MEMSCON Workshop 2012

Towards Intelligent Civil Infrastructure

March 29, 2012, Athens, Greece, http://www.memscon.com

WORKSHOP AGENDA

Opening Session		
Time	**Title**	**Name**
09:00–09:05	Welcome Address	**Angelos Amditis** (Institute of Communication and Computer Systems, Greece)
09:05-09:15	Structural Monitoring for Post-Earthquake Decision Support on School Safety	**Panagiotis Kerchoulas** (President, Organization for School Buildings, Greece)
09:15-09:30	MEMSCON Project: Presentation of the Concept, Objectives and Potential Impact	**Angelos Amditis** (MEMSCON Project Coordinator)
Session 1: Advanced Sensing Technologies for Civil Engineering Structures *Chair: Daniele Zonta (University of Trento, Italy)*		
09:30-10:00	Keynote Speech: Wireless Sensors for Structural Health Monitoring of Bridges: Technology Developments and Field Deployments	**Jerome Lynch** (University of Michigan, US)
10:00-10:30	Keynote Speech: Innovative monitoring technologies for underground infrastructure	**Kenichi Soga** (University of Cambridge, UK)
Coffee Break (30')		

Session 1A: Advanced Sensing Technologies for Civil Engineering Structures *Chair: Jerome Lynch (University of Michigan, US)*		
11:00-11:20	Mobile Acoustic Sensing for the Subsurface Profile of Pavement	**Ming Wang** (Northeastern University, US)
11:20-11:40	Acoustic Sensors for Structural Monitoring in Construction	**Athanasios Anastasopoulos** (ENVIROCOUSTICS- member of MISTRAS group, Greece)
11:40-12:00	Low Power Wireless Sensor Network for Structural Health Monitoring of Buildings using MEMS Strain Sensors and Accelerometers	**Tom Torfs** (IMEC, Belgium)
12:00-12:20	Ultra Low Power Wireless Sensing for Long-Term Structural Monitoring of Civil Engineering Structures	**Juan Santana** (IMEC-NL)
Session 1B: Advanced Sensing Technologies for Civil Engineering Structures *Chair: Kenichi Soga (University of Cambridge, UK)*		
11:00-11:20	MEMS Accelerometers for Building Structural Health Monitoring Systems	**Nicolas Bertsch** (MEMSCAP SA, France)
11:20-11:40	MEMS-Based Strain Sensors for Structural Monitoring of Civil Engineering Structures	**Vincent Spiering** (Thermo Fisher Scientific Inc.,

		NL)
11:40-12:00	Controlling structural vibrations via smart variable dampers: experimental investigations and possible applications	**Antonio Occhiuzzi** (University of Naples 'Parthenope', Italy)
12:00-12:20	Distributed Fiber Optic Sensors for Structural Health Monitoring	**Daniele Inaudi** (Smartec S.A., Switzerland)

Lunch Break (1h)

Session 2: Monitoring-Based Assessment of Structural Condition and Maintenance/Repair Management in Construction *Chair: Nicolas Bertsch (Memscap SA, France)*		
13:20-13:50	Keynote Speech: Simple but effective SHM: The sceptic-practitioner view of what works well, what doesn't and where we should direct our efforts	**James Brownjohn** (University of Sheffield, UK)
13:50-14:20	Keynote Speech: Non-Stationary Random Vibration Identification and Its Use in SHM	**Spilios Fassois** (University of Patras, Greece)
Session 2A *Chair: James Brownjohn (University of Sheffield, UK)*		
14:20-14:40	Expert system for proactive maintenance and rehabilitation following seismic damage	**Stefanos Camarinopoulos** (RISA, Germany)
14:40-15:00	Monitoring-Based Structural Assessment of Reinforced Concrete Tunnels and Buildings under Operating and Seismic Loads	**Dimitris Bairaktaris** (DBA Ltd, Greece)
15:00-15:20	Condition-Based Maintenance Management	**Vassilis Kallidromitis** (TECNIC, S.p.A., Italy)
15:20-15:40	Development of practical health monitoring system for short and medium span bridges based on vibration responses of city bus	**Ayaho Miyamoto** (Yamaguchi University, Japan)
Session 2B *Chair: Spilios Fassois (University of Patras, Greece)*		
14:20-14:40	Practical application of SHM system based on optical FBG sensors for truss structures	**Wiesław Ostachowicz** (Polish Academy of Sciences, Poland)
14:40-15:00	Energy harvesting and vibration damping on wind turbines	**Konstantinos Gkoumas** (University of Rome 'La Sapienza', Italy)
15:00-15:20	Development of an integrated monitoring system for building (energy) management and structural health monitoring	**Yong Lu** (University of Edinburgh, UK)
15:20-15:40	Highly Synchronous Wireless Sensor Network for Structural Health Monitoring	**Martin Fritz (**VCE Holding GmbH, Austria**)**
Coffee Break (30')		

Session 3: Field Applications: Structural Monitoring and Assessment of Buildings and Bridges *Chair: Daniele Inaudi (Smartec SA, Switzerland)*		
16:10-16:40	Keynote Speech: Wireless monitoring of historic structures using sensor networks	**Christian Grosse** (TU Munich, Germany)
16:40-17:10	Keynote Speech: Monitoring Civil Structures using Fiber Optic Sensors	**Branko Glisic** (Princeton University, US)
Session 3A *Chair: Christian Grosse (Technical University Munich, Germany)*		
17:10-17:30	Early Warning Monitoring System of Modular Expansion Joints Based on Dynamic Behavior	**Willy Peelen** (TNO, The Netherlands)
17:30-17:50	The monitoring system of the "Due Torri" in Bologna, Italy: preliminary results	**Giada Gasparini** (University of Bologna, Italy)
17:50-18:10	Structural integrity monitoring of a cable-stayed bridge with artificial neural networks	**Stefania Arangio** (University of Rome 'La Sapienza', Italy)
Session 3B *Chair: Branko Glisic (Princeton University, US)*		
17:10-17:30	Earthquake assessment of reinforced concrete buildings	**Daniele Zonta** (University of Trento, Italy)
17:30-17:50	Structural Health Monitoring of the Large Adriatic Arch Bridges	**Jure Radic** (University of Zagreb, Croatia)
17:50-18:10	Seismic isolation and monitoring of a religious building in Italy	**Mariacristina Spizzuoco** (University of Naples 'Federico II', Italy)

Closing Session		
18:10-18:25	Concluding remarks	**Angelos Amditis** (Institute of Communication and Computer Systems, Greece)