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The Joint Programme of Research of the EURON network is aimed at providing the resources needed to enable pick-up and evaluation of emerging ideas in the field of robotics. Through competitive calls advertised every six months, the research program involves sponsorship of three types of ad-hoc activities: prospective research projects (PRPs), research ateliers (RAs), and topical research studies (TRSs).

A PRP is a one-year effort to investigate a well-defined problem. Projects are expected to provide support to research within the subject area of the Beyond Robotics initiative and be of an exploratory nature or to test rapidly the credibility of new research ideas and concepts. They complement the research undertaken by the integrated projects (see the “EURON Report” column in the December 2004 issue of *IEEE Robotics & Automation Magazine*), and bridge the gaps, consolidating the initiative and its position at the forefront of research. The following PRPs have been funded with €100,000, after peer review of the proposals received for the first call (PRP-1) and the second call (PRP-2), respectively:

PRP-1: “Physical Human-Robot Interaction in Anthropomorphic Domains: Safety & Dependability (PHRIDOM),” coordinated by the University of Pisa, Italy (A. Bicchi), with partners LAAS, France (R. Chatila), University of Naples, Italy (B. Siciliano), DLR, Germany (G. Hirzinger), and University of Rome “La Sapienza,” Italy (A. De Luca), <http://www.piaggio.ccii.unipi.it/phridom/index.htm>

PRP-2: “Lower Extremity Movement Restoration Through Muscle Closed-loop FES Control Using Natural Sensor Feedback,” coordinated by LIRMM, France (C. Azevedo), with partners University of Aalborg, Denmark (K. Yoshida), and MXM, France (J.L. Divoux).

An RA is an effort on a well-defined topic taking place at a single venue with the participation of researchers from a num-

ber of different institutions and companies over a limited period of time. The duration of an atelier can be from a few days to a month. The aim of an atelier is cross-institution and/or cross-discipline integration. The result of an atelier can be a roadmap or a focused study of a particular topic. It is recommended that such studies be carried out in close cooperation with the ongoing integrated projects. The following RAs have been funded, after peer review of the proposals received for the first call (RA-1 and RA-2) and second call (RA-3), respectively:

RA-1: “Robotics Ontology for the Semantic Web (ROSE),” coordinated by MIP, Denmark (J. Hallam), with partner KU Leuven, Belgium (H. Bruyninckx), and a budget of €35,000

RA-2: “Roboethics Atelier,” coordinated by Scuola di Robotica, Italy (G. Veruggio), with partners LAAS, France (R. Chatila) and Scuola S. Anna, Italy (P. Dario), and a budget of €50,000

RA-3: “Network Robot Systems” coordinated by UPC, Spain (A. Sanfeliu), with partners Scuola S. Anna, Italy (P. Dario), EPFL, Switzerland (R. Siegwart), LAAS, France (R. Chatila), University of Surrey, UK (J. Illingworth), IST/ISR, Portugal (J. Santos-Victor), AICIA, Spain (A. Ollero), and University of Zaragoza, Spain (L. Montano), and a budget of €100,000.

A topical research study (TRS) provides a very reactive and flexible funding scheme to support the investigation of innovative ideas. The aim is to generate input to the research roadmap or explore research issues of relevance to the on-going integrated projects or the community in general. Such studies are expected to be highly focused, with well-defined deliverables, in emerging disciplines such as cooperative systems or human-robot interaction. The following TRS has been funded with €70,000, after peer review of the proposals received for the first call (none funded) and second call (TRS-1):

TRS-1: “Visual Perception Systems for a Social Robot (VISOR)” coordinated by University of Malaga, Spain (F. Sandoval Hernández), with partner ISR, Portugal (J. Diaz).

For further information, please visit <http://www.euron.org/projects/index.html>. Parties interested in promoting certain activities via this column can contact either Kostas Kyriakopoulos (<http://users.ntua.gr/kkyria>, kkyria@central.ntua.gr) or Bruno Siciliano (<http://wpage.unina.it/sicilian>, siciliano@unina.it).



