



**MECATRONICS - REM 2016**

Compiègne - France  
June, 15-17



Laboratoire Roberval  
Unité de recherche en mécanique



# Preliminary detailed program

**Wednesday, June 15th, 2016**

**12.00 pm – Lunch**

**1.30 – 2.00 pm – Welcome address and Conference opening – Room L202**

**2.00 – 3.00 pm – Keynote speaker: Michaël Gauthier**

**« Dexterous and non contact micromanipulation : two ways for micro-nano-assembly » – Room L202**

**3.00 – 5.00 pm – SS Intelligent Signal Processing and Its Applications – Room L202**

3.00 – 3.20	CD-000442	Image Quality Evaluation for Electronic Displays Based on Fourier Spectrum Analysis	T. Asano, K. Ishiguro, T. Kondoh, W. Liu
3.20 – 3.40	CD-000965	Evaluation of low cost capacitive ECG prototypes: a hardware/software approach	J. Güttler, C. Georgoulas, T. Linner, T. Bock
3.40 – 4.00	CD-001236	Detection of circadian rhythms using simple typed EEG device	S. Yamada, Y. Mitsukura
4.00 – 4.20	CD-001244	Presentation of an SMR-Based BCI Using Auditory Feedback Based on Pitch	P. Roussel, A. Negishi, Y. Mitsukura
4.20 – 4.40	CC-001325	Automatic Correction of Measurement Position Using Robust Matching in Contact Wire Inspection System	H. Fukai, M. Niwakawa, S. Tabayashi
4.40 – 5.00	CD-001406	Development of a Wrist-Band Type Device for Low-Energy Consumption and Personalized Thermal Comfort	G. Lopez, T. Tokuda, N. Isoyama, H. Hosaka, K. Itao

**3.00 – 5.00 pm – TT Mechatronic Systems Design – Room L200**

3.00 – 3.20	CD-001309	A qualitative evaluation of mechatronic concepts	D. Sow, P. Couturier, A. Imoussaten, J. Montmain
3.20 – 3.40	CD-001368	MecDes – Mechatronic Design Demonstrator: Contribution for closing the gap between research and education in Model Based Mechatronic Design	M. Ahrens, P. Hehenberger
3.40 – 4.00	CD-001422	Conditions for Nose-Over and Front Wheel Lockup of Electric Bicycles	O. Maier, S. Scharpf, M. Pfeiffer, J. Wrede
4.00 – 4.20	CD-001678	Development of a mobile robotic cart to support HOT patient's going out via Force and Inverted pendulum control	M. Iribe, Y. Mishima, G. Endo, T. Takubo, T. Kinugasa
4.20 – 4.40	CD-001864	Modeling and multi-objective optimization of an Electronic Throttle in open-loop.	M. Mcharek, M. Hammadi, J.-Y. Choley, T. Azib, C. Larouci
4.40 – 5.00	CD-001902	4-DOF Redundant Haptic Interface: Redundancy Coordination Method for Control System Design	P. Righettini, R. Strada, C. Teoldi

**5.00 – 5.20 pm – Coffee break**

**5.20 – 6.40 pm – TT Industrial Applications – Room L202**

5.20 – 5.40	CD-000353	Method of Setting Optimum Asymmetric Mode of Operation of Electric Arc Furnace	A. Nikolaev, P. Tulupov
5.40 – 6.00	CD-000434	Practical Applications of Small Induction Heating	H. Tomita, A. Nomoto, A. Ando, D. Miyamura, R. Takasaka
6.00 – 6.20	CD-000876	Monitoring system for shock absorbers: application to lightweight aircrafts.	C. Delebarre, F. Ameye, A. Gobinet, M. Lallemand
6.20 – 6.40	CD-001473	Bottom-up Approach For Developing a Tailor-Made Manufacturing Execution System	D. Krawczyk, P. Kielan

