

SOMIRO SCHOOL: Miniaturized and soft robots

OCTOBER 9-12, 2023

MARINA DI CASTAGNETO CARDUCCI (ITALY) AT TOMBOLO TALASSO HOTEL

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9 October 2023: Networking

11:00 – 13:00 | Registration and Welcome to SOMIRO School and project presentation

Klas Hjort (Uppsala University) **Isella Vicini** (Warrant Hub SpA - Tinexta Group)

13:00 – 14:00 | Light lunch

14:00 – 15:00 | Smart sensors for AI-based management of complex chronic conditions: the TOLIFE project

Alessandro Tognetti (University of Pisa)

15:00 – 17:00 | 3D and 4D printing technologies for processing soft materials and Centro Piaggio Visit

Giovanni Vozzi (University of Pisa)

10 October 2023: Materials, Sensing, Communication and computation

9:00 – 10:00 | Digital production strategies for novel electronic devices

Gustaf Mårtensson (Mycronic)

10:00 – 11:00 | Soft Electrostatic Actuators for Small-Scale Machines

Florian Hartmann (EPFL)

11:00 – 11:30 | Break and poster session

11:30 – 12:30 | Chemical sensors and Sensing-Tiny sensors for the big world

Klas Hjort and Hugo Nguyen (Uppsala University)

12:30 – 13:30 | Round table discussion about applications and end-user perspective

Valerio Ciotola (The Circle) and **Giovanni Chiò** (Riso Preciso)

13:30 – 14:30 | Laboratories and practical activities:

Light Lunch

15:00 – 20:00 | Project development and network activities

11 October 2023: Actuator Technology, energy management and electronic

9:00 – 10:00 | The journey toward harvesting-based wireless networks

Domenico Giustiniano (IMDEA)

10:00 – 11:00 | Energy management: Fundamentals of solar cell technology and power management

Christoph Putz – Lukas Lehner (Johannes Kepler Universität Linz)

11:00 – 11:30 | Break and poster session

11:30 – 14:30 | Presentation of other EU projects & networking session

- **Robotic Monitoring of Habitats: the Natural Intelligence Approach** - **Manolo Garabini** (University of Pisa)
- **The MAPWORMS project: Biomimicry, smart materials and shape-morphing robots** **Arianna Menciassi** (Sant'Anna School of Advanced Studies) and **Linda Paternò** (Sant'Anna School of Advanced Studies)
- **Robotics and AI to revolutionise interventional cardiology** - **Emiliano Votta** (Politecnico di Milano)

Light Lunch

15:00 – 20:00 | Project development and network activities

12 October 2023: Robotics

9:00 – 10:00 | Swarm robotics: leveraging bio-inspiration for collaborative robots

Vito Trianni (CNR)

10:00 – 11:00 | Magnetically-driven Mobile Miniature Robots

Ziyu Ren (Max Planck Institute for Intelligent Systems)

11:00 – 11:30 | Break and poster session

11:30 – 12:30 | Materials and methods for sustainable soft system – from biodegradable tough gels to mycelium based electronic skins

Martin Kaltenbrunner (Johannes Kepler Universität Linz)

12:30 – 13:30 | Round table

13:30: Final exam and certificates award