MESA 2014

10th IEEE/ASME International Conference on
Mechatronic and Embedded Systems and Applications

September 10-12, 2014

Hotel Duchi della Rovere, Senigallia, Ancona, ITALY

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Program Overview

Wednesday 10	Thursday 11	Friday 12
09h00 – 10h30 Opening and Key Note I	09h30 – 10h30 Key Note II	09h00 – 10h40 Regular Sessions
10h30 – 11h00 Coffee Break	10h30 – 11h00 Coffee Break	10h40 – 11h00 Coffee Break
11h00 – 12h40 Regular Sessions	11h00 – 12h40 Regular Sessions	11h00 – 12h40 Regular Sessions
12h40 – 14h40 Lunch	12h40 – 14h40 Lunch	
14h40 – 16h20 Regular Sessions	14h40 – 16h20 Regular Sessions	
16h20 – 16h40 Coffee Break	16h20 – 16h40 Coffee Break	
16h40 – 18h20 Regular Sessions	16h40 – 18h20 Regular Sessions	
	18h20-19h00 TC Meeting	
19h00 – 21h00 Welcome Reception	19h30 Banquet	

MESA 2014 Technical Program Wednesday September 10, 2014			
Track T1	Track T2	Track T3	Track T4
DOLCE VITA ROOM 09:00 – 10:30 Opening and Key Note I Session			
10:30 – 11:00 WeAM Coffee Break			
11:00 – 12:40 DOLCE VITA ROOM Regular Session WeAT1 *Robotics and Mobile Machines I*	11:00 – 12:40 RINA ROOM Regular Session WeAT2 *Mechatronic and Embedded Technologies in Intelligent Transportation Systems I*	11:00 – 12:40 EUROPA ROOM Regular Session WeAT3 *Mechatronics and Embedded Systems Applications I*	11:00 – 12:40 ROTONDA* AAL Workshop WeAT4 *Advances in Ambient Assisted Living I*
12:40 – 14:40 WeAM Lunch Break			
14:40 – 16:20 DOLCE VITA ROOM Regular Session WeBT1 *Robotics and Mobile Machines II*	14:40 – 16:20 RINA ROOM Regular Session WeBT2 *Mechatronic and Embedded Technologies in Intelligent Transportation Systems II* *Mechatronic Control and Electrical Vehicular Systems I*	14:40 – 16:20 EUROPA ROOM Regular Session WeBT3 *Mechatronics and Embedded Systems Applications II* *Virtual Prototyping in Mechatronics I*	14:40 – 16:20 ROTONDA* AAL Workshop WeBT4 *Advances in Ambient Assisted Living II*
16:20 – 16:40 WePM Coffee Break			
16:40 – 18:20 DOLCE VITA ROOM Regular Session WeCT1 *Robotics and Mobile Machines III*	16:40 – 18:20 RINA ROOM Regular Session WeCT2 *Mechatronic Control and Electrical Vehicular Systems II*	16:40 – 18:20 EUROPA ROOM Regular Session WeCT3 *Virtual Prototyping in Mechatronics II*	
19:00 – 21:00 Welcome Reception (at ROCCA ROVERESCA) **			

* ROTONDA is located at 0.5km away from the MESA2014 Headquarter (https://goo.gl/maps/m6wKx)

