

Link to ERF online form submission
http://www.macs.hw.ac.uk/erf2017/?page_id=1922

DEADLINE FOR PROPOSALS SUBMISSION: 11th NOVEMBER

1. Session Title:

Medico-surgical-rehab robots: fostering community interaction for safety, standards and regulatory issues

2. Organiser 1 (person who will provide follow-up)

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Gender (Male)
Organisation Obuda University
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*** 3. Is the main organiser a member of euRobotics aisbl?**

Yes. (#92)

4. Organiser 2

First Name Paolo
Last Name Barattini
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Organisation Turin, Italy
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5. Organiser 3

First Name Gurvinder Virk
Last Name Virk
Gender (male)
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6. Organiser 4

First Name Emanuele
Last Name Lindo Secco
Gender (male)
Organisation **Liverpool Hope University, UK**
E-mail address seccoe@hope.ac.uk

7. Topic Group

If this workshop is organised by a Topic Group of SPARC, please mention the name:

TG Standardization

8. Motivation and objective:

Why is this session important, what is our message; short description

This workshop scope is to bring together experts in medico-surgical-rehabilitation robotics in order to discuss the ongoing issues regarding safety, to provide to the participants insight in the ongoing standardization activities, and to collect their live experience input for safety and standards, and regulatory issues, to criss cross the different point of view to produce valuable inputs of the European experts and projects for the standardization ISO working Groups.

The discussion shall include the many aspects related to safety in this robotics area, the regulatory and legal aspects, the possible new approaches to risk assessment, software quality, physical and non physical interfaces, human factors, use cases.

The field of medical robots including surgical and rehabilitation robotics is expanding with new market viable products implementing latest scientific results. The basic safety and essential performance requirements in this domain are referred to multiple areas:

- on one side we need standards to build safe medical robot systems. This is vital because in the medical, surgical and rehabilitation field the robot is typically in direct contact with the exterior and interior of the human body and applies forces to the patient in different ways. This also implies the need for safe control systems, training issues and many other factors that can influence the overall “safety”.
- on the other side the safety issues have to be weighed by the medical approach considering if the robotics technology is providing at least the same benefit for the patient as the traditional alternatives.
- Multiple regulatory issues are involved that are strictly connected to the safety approach and to the technical implementation choices that are to be subsumed in the standards

9. Approach:

We use the approach that we already tested on sundry similar occasion and provided for lively discussion and useful relevant output.

Active discussion will be promoted by restricting the time for formal presentations to one sixth of the overall two slots workshop time.

Essentially the time of the workshop is used mainly for collective discussion focussed on the identification of three main issues to be tackled in split session, and then a final collective session to share the split sessions results and plan the way ahead.

30 minutes frontal presentations (5 presentations x 6 minute)

To present workshop plan, previous activity of the TG in this domain, position statements, and main issues object of the workshop

50 minute collective discussion

20 minutes coffee break and posters presentation session

50 minute split session in three groups on the three main specific areas of interest emerged during the collective discussion.

Each group will provide a description of a theme/issue/usecase in safety,/risk assessment/interfaces/software quality relevant for standards related activities and regulations then criss crossing it to the current draft status and knowledge in ISO working groups.

30 minutes rendition ((wrap-up) session to present the theme/issue/usecase, write the minutes and to plan the way ahead in exploiting the results of the session including: contact to the community to refine the proposed issues and approaches from the three split sessions, produce a questionnaire to be submit to the community in this domain to present the results in order to elicit and recollect further input,, preparation of a book on this topics (a publishing company is already in stand-by waiting for our input).

The introduction will aim at harmonizing the setting, pointing out the main points of discussion and agreeing on how the workshop activities will be conducted. The initial part of the workshop will also include presentations from multiple experts in the main relevant fields of interest. Once a common ground has been established, it will be easier to convey participants with diverse experiences and backgrounds towards the discussion topic.

Early stage researchers will be encouraged to contribute to the workshop session through the presentation of poster work and very short lightning talks during coffee break. Contrary to formal presentations, posters do not require a long-term research experience, which allows early stage researchers to submit their contributions. The workshop would be an ideal time for young researches to promote their work and share their ideas with experienced researchers in one-to-one discussions in the informal environment of the workshop.

The workshop will continue with three split sessions. The participants will focus on a brainstorming session about specific issues in safety, use cases and standardization. These sessions will provide the opportunity for smaller group discussions and greater involvement from the participants. The results of the split sessions will be the contribution to the final discussion and rendition (wrap-up session), which aims at establishing common ground on the selected relevant issues,

providing input to standardisation, hints regarding approaches to safety and risk assessments to companies, ongoing projects, developers, policy makers.