**5.20 – 6.40 pm – TT Medical/Bio-Applications – Room L200**

5.20 – 5.40	CD-000817	A Functional Balance Evaluation System for Limb Paresthesia Mouse	K. Ohnishi, T. Komeda, Y. Saito
5.40 – 6.00	CD-001775	Gait Dynamic Stability Analysis and Motor Control Prediction for varying Terrain Conditions	I. Mahmood, U Martinez-Hernandez, A. Dehghani-Sanij
6.00 – 6.20	CD-001929	Motor Electrical Damping for Back-Drivable Prosthetic Knee	M. Awad, A. Dehghani-Sanij, D. Moser, S. Zahedi
6.20 – 6.40	CD-001961	Estimation of Actuation System Parameters for Lower Limb Prostheses	M. Awad, A. Abouhossein, A. Dehghani-Sanij, R. Richardson, O. Querin, D. Moser, S. Zahedi

**7.30 pm – Welcome Ceremony at the town Hall of Compiègne**

**Thursday, June 16th, 2016**

**8.00 am – Welcome coffee**

**8.30 – 9.30 am – Keynote speaker: Jamie Paik**

**« Soft Components for Soft Wearable Robotic Challenges » – Room L202**

**9.30 – 10.50 am – TT Sensors and Signal Processing, Sensors Networks – Room L103**

9.30 – 9.50	CD-000914	A practical method for improving mobile devices trajectory estimation via MEMs accelerometers	K. Saidi, M. Zwingelstein, A. Khanafer, M. Asmani, S. Grondel
9.50 – 10.10	CD-001023	Development and Validation of a New Interference Cancellation Method for Accelerometers in Orientation Measurement	H. V. Dao, T. Komeda, T. T. Nguyen
10.10 – 10.30	CD-001287	Configurable Sensor Node for Sensor Networks	I. Petrov Ucherdzhev, N. Nuo, W. Tay, N. Kubota
10.30 – 10.50	CD-001619	Fiber-Optic Sensor For Long Range Displacement Measurement of a Rotating Spindle	Z. El Rawashdeh, P. Revel, C. Prelle, P. Letort, F. Lamarque

**9.30 – 10.50 am – TT Methodologies and Tools for Mechatronic Systems Engineering – Room L200**

9.30 – 9.50	CD-000116	Using SysML to teach Systems Engineering skills	A. Le Mair, R. Fraanje
9.50 – 10.10	CD-000124	A versatile MATLAB® toolbox for Rapid-Robot-Prototyping of custom made Industrial Robots	E. Engels
10.10 – 10.30	CD-001821	Mechatronics vs. Cyber Physical Systems : towards a definition framework for a suitable design methodology	B. Guerneau, M. Bricogne, L. Rivest, A. Durupt
10.30 – 10.50	CD-000426	Development of LEGO Mindstorms Model Construction System on OmegaSpace Platform with PhysX Functions	H. Itoh

**10.50 – 11.10 am – Coffee break**

**11.10 am – 12.10 pm – TT Actuators and Motion Control (part 1) - Room L103**

11.10 – 11.30	CD-001643	Design and thermal assessment of a micro electromagnetic actuator	M. Ullah Khan, A. Charvet, J. Terrien, F. Lamarque, C. Prelle
11.30 – 11.50	CD-001805	Modeling and simulation of a flexible path generation for an electromagnetic smart conveyance surface	T.A.T. Dang, M. Bosch-Mauchand, C. Prelle
11.50 – 12.10	CD-001783	A Multi-slider Linear Actuator Using Modulated Electrostatic Attraction and Inertia Effect	X. Li, Y. Akio