** ROCCA ROVERESCA is located at 0.5km away from the MESA Headquarter (https://goo.gl/maps/IKkvO)

MESA 2014 Technical Program Thursday September 11, 2014		
Track T1	Track T2	Track T3
DOLCE VITA ROOM 09:30 – 10:30 Key Note II Session		
10:30 – 11:00 ThAM Coffee Break		
11:00 – 12:40 DOLCE VITA ROOM Regular Session ThAT1 *Mechatronic and Embedded Systems for Renewable Energy Systems* *Autonomous Systems and Ambient Intelligence*	11:00 – 12:40 RINA ROOM Regular Session ThAT2 *Mechatronics for Advanced Manufacturing*	11:00 – 12:40 EUROPA ROOM Regular Session ThAT3 *Fractional Derivatives and Their Applications I*
12:40 – 14:40 ThAM Lunch Break		
14:40 – 16:20 DOLCE VITA ROOM Regular Session ThBT1 *Robotics and Mobile Machines IV*	14:40 – 16:20 RINA ROOM Regular Session ThBT2 *Bio-Mechatronics - Medical Devices & Technologies I*	14:40 – 16:20 EUROPA ROOM Regular Session ThBT3 *Fractional Derivatives and Their Applications II*
16:20 – 16:40 ThPM Coffee Break		
16:40 – 18:20 DOLCE VITA ROOM Regular Session ThCT1 *Robotics and Mobile Machines V* *Mechatronics and Embedded Systems Education*	16:40 – 18:20 RINA ROOM Regular Session ThCT2 *Bio-Mechatronics - Medical Devices & Technologies II*	16:40 – 17:40 EUROPA ROOM Regular Session ThCT3 *Design and Verification Methodologies for Mechatronic and Embedded Systems* *Diagnosis and Monitoring in Mechatronic Systems*
19:30 - Banquet (at ROTONDA)		

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MESA 2014 Technical Program Friday September 12, 2014	
Track T1	Track T2
09:00 – 10:40 DOLCE VITA ROOM Regular Session FrAT1 *Sensors and Actuators I*	09:00 – 10:40 RINA ROOM Regular Session FrAT2 *Embedded Systems Infrastructure and Theory* *Cloud Computing and Emerging Technologies for Mechatronic and Embedded Systems*
10:40 – 11:00 FrAM Coffee Break	
11:00 – 12:40 DOLCE VITA ROOM Regular Session FrBT1 *Sensors and Actuators II* *Small Unmanned Aerial Vehicle Technologies and Applications*	

WePlenary	Wednesday September 10	09:00-10:40	Dolce Vita Room
Chairs	Massimo Callegari		

Interval		Symposium	Paper#	Title	Authors
09:00	10:40	KN	KN1	THE DEVELOPMENT OF A FAST PICK-AND-PLACE ROBOT WITH AN INNOVATIVE CYLINDRICAL DRIVE	Jorge Angeles

WeAT1	Wednesday September 10	11:00-12:40	Dolce Vita Room
Chairs	Massimo Callegari		

Interval		Symposium	Paper#	Title	Authors
11:00	11:20	RM	30	Mantis Hybrid Leg-Wheel Robot: Stability Analysis and Motion Law Synthesis for Step Climbing	Luca Bruzzone, Pietro Fanghella
11:20	11:40	RM	39	Experimental Experiences with a LARM Tripod Leg Mechanism	Mingfeng Wang, Marco Ceccarelli, Giuseppe Carbone
11:40	12:00	RM	59	Towards the design of a leg-wheel walking hexapod	Franco Tedeschi, Giuseppe Carbone
12:00	12:20	RM	40	Conceptual Design and Feasibility study of a novel upper-limb Exoskeleton	Hermes Giberti, Vitale Bertoni, Gianmarc Coppola
12:20	12:40	RM	31	Strategy for Designing a Control System for a Target-Approach Task by a Mobile Robot	Mateusz Przybyla, Krzysztof Lakomy, Przemyslaw Herman

WeAT2	Wednesday September 10	11:00-12:40	Rina Room
Chairs	Massimo Bertozzi		

Interval		Symposium	Paper#	Title	Authors
11:00	11:20	ITS	57	An Embedded System for Counting Passengers in Public Transportation Vehicles	Nicola Bernini, Luca Bombini, Michele Buzzoni, Pietro Cerri, Paolo Grisleri
11:20	11:40	ITS	103	Satisficing Collaborative Decision Making and Controlling for Airport Management	Cicero Almeida, Li Weigang, Giovani Meinerz
11:40	12:00	ITS	121	A new semi-active variational based damping control	Gianluca Pepe, Antonio Carcaterra
12:00	12:20	ITS	130	Real time monitoring and wear estimation of railway track with FBG sensors	Nicola Roveri, Antonio Carcaterra, Also Sestieri
12:20	12:40	ITS	133	Point to Point Navigation for People with Mobility Impairments	Adriano Mancini, Primo Zingaretti