The primary audience of the proposed workshop is intended to be robot researchers/developers and practitioners from academia and industry working in all areas of medico-surgical-rehabilitation robotics. However, the workshop has a clear focus on how research and standardization should work together effectively.

We will invite to participate through the EUrobotics and Robotics-worldwide mailing lists, through the mailing lists collected during previous workshops, and the related topical groups of the SPARC-EUrobotics association and through the social network of the organizers. Besides, the workshop will be publicized through the Robohub website. The different formats available shall encourage the participation of young researchers and promote the discussion between the speakers and the audience. Submissions should broadly follow the topics of interest and describe issues in safety, use cases, new approaches to risk assessment or to software quality, evaluation of interfaces, and human factors. Submissions of posters will be reviewed by at least two experts and will be considered for presentation based on relevance to the workshop topics, technical quality, novelty, and presentation type.

10. Agenda (90 min slots):

The workshop is of two-90 minute slots

30 minutes frontal presentations (5 presentations x 6 minute)

To present workshop plan, previous activity of the working group, position statements, and main issues object of the workshop

50 minute collective discussion

20 minutes coffee break and posters presentation session

50 minute split session in three groups on the three main specific areas of interest emerged during the collective discussion.

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11. Please list all confirmed and foreseen contributors with name, function and organisation. It is usually better to have a balance of speakers from industry (including end-users), research, innovation

Foreseen contributors are:

Representative of IEC TC 62d committee on Medical Robot Safety

Representative of ISO TC 199 committee on Robotics

Representative of IEEE Standardization Association

Representative of Robotics lab U. of Bristol

Jan Veneman, Tecnia, Spain jan.veneman@tecnalia.com

Tamas Haidegger, Obuda University, haidegger@irob.uni-obuda.hu

Gurvinder Singh Virk, InnotecUK Ltd, Cambridge, UK |

gurvinder.virk@innotecUK.com

Paolo Barattini, , Torino, Italy | paolo.barattini@yahoo.it

Emanuele Lindo Secco – Liverpool Hope University, UK seccoe@hope.ac.uk

12. How can participants contribute to, and prepare for, the workshop?

Example. “Participants will be asked to participate in a brainstorming session on current challenges, how projects should be set up to identify optimum solutions, and how benchmarking should be applied”.

Participants will contribute with their experience proposing approaches, themes, use cases, or new activities and initiatives.

Additionally they will be notified of the availability of the minutes and slides of previous workshops through the workshop announcement page on the website of the CLAWAR association. Also basic list of relevant papers will be made available on the the same page.

Additionally the prospective participants may propose themselves some scientific literature or papers to be read in advance, or provide information about ongoing activities to the other prospective participants.

13 Further information

Links to publications, websites...

Previous workshop:

<http://www.erf2016.eu/index.php/programme/>

14 Planned follow-up

Please state what you plan to do with the outcome / results of your workshop. Example “After the workshop, the information collected will be organised in a short report which will be made available to the relevant Topic Groups focussing on systems integration”

After the workshop the minutes will be circulated to the cognate TGs.

All the presentations and the minutes from the workshop will be available online on the workshop’s website, provided that the authors agree to make them available

online. A website for the workshop will be set up after the acceptance of the proposal under clawar.org domain.

News about the initiative will be released through robohub, EUrobotics mailing list, Robotics-worldwide mailing list.

Proactive contact to scientific community will be activated in order to refine the outputs, issues and approaches from the three split sessions, a questionnaire to be submitted to the community in this domain to present the results in order to elicit and recollect further input, preparation of a book on this topic (a publishing company is already in stand-by waiting for our input).

15. Expected number of participants

Please indicate the expected number of participants, ideally based on prior experience with similar topics, e.g. at a previous ERF. Please enter just one number as an average estimation, no ranges. Comments can be put below.

Based on prior experience we expect about 30 participants

16. Comments on number of participants

Depending on the availability of larger rooms, members of the BSA (British Standardization Association) could also be invited.

17. Is there a link to other workshop applications you are aware of?

Yes the TG on surgical robotics is proposing a session.

It would be advisable to have the two sessions in close temporal sequence. Anyway not in parallel.

18. If you need additional equipment (standard is projector/ beamer and 1 flipchart), please describe it below

Depending on the capacity of the on-site network facilities we would like to broadcast the event as a Live event on Facebook or setup an interactive reddit session to attract public interest and extensive Q&A sessions with audience that is not able to attend the event. The final video would be also available afterwards on the website for future reference.