

IEEE-RAS TC on Telerobotics

TC TRIENNIAL REVIEW REPORT

(1) Honest assessment of TC over past 3 years, goals for next 3 years, and the feasibility of retiring the TC

TC on Telerobotics was approved on April 2007. Since its approval, the goal of the TC chairs has been focused on creating a contact and discussion point for the telerobotics community. In order to achieve these objectives, the following activities have been accomplished:

- A web site was developed to inform the community about TC activities and disseminate information and literature relevant for the members
- A workshop titled "New Vistas and Challenges in Telerobotics" was held at ICRA 2008 in Pasadena. The event had significant impact and 9 relevant key lectures supported the workshop proposal. This event was the first point of contact for the community members, and was considered as very successful event. The primary highlights of the workshop are as follows:
 - o 6 invited lectures
 - o 60 participants
 - o 4 long oral presentations
 - o 14 posters with short oral presentations
 - o 18 papers included in the workshop proceedings
- The co-chairs edited a Special Issue on Telerobotics in the Robotics & Automation Magazine, which was published in the December 2008 issue. Five papers, focused on current applications and technologies, were published in this issue.

From the point of view of the TC co-chairs, the telerobotics community has successfully recognized the activities that were carried out during the last three years. Over the last three years, 40 researchers have requested membership to the TC on Telerobotics.

The goal for the next 3 years will be focused on maintaining the contact among members and promote new workshops, special sessions and special journal issues. A special issue about control in telerobotics is currently approved by Mechatronics from Elsevier to be published in 2010.

Furthermore, we aim at developing an experimental setup where it is possible to compare different kinds of control strategies. The results of the comparison will be published on the website of the TC.

(2) List of activities during past three years (which should include, but not limited to, the expected activities listed above)

- Development of the TC on Telerobotics web page: <http://telerob.org>
- Set up a mailing list for all members
- Attendance to all TAB meetings
- Update of TC on Telerobotics data in the TC webpage
- Organization of a workshop in ICRA 2009 titled 'New vistas and challenges in Telerobotics'
- Editing a Special Issue on Telerobotics in RAM (December 2008 issue)
- Approval of a new special issue on control for telerobotics in Mechatronics from Elsevier (to published in 2010)

(3) List of outreach activities outside the RAS

Main activity outside RAS has been the promotion of a special issue on control for telerobotics in the Mechatronics magazine from Elsevier.

(4) List of important publications over past 3 years in TC area.

Advances in Telerobotics from Springer STAR series, June 2007
RAM Special Issue on Telerobotics, December 2008
Many sessions and conferences about this field

(5) number of members of each year in the past three years

Members in 2006 -> 4
Members in 2007 -> 14
Members in 2008 -> 40

(6) summary of top three technical innovations in the area during the past three years

Advances in remote handling for applications in nuclear fusion.
Assistance functions integrated in bilateral teleoperation
Usage of human behaviour models to improve teleoperation

(7) Recommendations (and alternates) for new co-chairs: one from each primary region.

Current chairs of TC on Telerobotics are:

- Manuel Ferre (SPAIN)
- Nikhil Chopra (USA)

- Angelika Peer (Germany)
- Cristian Secchi (Italy)

The recommendation for the next 3-year period from April 2010-2013 is to maintain 2 of the 4 current co-chairs and renew the other 2 positions. Therefore the new committee will be:

- Angelika Peer (Germany)
- Cristian Secchi (Italy)
- 1 co-chair from ASIA:
proposition: Katsunori Sato (nominated by Prof. Susumu Tachi)
- 1 co-chair from USA: M. Cenk Cavusoglu

This policy will allow the continuity of the current activities and the renewal of the co-chairs.