WeAT3	Wednesday September 10	11:00-12:40	Europa Room
Chairs	Martin Horauer		

Interval		Symposium	Paper#	Title	Authors
11:00	11:20	APP	5	An Hydraulic Test Rig for the Testing of Quarter Turn Valve Actuation Systems	Luca Pugi, Giovanni Pallini, Andrea Rindi, Nicola Lucchesi
11:20	11:40	APP	44	dandel.io – Design of an Audio-Recorder Accessory	Wolfgang Fleck, Dominik Höllmüller, Johannes Wittmann, Gregor Aradi, Roman Beneder, Martin Horauer
11:40	12:00	APP	47	Parameters Identification of Induction Motor Dynamic Model for Offshore Applications	Witold Pawlus, Martin Choux, Geir Hovland, Van Khang Huynh
12:00	12:20	APP	75	A Compliant Mechanism Design for Refreshable Braille Display Using Shape Memory Alloy	Ankit Kumar, Dhruv Gupta, Pulkit Sapra, Mayank Raj, Akash Anand, Vinit Darda, Rohan Paul, M Balakrishnan, P.v.m. Rao
12:20	12:40	APP	128	An automatic analysis of shoppers behaviour using a distributed RGB-D cameras system	Daniele Liciotti, Valerio Placidi, Primo Zingaretti

WeAT4	Wednesday September 10	11:00-12:40	Rotonda Building
Chairs	Lorena Rossi		

Interval		Symposium	Paper#	Title	Authors
11:00	11:20	AAL	135	Designing a user-centred ICT platform for active aging	Margherita Peruzzini, Michele Germani
11:20	11:40	AAL	136	Design and Realization of a Wideband Antenna for Non-Contact Respiration Monitoring in AAL Application	Valentina Di Mattia, Valerio Petrini, Emanuele Pallotta, Alfredo De Leo, Marco Pieralisi, Giovanni Manfredi, Paola Russo, Valter Mariani Primiani, Graziano Cerri, Lorenzo Scalise
11:40	12:00	AAL	137	Interoperability Issues Among Smart Home Technological Frameworks	L. Rossi, A. Belli, A. D. Santis, C. Diamantini, E. Frontoni, E. Gambi, L. Palma, L. Pernini, P. Pierleoni, D. Potena, L. Raffaeli, S. Spinsante, P. Zingaretti, D. Cacciagrano, F. Corradini, R. Culmone, F. D. Angelis, E. Merelli, B. Re,
12:00	12:20	AAL	138	Controlling AAL environments through BCI	Niccolo' Mora, Valentina Bianchi, Ilaria De Munari, Paolo Ciampolini
12:20	12:40	AAL	139	SLAM-based Autonomous Wheelchair Navigation System for AAL Scenarios	Luca Cavanini, Flavia Benetazzo, Alessandro Freddi, Sauro Longhi, Andrea Monteriù

WeBT1	Wednesday September 10	14:40-16:20	Dolce Vita Room
Chairs	Luca Bruzzone		

Interval		Symposium	Paper#	Title	Authors
14:40	15:00	RM	6	Design and testing of a spherical parallel mini manipulator	Giacomo Palmieri, Massimo Callegari, Luca Carbonari, Matteo Palpacelli
15:00	15:20	RM	42	A Picking Strategy for Circular Conveyor Tracking	Giovanni Boschetti
15:20	15:40	RM	64	Design of a Holonomic Ball Drive for Mobile Robots	Gundula Runge, Gunnar Borchert, Annika Raatz
15:40	16:00	RM	93	Error Recovery Strategies for Electronic Connectors Mating in Robotic Fault-tolerant Assembly System	Fei Chen, Ferdinando Cannella, Hironobu Sasaki, Carlo Canali, Toshio Fukuda
16:00	16:20	RM	76	A Goal-centric Framework for Behaviour Programming in Autonomous Robotic Systems	Fabrizio Messina, Giuseppe Pappalardo, Corrado Santoro