**11.10 am – 12.30 pm – TT Visual Sensing and Image Processing (part 1) - Room L200**

11.10 – 11.30	CD-000485	Orthogonalized coupled learning and application for face hallucination	T. Nagata
11.30 – 11.50	CD-000809	3-D Reconstruction of Underwater Objects Using Arbitrary Acoustic Views	S. Kwak, Y. Ji, A. Yamashita, H. Asama
11.50 – 12.10	CD-000868	Creating See-through Image Using Two RGB-D Sensors for Remote Control Robot	T. Kittaka, H. Fujii, A. Yamashita, H. Asama
12.10 – 12.30	CD-000949	Scale Reconstructable Structure from Motion Using Refraction with Omnidirectional Camera	H. Kume, H. Fujii, A. Yamashita, H. Asama

**12.30 – 2.00 pm – Lunch****2.00 – 3.40 pm – SS Multi-physics models for energy conversion - Room L103**

2.00 – 2.20	CD-001341	An advanced simulation tool for considering the electric machines thermal performance in mechatronics environment	B. Aassaad, K. El Kadri Benkara, G. Friedrich, A. Michon
2.20 – 2.40	CD-001465	Macroscopic Model of Magnetostriction based on Energy Minimization	O. Lahyaoui, V. Lanfranchi, S. Saliou Mebengue, N. Buiron
2.40 – 3.00	CD-01554	Radial pressure analysis in PMSM responsible for electromagnetic noise.	La Delfa Patricio, H. Michel, F. Gillon
3.00 – 3.20	CD-002054	Investigation of resonant piezoelectric structure for high mechanical force sensing	S. Safour, Y. Bernard
3.20 – 3.40	CD-002003	Thermo-mechanical modelling of a spring based SMA actuators	P.-A. Gédouin, L. Pino, J.-M. Bourgeot, E. Delaleau, Sh. Arbab-Chirani, S. Calloch

**2.00 – 3.40 pm – SS Vision Sensing for Human Assistive Systems - Room L200**

2.00 – 2.20	CD-000507	High-speed Three-dimensional Mapping by Direct Estimation of a Small Motion Using Range Images	S. Nozaki, M. Kimura, G. Masuyama, K. Umeda
2.20 – 2.40	CD-000973	Simultaneous State Recognition for Multiple Traffic Signals on Urban Road	K. Yoneda, N. Suganuma, M. Amro Aldibaja
2.40 – 3.00	CD-001651	Analysis and Evaluation for Assistance of Standing-up Motion	M. Dai, T. Ishikawa, T. Murakami
3.00 – 3.20	CD-001686	Data Reduction by Tessellation of Advanced Wide Angle Foveated Model for Planetary Rover	S. Shimizu
3.20 – 3.40	CD-001791	Visual Servoing of Musculoskeletal Arms using Binocular Visual Space	S. Komada, H. Toyoda, D. Yashiro, J. Hirai

**3.40 – 4.00 pm – Coffee break****4.00 – 5.40 pm – TT Modeling and Control - Room L103**

4.00 – 4.20	CD-000299	Driver model for vehicle dynamics simulation of single-track vehicles using a co-simulation interface	T. Wilhelm, V. Dorsch
4.20 – 4.40	CD-000906	A SysML based-methodology for modelling disturbances in manufacturing systems using ADACOR holonic control architecture	A. Abid, M. Hammadi, M. Barkallah, J.-Y. Choley, J. Louati, A. Riviere, M. Haddar
4.40 – 5.00	CD-000957	Modeling and simulation of the vertical take off and energy consumption of a vibrating wing nano air vehicle	L.A. Doan, D. Faux, S. Dupont, E. Cattani, S. Grondel
5.00 – 5.20	CD-001414	Simple Controller for Trajectory Tracking Control of Quadrotor Unmanned Aerial Vehicle	Y. Mutoh
5.20 – 5.40	CD-001848	Automatic Identification of the Parameters of Dynamics of Industrial Robots	D. X. Nodem, W. Weber