Kostas Kyriakopoulos and Bruno Siciliano

The challenge that Europe faces to stay at the forefront of robotics development, production and use requires a coordinated action involving all stakeholder groups. Towards this goal, top executives from ~50 leading robotic industrial and research organizations proposed the European Technology Platform in Robotics—EUROP in order to unite all the main European industrial and academic robotics stakeholders and public authorities to ensure that industrially relevant research goals, priorities and action plans can be agreed and relevant actions implemented. This is in accordance to the European Union's Lisbon strategy to boost competitiveness and growth by generating break-through innovations in robotics.

The Vision of EUROP is to provide a consolidated European strategy in robotics towards the goal of preparing a new generation of robots that will closely collaborate with workers and move out of the factory to pursue the service, security, and space application markets.

Europe has a leading position in industrial robots and the EUROP initiative is being set up to ensure that Europe will continue to be a leader by developing new companies and supply networks to meet the new technology needs as the robots are gradually moving into our homes, offices and public spaces. Such an initiative would also aim at ensuring increased public and personal security levels as well as new levels of quality of life by providing technologies required to enable society

to address challenges in terms of ageing and well-being.

EUROP's members cover the industrial, service and security/space robotics market segments and are a mix of large, medium and small companies. These include leaders in industrial robotics such as KUKA, ABB, COMAU and REIS, service and consumer product suppliers like Philips and Electrolux, and service and systems suppliers such as SAFRAN, EADS, THALES, and FINMECCANICA. Many high-tech SMEs also participate in the venture representing 70% of the stakeholders involved.

In Brussels on 7 October, Viviane Reding, the European Commissioner for Information Society and Media, officially launched EUROP, as part of the i2010 initiative. The European Commission is promoting "Technology Platforms," such as EUROP, as part of this initiative by encouraging companies from different sectors to work together to become more competitive and develop new products and services. The strategic research goals of these platforms are also important inputs to priority settings in publicly supported research, including in the Commission's upcoming 7th Research Framework Program.

For further information, please visit <http://www.roboticsplatform.com/>. Parties interested in promoting certain activities via this column can contact either Kostas Kyriakopoulos (<http://users.ntua.gr/kkyria>, kkyria@central.ntua.gr) or Bruno Siciliano (<http://wpage.unina.it/sicilian>, siciliano@unina.it).

C A L E N D A R

2006

22–26 Jan. MEMS: IEEE 19th International Conference on Micro Electro Mechanical Systems. Istanbul, Turkey. <http://www.mems2006.org/>

12–16 Feb. 2006 American Nuclear Society (ANS) Joint Robotics and Remote Systems Division/Environmental Science Division Topical Meeting. Salt Lake City, UT, USA. cpi@inel.gov

20–22 Feb. BIOROB: First IEEE/RAS-EMBS International Conference on Biomedical Robotics and Biomechanics. Pisa, Italy. <http://www-arts.sssup.it/biorob/>

2–3 Mar. HRI2006: Human Robot Interaction. Salt Lake City, Utah, USA. <http://www.HRI2006.org>

6–8 Mar. SSR2006 3rd International Symposium on Systems & Human Science: Complex Systems Approaches for Safety, Security and Reliability. Vienna, Austria. <http://www.energyrisks.jrc.nl>

15–19 May. ICRA2006: IEEE International Conference on Robotics and Automation. Orlando, FL, USA. <http://www.icra2004.org>

17–19 May. INCOM: IFAC Symposium on Information Control Problems in Manufacturing. Saint Etienne cedex, France. <http://www.emse.fr/incom2006/>

21–23 June. WCICA2006: World Congress on Intelligent Control and Automation. Dalian, China. <http://www.wcica.info>

6–7 July. ASER2006: Workshop on Advances in Service Robotics. Vienna, Austria. vincze@acin.tuwien.ac.at

20–23 Aug. ICIA 2006: IEEE International Conference on Information Acquisition. Weihai, China. <http://www.ia-ia.org>

22–25 Aug. SSRR2006: IEEE International Workshop on Safety, Security, and Rescue Robotics. Gaithersburg MD, USA. <http://www.isd.mel.nist.gov/ssrr2006>

