

# M Workshop on MICROACTUATORS

Genoa, 8<sup>th</sup> October 2018

Università degli Studi di Genova Dipartimento di Fisica Via Dodecaneso 33, 16146 - Genova

## Schedule

### 9:30 Opening

[Luca Pellegrino](#), CNR-SPIN

[Carlo Ferdeghini](#), CNR-SPIN Director

[Daniele Marré](#), Univ. di Genova & CNR-SPIN

### 9:45 Current activities on Nanotechnology at ISIR-Osaka University

[Hidekazu Tanaka](#), ISIR-Osaka Univ.

### 10:15 Overview of the Project "Solid State Actuators for Micro/Nanorobotics"

[Luca Pellegrino](#), CNR-SPIN

[Teruo Kanki](#), ISIR-Osaka Univ.

### 10:45 VO<sub>2</sub>-based MEMS oscillators

[Nicola Manca](#), Univ. di Genova & CNR-SPIN

### 11:00 – 11:30 Coffee Break

### 11:30 Microrobotics: scaling laws, actuation issues, applications

[Arianna Menciassi](#), Scuola Superiore Sant'Anna

### 12:00 Micro-gripping methods and devices for the manipulation of electro-mechanical micro-components

[Irene Fassi](#), STIIMA-CNR

### 12:30 Important aspects about nanometric positioning systems

[Flavia Buonanno](#), Phi Drive S.r.l.

### 13:00 – 14:00 Lunch Break

### 14:00 Introduction of Smart Materials in ST-MEMS Vision

[Luca Zanotti](#), STMicroelectronics

### 14:30 Mechanics of Microsystems

[Alberto Corigliano](#), Politecnico di Milano

### 15:00 MEMS design for reliability: Mechanical failure modes and testing

[Aurelio Somà](#), Politecnico di Torino

### 15:30 MEMS switches: fabrication, electrostatic actuation, and reliability

[Fabio Quaranta](#), IMM-CNR

### 16:00 – 16:30 Coffee Break

### 16:30 Shape Memory Alloys actuators, advanced control for a sensorless approach

[Stefano Franceschini](#), SAES Getters

### 17:00 Ferromagnetic shape memory materials: multifunctional properties and possible applications

[Franca Albertini](#), IMEM-CNR

### 17:30 Conducting polymer-based soft microactuators

[Silvia Taccola](#), Istituto Italiano di Tecnologia

### 18:00 Round table & closing remarks

## Posters

**"An Endoscopic Laser Scanner for Soft Tissue Microsurgery"** Alperen Acemoglu and Leonardo S. Mattos (*Department of Advanced Robotics, Istituto Italiano di Tecnologia, Genova, Italy*)

**"Design and Fabrication of a Hydraulic Deformable Membrane Mirror for High-Power Laser Focusing"** André Gerales, Paolo Fiorini, Leonardo S. Mattos (*Department of Advanced Robotics, Istituto Italiano di Tecnologia, Genova, Italy*)

**"Magnetically driven microrobotic platform for cell manipulation"** Gioia Lucarini, Veronica Iacovacci, Leonardo Ricotti and Arianna Menciassi (*Istituto di BioRobotica, Scuola Superiore Sant'Anna, Pisa, Italy*)

## Workshop organizers

Luca Pellegrino - CNR-SPIN (IT)

Teruo Kanki - ISIR-Osaka University (JP)

Daniele Marré - University of Genoa (IT)

Hidekazu Tanaka - ISIR-Osaka University (JP)

Nicola Manca - University of Genoa (IT)



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