Messina
11:00 – 11:15	*"Multiple synaptic modulation and memory in ionic film-coated Si nanowire transistors"* **Eunhye Baek**, Technische Universitat Dresden, Germany
11:15 – 11:30	*"Hybrid CMOS/Spintronic circuit design for bio-inspired applications"* **Raffaele De Rose**, University of Calabria, Rende, Italy
11:30 – 11:45	*"Stability and manipulation of radial vortices and skyrmions"* **Giulio Siracusano**, University of Messina

DAY 3 – Friday 28

Moderator: **Vito Puliafito**, University of Messina

9:00 – 9:10	**WELCOME AND INTRODUCTION:**
	Giovanni Finocchio, University of Messina Director of the School of Excellence
	Salvatore Cuzzocrea, Prorector of Research, University of Messina
	Candida Milone, Vice-Chair of the Department of Engineering, University of Messina
9:10 – 9:30	**PRESENTATION OF IEEE MAGNETICS SOCIETY ITALY CHAPTER:**
	Tiziana Tambosso, Chair of IEEE Italy Section
	KEY-NOTE TALK:
9:30 – 10:15	*"Memcomputing: an efficient brain-inspired computing paradigm"* **Massimiliano Di Ventra**, University of California San Diego, USA Lecturer of the School of Excellence
	INVITED TALKS:
10:15 – 10:40	*"Complexity and nonlinear dynamics in bio–inspired memristor networks"* **Fernando Corinto**, Politecnico di Torino, Italy Lecturer of the School of Excellence
10:40 – 10:55	*"Cognitive computing over the cloud"* **Massimo Villari**, University of Messina
10:55 – 11:10	*"Brain-states classification through a deep learning approach"* **Cosimo Ieracitano**, University of Reggio Calabria, Italy
11:10 – 11:25	*"How the social brain represents a bio-inspired approach for human-related integrated data for deep learning of complex dynamics on social networks through multiplexity"* **Marialisa Scatà**, University of Catania, Italy

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