**4.00 – 5.40 pm – GT Sysme meeting - Room L200**

4.00 – 5.40	GT Sysme meeting		
-------------	------------------	--	--

**Depart by buses to Pierrefonds  
Walking around Pierrefonds' Castle**

**Conference Dinner (Domaine des Thermes de Pierrefonds)  
Announcement of REM 2017 and Mecatronics 2018**

**Friday, June 17th, 2016****8.30 am – Welcome coffee****9.00 – 10.40 am – TT Robotics, Microrobotics - Room L103**

9.00 – 9.20	CD-000477	Development of a Walking Robot by using FPGA Controller	S. Pullteap
9.20 – 9.40	CD-000493	RoBo-2L, a Matlab Interface for Extended Offline Programming of KUKA Industrial Robots	J. Goltz, T. Wruetz, D. Eickmann, R. Biesenbach
9.40 – 10.00	CD-000922	Validation of Avalanche Beacons Implemented in a Robot for Urban Search and Rescue	T. Kinugasa, K. Matsuoka, N. Miyamoto, R. Iwado, K. Yoshida, T. Nara, M. Okugawa, M. Kurisu
10.00 – 10.20	CD-001058	Determination of Center of Gravity Location and Ground Reaction Forces For 4-legged Walking Robot	D. Krawczyk, A. Globisz
10.20 – 10.40	CD-001066	Human-centric Point of View for a Robot Partner : cooperative project between France and Japan	M. Jacquemont, J. Woo, J. Botzheim, N. Kubota, N. Sartori, E. Benoit

**9.00 – 10.40 am – TT Education - Room L200**

9.00 – 9.20	CD-000132	Python in Robotics and Mechatronics Education	R. Fraanje, T. Koreneef, A. Le Mair, S. de Jong
9.20 – 9.40	CD-000272	Agile Engineering in Mechatronic Education	T. P. Klein, B. Drescher, G. Reinhart
9.40 – 10.00	CD-000981	Thrust test bench for student rocket engines	T. Neff, A. Meroth, M. Rehberger
10.00 – 10.20	CD-001449	Aerodynamic characterization of a vertical axis wind turbine using a mechatronic experimental setup	J.-L. Menet, S. Dupont
10.20 – 10.40	CD-001988	Evolution from Mechatronics to Cyber Physical Systems: an educational point of view	R. Plateaux, O. Penas, J.-Y. Choley, F. Mhenni, M. Hammadi, F. Louni

**10.40 – 11.00 am – Coffee break****11.00 am – 12.00 pm – TT Actuators and Motion Control (part 2) - Room L103**

11.00 – 11.20	CD-001856	Bimorph hybrid fluid diaphragm device for vibration energy harvesting	F. Huet, F. Formosa, A. Badel
11.20 – 11.40	CD-001627	Characterization of a conveyance device based on a digital actuators array and a structured plate	J. Xu, L. Petit, E. Dupont, C. Prella
11.40 – 12.00	CD-001996	Optical Remote Control of an Electromagnetic Digital Actuator	Z. Yanha, J. Terrien, L. Petit, H. Al Hajjar, O. Carton, S. Charvet, A. Zeinert, F. Lamarque

**11.00 am – 12.20 pm – TT Visual Sensing and Image Processing (part 2) - Room L200**

11.00 – 11.20	CD-001015	Dynamic system stochastic identification mixed with video processing: validation on a real case	A. Goeller, J.-L. Dion, R. Le Breton, S. Thierry, B. Roux
11.20 – 11.40	CD-001295	Object detection following saccadic movement	Y. Yabuta
11.40 – 12.00	CD-001694	Fisheye stereo camera using equirectangular images	A. Ohashi, Y. Tanaka, G. Masuyama, K. Umeda, D. Fukuda, T. Ogata, T. Narita, S. Kaneko, Y. Uchida, K. Irie
12.00 – 12.20	CD-001872	Shredded Image Combination Method for Robot-cameras Mounted inside the Crawler	K. Tokuda, A. Hirata, T. Kinugasa, T. Haji, H. Amano

**12.20 pm Closing ceremony - Room L202**

**Lunch (possibility of lunch boxes)**