WeBT2	Wednesday September 10	14:40-16:20	Rina Room
Chairs	Bo Chen		

Interval		Symposium	Paper#	Title	Authors
14:40	15:00	ITS	54	Study the Performance of Battery Models for Hybrid Electric Vehicles	Baifan Wu, Bo Chen
15:00	15:20	ITS	48	An Innovative High Speed Weigh in Motion System for Railway Vehicles	Benedetto Allotta, Giulia Gaburri, Alice Innocenti, Lorenzo Marini, Enrico Meli, Luca Pugi, Pierluca D'adamio
15:20	15:40	EV	18	Design of an Educational Emulation Framework for Mechatronics Control Unit Development	Tamás Bécsi, Szilárd Aradi, Péter Gáspár
15:40	16:00	EV	19	Experimental Vehicle Development for Testing Autonomous Vehicle Functions	Szilárd Aradi, Tamás Bécsi, Péter Gáspár
16:00	16:20	EV	123	Examinations of complex traffic dynamic systems and new analysis, modeling and simulation of electrical vehicular systems	Ferenc Szauter, Peter Tamas, István Lakatos

WeBT3	Wednesday September 10	14:40-16:20	Europa Room
Chairs	Monica Bordegoni		

Interval		Symposium	Paper#	Title	Authors
14:40	15:00	APP	11	Vibration Control of a Semi-active Seat Suspension System using Magnetorheological Damper	Hassan Metered, Zbynek Sika
15:00	15:20	APP	67	Co-simulation based method for driving a Desktop Mechatronic Interface for shape rendering.	Mario Covarrubias, Monica Bordegoni, Umberto Cugini,
15:20	15:40	APP	81	Rapid prototyping of open source ordinary differential equations solver in distributed embedded control application	Andrea Bonci, Simone Imbrescia, Massimiliano Pirani, Paolo Ratini
15:40	16:00	VP	72	Design of an Open-Source Low Cost 2DOF Haptic Device	Alberto Lavatelli, Francesco Ferrise, Monica Bordegoni
16:00	16:20	VP	86	An extended Kalman filter approach for augmented strain/stress visualization in mechanical systems.	Frank Naets, Francesco Cosco, Wim Desmet

WeBT4	Wednesday September 10	14:40-16:20	Rotonda Building
Chairs	Lorena Rossi		

Interval		Symposium	Paper#	Title	Authors
14:40	15:00	AAL	140	Advanced Integration of Multimedia Assistive Technologies: A Prospective Outlook	Daniele Liciotti, Giacomo Ferroni, Emanuele Frontoni, Stefano Squartini, Emanuele Principi, Roberto Bonfigli, Francesco Piazza
15:00	15:20	AAL	141	Smartphone Based Fuzzy Logic Freezing of Gait Detection in Parkinson's Disease	Lucia Pepa, Lucio Ciabattoni, Federica Verdini, Marianna Capecci, Maria Gabriella Ceravolo
15:20	15:40	AAL	142	AAL Domain Ontology for Event-based Human Activity Recognition	Rosario Culmone, Marco Falcioni, Paolo Giuliodori, Emanuela Merelli, Alessandro Orrù, Michela Quadrini, Paolo Ciampolini, Ferdinando Grossi, Guido Matrella
15:40	16:00	AAL	143	A Simple Object for Elderly Vitality Monitoring: the Smart Insole	Adelmo De Santis, Ennio Gambi, Laura Montanini, Laura Raffaelli, Susanna Spinsante, Giorgio Rascioni

WeCT1	Wednesday September 10	16:40-18:20	Dolce Vita Room
Chairs	Annika Raatz		

Interval		Symposium	Paper#	Title	Authors
16:40	17:00	RM	116	Parametric Study for the Steady-State Equilibrium of a Towfish	Alessandro Cammarata, Rosario Sinatra
17:00	17:20	RM	83	A lockable spherical joint for robotic applications	Matteo Palpacelli, Luca Carbonari, Giacomo Palmieri
17:20	17:40	RM	111	Analytical Study on Improving Intrinsic Stiffness Modulation of Biarticularly Actuated Manipulators through Infinity Norm Resolution	Valerio Salvucci, Takafumi Koseki
17:40	18:00	RM	114	An Open-Source 3D Printed Underactuated Robotic Gripper	Yedige Tlegenov, Kuat Telegenov, Almas Shintemirov
18:00	18:20	RM	14	Design and performance analysis of an (nS)-2SPU underactuated wrist	Massimiliano Battistelli, Massimo Callegari, Raffaele Di Gregorio

