All You Can mIEEEt

I am writing this column in San Juan, Puerto Rico, while attending the IEEE Technical Activities Board (TAB) meetings on 12–13 February 2009.

Following Dick Volz, our junior past president's advice, I have been attending these meetings since 2006 when I started serving the IEEE Robotics and Automation Society (RAS) as president elect, and I have found them of indubitable value to meet all Society volunteers and IEEE staff.

As pointed out in my inaugural "President's Message" in the March 2008 issue of *IEEE Robotics and Automation Magazine*, a strategic goal for our Society is one of outreach and openness to other communities, with growing interest in robotics and automation. The IEEE Division X gathers six Societies (Computational Intelligence; Control Systems; Engineering in Medicine and Biology; Lasers and Electro–Optics; Robotics and Automation; and Systems, Man, and Cybernetics) and three councils (Biometrics, Sensors, and Systems). I have had the opportunity to share common experiences with the leaders of these Societies and councils, and Dick (our current Division X director) is currently committed to tighten intersociety cooperation as concerns conference publications and reviewing, especially for the conferences which are technically cosponsored by one or multiple Societies or councils.

These discussions often extend to evening hours, as is evidenced by the photograph above taken at the Aguaviva restaurant in Old San Juan with Tariq Samad (right) and Roberto Tempo (middle), respectively, president and president elect of the IEEE Control Systems Society (CSS). In concert with CSS, another photograph from this evening appears in the June issue of *IEEE Control Systems Magazine*.

In the remainder, you will read about the activities promoted by our boards, as contributed by the respective chairs. We all met in May when the International Conference on Robotics and Automation (ICRA) goes back to Japan, in Kobe, since the 1995 edition in Nagoya. A report from such meetings, including the Administrative Committee (AdCom), will follow in the September issue of our magazine.

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Conference Activities Board (CAB)

Posters or tracks? That is an issue many conferences face as they grow. Posters allow conferences to be single track, while tracks allow all presentations to be oral. Robotics and automation conferences generally shy away from posters, but other communities rely heavily on them. An example of a single-track, three-day meeting, where most presentations are by poster is the microelectromechanical systems (MEMS) conference. MEMS is one of the major 100% RAS-sponsored conferences, which began in 1988 and is held annually. MEMS is a high-quality conference with substantial industrial interaction but may not be that well known to many RAS Members because of the topic.

On 28 January 2009, the CAB took its floating meeting [i.e., not at ICRA or International Conference on Intelligent Robots and Systems (IROS)] to MEMS 2009 in Sorrento, Italy. The procedures of the MEMS conference are quite different from those of most robotics conferences. There were 600 attendees, but as stated earlier, there is only a single track with 20-min oral presentations. This means that posters were the main form of technical presentation. The choice of podium versus poster presentation is not based on perceived quality, but rather on topic distribution and highlighting different trends. Another novel feature is that submissions are two-page papers, where one page is text and another is figures. All papers are reviewed by a 24-person program committee [(PC) external reviewers are not used], which means that each PC member reviews a lot of papers. Decisions are not accompanied by reviews, and so authors whose papers are rejected are not told why. Nevertheless, this reviewing procedure is well accepted by the MEMS community. CAB expressed heartfelt thanks to the Society President Bruno Siciliano, for his and his family's gracious hosting of their visit to Napoli and Sorrento.

Another meeting relying heavily on posters is the 100% RAS-sponsored World Haptics Conference (WHC), which was held in Salt Lake City on 18–20 March 2009. There were single-track sessions with 15-min talks. The session was attended by 240 members, which means that most papers were presented via posters. WHC employs poster teasers, which are 2-min oral presentations describing each poster in the main conference hall. All teasers are presented on a single laptop, and presenters line up to avoid losing time. In an hour, 30 teasers are presented, and then attendees go to view the posters.

Another feature is the large number of demos, 25 of them at WHC. The portability of haptic interfaces may partly explain the large number of demos. Some papers had an accompanying demo as a kind of advanced multimedia presentation. There is no more convincing way to convey one's work than having the device physically present.

Posters instead of tracks is something that robotics and automation conferences may want to seriously consider in the future, as pointed out by John Hollerbach, our vice president (VP) for conference activities.

Financial Activities Board (FAB)

Our VP for financial activities, Ian Walker, reports how the current global financial situation has significantly impacted the IEEE as most other organizations. The subsequent impact on the IEEE Societies, including RAS, will restrict options in managing their budgets. Consequently, it may be expected that there will be fewer opportunities for new and ongoing initiatives and programs within the Society in the foreseeable future.

