



RoboSoft Consortium



Contacts and News

FP7-ICT-2013.9.1
Future and Emerging Technologies
FET-Open Coordination Action

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A Coordination Action for Soft Robotics



Robosoft Coordination Action



www.robosoftca.eu

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- **The BioRobotics Institute** - Scuola Superiore Sant'Anna (Pisa, Italy)
Project coordination and management, organization of the scientific community and initiatives, dissemination and outreach
- **Swiss Federal Institute of Technology Zurich** (Eidgenössische Technische Hochschule Zürich, Switzerland)
Project web portal and online tools setup and management; support and involvement in coordination action initiatives
- **University of Bristol** (Bristol, United Kingdom)
Dissemination and engagement activities and contacts with stakeholders; support and involvement in coordination action initiatives

Rationale

Soft robotics, intended as the use of soft materials in robotics, is a young research field, going to overcome the basic assumptions of conventional rigid robotics and its solid theories and techniques, developed over the last 50 years. Using soft materials to apply forces on the environment, as expected in a soft robot able to locomote, grasp, and perform other tasks, poses new problems at the level of the different components as well as at the whole system level. The technologies for actuating the soft materials have not yet been demonstrated to exist in a general form, although specific effective examples exist. The same is true for sensors embedded in the soft materials and for soft robotic energy suppliers.

A Coordination Action for Soft Robotics is extremely necessary and timely in the current and future landscape of robotics and biorobotics and can capitalize on the competitiveness of European research in this new field. A common forum will help soft robotics researchers to combine their efforts, to maximize the opportunities and to materialize the huge potential impact.

RoboSoft is creating this missing framework for the soft robotics scientists, regardless of their background disciplines, and is enabling the accumulation and sharing of the crucial knowledge needed for scientific progress in this field.



RoboSoft major objectives

- Create and consolidate a scientific community in the field of soft robotics
- Create opportunities for meeting and for exchange of ideas and experiences for researchers in soft robotics and in the many scientific and technological related sectors
- Educate a young scientific community of students with strong knowledge in soft robotics and improve their career perspectives, in both academia and industry
- Promote the visibility of soft robotics towards stakeholders and special interest communities
- Provide means for better exploiting the potential of soft robots and technologies in future ICT

RoboSoft Community

Major excellent research laboratories and institutions at European and international level working in the field of soft robotics are involved to take part to the scientific initiatives of the Coordination Action as Members of the RoboSoft Community.

Members are organized in a number of thematic Working Groups to focus on critical or emerging topics and technologies: Smart Materials and Soft Actuators and Sensors; Control Architectures and Paradigms for Soft Robots; Energy Storage and Harvesting Soft Devices.

Coordinated by the RoboSoft consortium, the Community Members are working to define scientific and technological standards for soft robots, for the writing of working papers and for the organization of joint initiatives.

Coordination Action Initiatives

RoboSoft consortium and Community Members are working together to discuss scientific and technological standards, challenges, and frontiers of soft robotics.

RoboSoft is organizing a series of scientific and technical events to unify and extend the community, to promote the visibility of soft robotics towards stakeholders and special interest research groups and to provide opportunities for better exploiting the potential of soft robots and technologies in future ICT.

Major events and activities:

- Annual plenary meetings involving the scientific community and stakeholders
- Interdisciplinary events for cross-fertilization with other scientific communities (i.e. biology, medicine, neuroscience, material science and chemistry, mathematics and model theory, etc.)
- Summer Schools for PhD students and young researchers
- Dedicated workshops and exhibitions for stakeholders
- Joint publication in scientific journals and working papers
- Definition of scientific and technical standards
- Book series for soft robotics