WeCT2	Wednesday September 10	16:40-18:20	Rina Room
Chairs	István Lakatos		

Interval		Symposium	Paper#	Title	Authors
16:40	17:00	EV	10	Robust Servo Control Design for an Electro-Pneumatic Clutch System Using the H-infinity Method	Barna Szimandl, Huba Németh
17:00	17:20	EV	32	Development of a Full-scale Roller-rig to Test High Speed Trains under Degraded Adhesion Conditions	Benedetto Allotta, Roberto Conti, Enrico Meli, Luca Pugi, Alessandro Ridolfi
17:20	17:40	EV	90	Measurement based software execution tracing in HIL (Hardware In the Loop) tests	Balázs Scherer, Gábor Horváth
17:40	18:00	EV	109	Modeling and Simulation of a Hybrid Electric Propulsion System of a Green Ship	Tiffany Jaster, Andrew Rowe, Zuomin Dong
18:00	18:20	EV	120	Operation and applicability issues of powertrain models in electric vehicle development	István Lakatos, Péter Korös, Viktor Nagy

WeCT3	Wednesday September 10	16:40-18:20	Europa Room
Chairs	Maura Mengoni		

Interval		Symposium	Paper#	Title	Authors
16:40	17:00	VP	87	Simulator setup according to use case scenarios - A human-oriented method for virtual development	Niko Maas, Martin Koppers, Benjamin Hesse, Dieter Schramm
17:00	17:20	VP	101	Study and implementation of a multimodal system to support virtual prototyping	Lorenzo Cavalieri, Maura Mengoni, Michele Germani
17:20	17:40	VP	115	A VP-based application to improve usability of an upper-limb rehabilitation orthosis	Margherita Peruzzini, Matteo Iualé, Michele Germani
17:40	18:00	VP	119	Hardware-in-the-Loop Mechatronic Virtual Prototyping of a High Speed Capsule Filling Machine	Marcello Pellicciari, Alberto Vergnano, Giovanni Berselli
18:00	18:20	VP	102	An inclusive approach for home environment design	Maura Mengoni, Silvia Ceccacci, Damiano Raponi

ThPlenary	Thursday September 11	09:00-10:40	Dolce Vita Room
Chairs	Om Agrawal, Blas Vinagre		

Interval		Symposium	Paper#	Title	Authors
09:00	10:40	KN	KN2	APPLICATION OF FRACTIONAL CONTROL TO FLEXIBLE ROBOTS AND VIBRATION SUPPRESSION	Vicente Feliu Batlle

ThAT1	Thursday September 11	11:00-12:40	Dolce Vita Room
Chairs	Emanuele Frontoni		

Interval		Symposium	Paper#	Title	Authors
11:00	11:20	RES	107	Fuzzy Logic Simulator for Energy Management Algorithms Testing	Lucio Ciabattoni, Massimo Grisostomi, Gianluca Ippoliti, Sauro Longhi, Andrea Bonci
11:20	11:40	RES	127	Energy Harvesting system for smart shoes	Andrea Gatto, Emanuele Frontoni
11:40	12:00	RES	134	Indoor people localization and tracking using an energy harvesting smart floor	Marco Contigiani, Emanuele Frontoni, Adriano Mancini, Andrea Gatto
12:00	12:20	AS	82	An anti-capsize strategy for industrial vehicles: preliminary testing on a scaled AGV	Benedetto Allotta, Luca Pugi, Alessandro Ridolfi, Riccardo Costanzi, Fabio Bartolini, Niccolo Monni, Marco Natalini, Roberto Giusti
12:20	12:40	AS	108	Modular design of a novel wireless sensor node for smart environments	Massimo Grisostomi, Lucio Ciabattoni, Mariorosario Prist, Luca Romeo, Gianluca Ippoliti, Sauro Longhi

ThAT2	Thursday September 11	11:00-12:40	Rina Room
Chairs	Tapio Heikkilä		

Interval		Symposium	Paper#	Title	Authors
11:00	11:20	AM	49	A robot trajectory programming method using multi-camera systems	Silvio Giancola, Davide Chiarion, Remo Sala
11:20	11:40	AM	63	Calibration procedures for object locating sensors in flexible robotized machining	Tapio Heikkilä, Jari Ahola, Jukka Koskinen, Tuomas Seppala
11:40	12:00	AM	98	Identification of a Static Tool Force Model for Robotic Face Milling	Ilya Tyapin, Geir Hovland, Petri Kosonen, Tarmo Linna
12:00	12:20	AM	105	Hammer: An Android Based Application for End-User Industrial Robot Programming	Carlos Mateo, Alberto Brunete, Ernesto Gambao, Miguel Hernando
12:20	12:40	AM	122	Adaptive Control Techniques and Feed Forward Compensation of Periodic Disturbances in Industrial Manipulators	Aldo Bottero, Gian Paolo Gerio, Valerio Perna, Alberto Gagliano