5–28 Aug. ISRA: 5th International Symposium on Robot-

The European Robotics Network (EURON) has launched the first European Robotics Symposium (EUROS). This symposium is a response to demands for a high quality scientific event to present the best research on robotics across applications and topics. Over the last 4 years the EURON annual meeting has served to bring together the European Robotics community, but it has primarily been a networking event to discuss community issues rather than a scientific event. By contrast, EUROS is intended to match the tradition of other strong European meetings such as ECAI, ECCV, ECC, etc. While it is named the European Robotics Symposium, submissions of high quality work from anywhere have been encouraged. EUROS will be organized every two years at European locations, with the first taking place from March 16 to 17, 2006 in Palermo, Italy, followed by the annual EURON meeting on March 18. For the first meeting 50 papers were received that were reviewed by the international program committee. Papers were assigned to 3 reviewers and a selection based on quality was initiated. In the end 16 papers were accepted for presentation. Each paper will be presented in a single track with adequate time for presentation and discussion to maximize impact and critical discussion. The papers have been collected in a special volume of the STAR series, edited by Henrik Christensen, the EURON Coordinator and Symposium Chair.

EURON has issued its third call for proposals. As part of its research coordination the network invites applications for support in terms of: Prospective Research Projects (PRP), Research Ateliers (RA) and Special Interest Groups (SIG). A PRP is a small research project, an RA is well-defined work to investigate a specific topic, and a SIG is a micro community formed to address a specific topic. The deadline is April 15, 2006.

In the meantime, the sixth call of the EU Information Society Technologies has been issued which is devoted to Advanced Robotics. The objective is to address some of the key challenges for the paradigm shift of robotic equipments in their evolution from a specific industrial technology to a broad enabler for a wide range of products and services that are entering the consumer, home and entertainment markets. The work will address the development of more intelligent, flexible, cost-effective, modular, safe, dependable, robust and user-driven robot systems. This will pave the way to the future massive introduction of robots in everyday human environments and their close cooperation with people. The deadline is April 25, 2006.

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In our debut column of March 2003 we briefly referred to the “European tradition” of Summer Schools (although quite a few of them take place in the Fall or Spring!). Since then, this trend has seriously increased under the EURON umbrella that has supported twenty (20) schools during the last four (4) years, each attended by an average number of 30 students. In 2005 the following schools were supported:

- “*Modeling and Control of Complex Dynamical Systems*” organized by Claudio Melchiorri and Stefano Stramigioli, July 18 - 22, University of Bologna Residential Centre of Bertinoro, Italy,
- “*Perception and Sensor Fusion in Mobile Robotics*” organized by Primo Zingaretti, September 1 - 7, Ancona, Italy,
- “*Surgical Robotics*” organized by Etienne Dombre, September 7 - 14, Montpellier, France,
- “*Robotics and Neuroscience*” organized by Angel del Pobil, Yiannis Demiris and Jose M. Carmena, September 19 - 23, Benicàssim, Spain, and
- “*Rescue Robotics Camp*” organized by Daniele Nardi, October 29 - November 2, Rome, Italy.

while the “*Telesurgery*” winter school, organized by Jose Azorin, Miguel Hernández, Alicia Casals and Mamoru Mitsuishi is scheduled from March, 26 - 31, 2006 in Benidorm, Spain.

These schools are primarily meant to address the needs of PhD students but are essentially open to all as they are an efficient way to educate young robotics researchers by making the most recent knowledge accessible to them, taught by world widely known experts.

EURON Schools, being a core element in EURON's educational program, are coordinated under the umbrella of the EURON Education key area and organized by individuals and interest groups. An annual budget of 45 k€ is reserved to sponsor 4-5 EURON Schools per year. The teaching material of the EURON Schools is made available to future use not only for the participants of the school but also for the rest of the robotics community.

Calls for EURON Schools come out twice a year: in January for Summer Schools and in May for Winter Schools. Applications containing a draft program, list of speakers and a budget must be submitted to the EURON coordinator for approval by the Board.

The authors of this column want to thank the EURON Schools coordinator, Prof. Roland Siegwart (<http://asl.epfl.ch>) for providing material for this report. For further information, please visit <http://www.euron.org/education/summerschools.html>. Parties interested in promoting certain activities via this column can contact either Kostas Kyriakopoulos (<http://users.ntua.gr/kkyria>, kkyria@central.ntua.gr) or Bruno Siciliano (<http://wpage.unina.it/sicilian>, siciliano@unina.it).

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