ThAT3	Thursday September 11	11:00-12:40	Europa Room
Chairs	Om Agrawal		

Interval		Symposium	Paper#	Title	Authors
11:00	11:20	FD	3	Self-similar stochastic models with stationary increments for symmetric space-time fractional diffusion	Gianni Pagnini
11:20	11:40	FD	12	Dynamic behavior of new generalized Lotka--Volterra equations	Yufeng Xu, Om Agrawal
11:40	12:00	FD	22	Experimental analysis of a fractional-order control applied to a second order linear system	David Corinaldi, Matteo Palpacelli, Luca Carbonari, Luca Bruzzone, Giacomo Palmieri
12:00	12:20	FD	26	Frequency-domain subspace system identification with fractional differentiation models	Elena Ivanova, Rachid Malti, Xavier Moreau
12:20	12:40	FD	97	The Determination of an Unknown Source for a Space Fractional Advection Dispersion Equation	Abeer Aldoghaither, Taous-meriem Laleg-kirati, Da-yan Liu

ThBT1	Thursday September 11	14:40-16:20	Dolce Vita Room
Chairs	Ferdinando Cannella		

Interval		Symposium	Paper#	Title	Authors
14:40	15:00	RM	110	A bio-inspired mobile agent-based coalition formation system for multiple modular-robot systems	Binsen Qian, Harry Cheng
15:00	15:20	RM	104	A compact, lightweight and energy efficient system for autonomous navigation based on 3D vision	Stefano Mattoccia, Paolo Macrì, Giacomo Parmigiani, Giuseppe Rizza
15:20	15:40	RM	129	A Stereovision System for Dimensional Measurements in Industrial Robotics Applications	Gianluca Di Fulvio, Emanuele Frontoni, Adriano Mancini, Primo Zingaretti
15:40	16:00	RM	7	Modeling and evaluation of power transmission of flapping wing nano air vehicle	Alexandre Bontemps, Sebastien Grondel, Thomas Vanneste, Samuel Dupont, Eric Cattan
16:00	16:20	RM	60	Bond graph model of a flapping wing micro-air vehicle	Samuel Dupont, Sebastien Grondel, Alexandre Bontemps, Eric Cattan, Daniel Coutelier

ThBT2	Thursday September 11	14:40-16:20	Rina Room
Chairs	Shane Xie		

Interval		Symposium	Paper#	Title	Authors
14:40	15:00	BIO	4	Development of a Compliant Hand Assistive Device	Siddharth Goutam, Kean Aw
15:00	15:20	BIO	13	A Computational Biomechanical Model of the Human Ankle for Development of an Ankle Rehabilitation Robot	Fenfang Zeng, Guoli Zhu, Yunho Tsoi, Shane Xie
15:20	15:40	BIO	15	Voltage Driven Electrowetting based Microfluidic Operations for Efficient Droplet Routing in Digital Microfluidic Biochips	Indrajit Pan, Tuhina Samanta
15:40	16:00	BIO	27	Influence of gender on the myoelectric signal of shank muscles	Francesco Di Nardo, Alessandro Mengarelli, Elvira Maranesi, Laura Burattini, Sandro Fioretti
16:00	16:20	BIO	28	Influence of gender on the myoelectric signal of thigh muscles	Francesco Di Nardo, Alessandro Mengarelli, Elvira Maranesi, Laura Burattini, Sandro Fioretti

ThBT3	Thursday September 11	14:40-16:20	Europa Room
Chairs	Dumitru Baleanu		

Interval		Symposium	Paper#	Title	Authors
14:40	15:00	FD	34	Fractional discrete Lagrangians containing linear velocities within Caputo derivative	Alireza Khalili Golmankhaneh, Dumitru Baleanu
15:00	15:20	FD	35	Additional optimization parameter for a simplified design of third generation CRONE controllers	Abderrahim Lamara, Patrick Lanusse, Dominique Nelson Gruel, Yann Chamaillard, Antoine Lesobre, Alain Oustaloup
15:20	15:40	FD	56	On Tempered and Substantial Fractional Calculus	Jianxiong Cao, Changpin Li, Yangquan Chen
15:40	16:00	FD	65	Fractional Disturbance Observer for Vibration Suppression of a Beam-Cart System	Inés Tejado, Blas M. Vinagre, Daniel Torres González, Emiliano Pérez
16:00	16:20	FD	118	Permeation of water through the stratum corneum. A mathematical model based on diffusion with memory	Michele Caputo, Cesare Cametti

ThCT1	Thursday September 11	16:40-18:20	Dolce Vita Room
Chairs	Harry Cheng		

Interval		Symposium	Paper#	Title	Authors
16:40	17:00	RM	45	Recursive Algorithm For Simulation Of Single Chain Manipulator Dynamics	Nikita Yaskevich
17:00	17:20	RM	94	Simulation of a Cable-driven Actuation Concept for a Humanoid Robot Prototype	Sebastian Feldmann, Tobias Bruckmann, Dieter Schramm
17:20	17:40	EDU	68	A Low Cost Mobile Platform for Educational Robotic Applications	Mariorosario Prist, Luca Cavanini, Sauro Longhi, Andrea Monteriù, Davide Ortenzi, Alessandro Freddi
17:40	18:00	EDU	84	Modelling simulation and control of dynamic platform with several degree of freedom	Andrea Bonci, Riccardo De Amicis
18:00	18:20	EDU	113	RoboSim: A Simulated Environment for Programming Modular Robots	Kevin Gucwa, Harry Cheng

ThCT2	Thursday September 11	16:40-18:20	Rina Room
Chairs	Enrico Franco		

Interval		Symposium	Paper#	Title	Authors
16:40	17:00	BIO	29	A goniometer-based method for the assessment of gait parameters	Elvira Maranesi, Francesco Di Nardo, Giacomo Ghetti, Laura Burattini, Sandro Fioretti
17:00	17:20	BIO	37	Design and Control of Needle Positioner for MRI-guided Laser Ablation of the Liver	Enrico Franco, Mihailo Ristic
17:20	17:40	BIO	41	A Virtual-Reality Tracking Game for Use in Robot-Assisted Ankle Rehabilitation	Mingming Zhang, Guoli Zhu, Anoop Nandakumar, Shihua Gong, Shane Xie
17:40	18:00	BIO	46	Characterization and Micro-assembly of Electrostatic Actuators for 3-DOF Micromanipulators in Laser Phonomicrosurgery	Eakkachai Pengwang, Kanty Rabonorosoa, Micky Rakotondrabe, Nicolas Andreff
18:00	18:20	BIO	51	Minimally-Invasive-Surgery Parallel Robot with Non-Identical Limbs	Tanio Tanev

ThCT3	Thursday September 11	16:40-17:40	Europa Room
Chairs	Andrea Monteriù		

Interval		Symposium	Paper#	Title	Authors
16:40	17:00	D&V	36	Dynamic analysis of linear servo-actuators with compliant transmission	Giovanni Incerti
17:00	17:20	D&V	1	Real Time Simulation of a Turbine Bypass Controller	Luca Pugi, Carlo Carcasci, Emanuele Galardi, Andrea Rindi, Nicola Lucchesi
17:20	17:40	D&V	62	Considerations on Teaching Digital ASIC Design	Andreas Puhm, Peter Rössler
17:40	18:00	D&M	9	Real-time monitoring and diagnosis of a train door mechatronic system	Laurent Cauffriez, Sebastien Grondel
18:00	18:20	D&M	58	Actuator Fault Detection and Isolation System for an Hexacopter	Alessandro Freddi, Sauro Longhi, Andrea Monteriù, Mariorosario Prist

FrAT1	Friday September 12	09:00-10:40	Dolce Vita Room
Chairs	Graziano Cerri		

Interval		Symposium	Paper#	Title	Authors
09:00	09:20	SA	43	Static and bifurcation analysis of MEMS arches actuated by electrostatic fringing fields	Hassen Ouakad, Mohammad Firaque
09:20	09:40	SA	69	Shape Memory Actuator with Slider and Slot Layout and Single Fan Cooling	Alberto Borboni, Rodolfo Faglia
09:40	10:00	SA	71	Ambient Assisted Living Electromagnetic Sensor for Continuous Breathing Monitoring Applied to Movement Analysis: a Preliminary Study	Valerio Petrini, Valentina Di Mattia, Alfredo De Leo, Paola Russo, Valter Mariani Primiani, Giovanni Manfredi, Graziano Cerri, Lorenzo Scalise
10:00	10:20	SA	80	Study on Signal Processing of Electro-Hydraulic Actuator for Iterative Control Algorithm	Seung Guk Baek, Jong Yoon Choi, Kyeong Ha Lee, Hyungpil Moon, Hyouk Ryeol Choi, Ja Choon Koo
10:20	10:40	SA	124	Real Time Out of Shelf detection using Embedded Sensor Network	Emanuele Frontoni, Primo Zingaretti, Adriano Mancini

FrAT2	Friday September 12	09:00-10:40	Rina Room
Chairs	Jia Xu		

Interval		Symposium	Paper#	Title	Authors
09:00	09:20	I&T	17	Runtime Verification Infrastructure for Embedded Linux	Roman Beneder, Bernd Glatz, Martin Horauer, Thomas Rauscher
09:20	09:40	I&T	95	A Method for Handling Process Overruns and Underruns in Real-Time Embedded Systems	Jia Xu
09:40	10:00	I&T	79	A Cloud-based Integrated Development Environment for Embedded Systems	Jürgen Hausladen, Birgit Pohn, Martin Horauer
10:00	10:20	CC	131	GPU Acceleration of Feature Extraction and Matching Algorithms	Matteo Marinelli, Adriano Mancini, Primo Zingaretti
10:20	10:40	CC	125	A heuristic approach to evaluate occurrences of products for planogram maintenance	Emanuele Frontoni, Marco Contigiani, Giuseppa Ribighini

FrBT1	Friday September 12	11:00-12:40	Dolce Vita Room
Chairs	Adriano Mancini		

Interval		Symposium	Paper#	Title	Authors
11:00	11:20	SA	99	A Real-Time Reliability and Durability Testing Framework	Gionata Massi, Gianluca Morganti, Andrea Claudi, Primo Zingaretti
11:20	11:40	SA	85	An Accurate Device for Real-Time Altitude Estimation Using Data Fusion Algorithms	Paola Pierleoni, Alberto Belli, Lorenzo Palma, Luca Pernini, Simone Valenti
11:40	12:00	UAV	55	An Essay on Unmanned Aerial Systems Insurance and Risk Assessment	Jason Knight, Brendan Smith, Yangquan Chen
12:00	12:20	UAV	106	Multicopter UAV Design Optimization	Øyvind Magnussen, Geir Hovland, Morten Ottestad
12:20	12:40	UAV	132	Testing of Cooperative Tasks for Unmanned Aerial and Ground Platforms	Artis Gaujens, Alessandro Benini, Adriano Mancini, Sauro Longhi

MESA2014 Symposia Acronyms

Description	Acronym
Advances in Ambient Assisted Living	AAL
Autonomous Systems and Ambient Intelligence	AS
Bio-Mechatronics - Medical Devices & Technologies	BIO
Cloud Computing and Emerging Technologies for Mechatroni	CC
Design and Verification Methodologies for Mechatronic and E	D&V
Diagnosis and Monitoring in Mechatronic Systems	D&M
Embedded Systems Infrastructure and Theory	I&T
Fractional Derivatives and Their Applications	FD
Key Note	KN
Mechatronic and Embedded Systems for Renewable Energy S	RES
Mechatronic and Embedded Technologies in Intelligent Trans	ITS
Mechatronic Control and Electrical Vehicular Systems	EV
Mechatronics and Embedded Systems Applications	APP
Mechatronics and Embedded Systems Education	EDU
Mechatronics for Advanced Manufacturing	AM
Robotics and Mobile Machines	RM
Sensors and Actuators	SA
Small Unmanned Aerial Vehicle Technologies and Application	UAV
Virtual Prototyping in Mechatronics	VP

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