Industrial Activities Board (IAB)

As reported by Alex Zelinsky, our VP for industrial activities, IAB is focused on delivering outcomes in four areas of activity for RAS:

◆ *IEEE/International Federation of Robotics (IFR) Innovation and Entrepreneurship Robotics and Automation (IERA) Forum*: RAS is working cooperatively with the IFR to support activities that promote innovation of new robotics products and services. The joint forum with IFR will be held in conjunction with ICRA 2009 on 12 May in Kobe, Japan. The IERA Forum also recognizes outstanding invention and entrepreneurship in robotics and automation through an award that is judged by an international panel. A full report of IERA'09 will be published in the next issue of our magazine.

◆ *Technology road maps*: An important public relations role for our community is to inform the general public about the likely future trends of robotics and automation technology. Road maps for robot technology and products with 5–10 and 20-year timelines are being prepared by both government and industry, with considerable work being done in Korea, Japan, and Europe. Early-stage road-mapping activity has commenced in the United States. IAB is currently compiling road-mapping material and resources and is in the process of being published on the RAS Web site.

◆ *Standards*: Much of today's robotics and automation is based on experimental demonstration platforms. To transform robotics and automation into a full product and service-based industry will require industry standards. Unless robots meet stringent safety and environment standards, deployment in public places will not be possible. IAB has a Standards Committee that is working closely with the IEEE standards; the committee is chaired

by Erwin Prassler. The current focus of the Standards Committee is on robot middleware that will allow the development of common platforms for sensors and systems software. An IAB working group on standards activities will be held at ICRA 2009. A report of the meeting will be available on the RAS IAB Web pages.
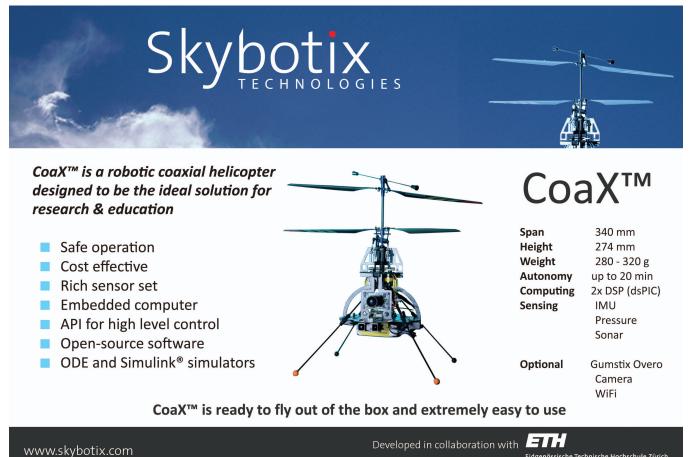
◆ *IEEE Robotics and Automation Magazine column*: IAB is now publishing a regular one-page column on industrial activities in the magazine. In this issue, there is a report on a decade of growth and innovation in robotics and automation by Alonzo Kelly.

Member Activities Board (MAB)

This is the report from our VP for member activities, Alícia Casals:

◆ With the start of 2009, two new students have been nominated as cochairs of the Student Activities Committee (SAC). They will contribute with Carol Reiley, the current SAC chair, to promote new activities and consequently encourage more students' involvement in RAS. The new cochairs are Junjie Zhang and Shogo Okamoto, who will continue the task initiated by Elena Gribovskaya and Phil Roan, cochairs who served our Society in 2008. Thanks to the volunteers and welcome to the new ones.

◆ Following the student activities, two significant events are organized at ICRA 2009. The first is a forum for discussion of new research trends or interest areas on 12 May. The second is a continuation of the first mentoring program, started last fall during IROS 2008.

◆ By the time of this publication, new competitions would have taken place in Kobe, the second edition of the ICRA Robot Challenge, with three specific events like last year.

◆ The number of RAS Chapters, Sections, and student branches are slowly increasing all over the world. This remark on the "President's Message" is to be seen as an invitation to volunteers of geographical areas where no Chapter exists, to create the corresponding Chapter or

branch. These local RAS entities should help approach RAS to its members and to the new potential ones. Activities of Chapters are diverse, both in what refers to quantity and recognition of their activities.

◆ RAS membership has increased by 1.6% this year. RAS is one of the three IEEE Societies, with more than 5,000 members, which showed an increase in 2009. However, renewal of students is lower and student membership is going down; this is a worry of MAB. In general, the IEEE is trying to improve its services, that is through its myIEEE, which has been renewed. In particular, RAS, besides its activities addressed to offer more services to members, is improving its Web and offering services at its wiki.

Publications Activities Board (PAB)

At its May 17 meeting, the RAS AdCom approved the establishment of the RAS Member digital library (SMDL). It will allow members who do not have access to IEEE/IET Electronic Library (IEL) to download papers from *IEEE Transactions on Robotics* and *IEEE Transactions on Automation Science and Engineering* and all RAS-cosponsored conferences, whose proceedings are in IEEE *Xplore*. Peter Luh, our VP for publication activities, prepared a proposal, which was submitted to the RAS AdCom for discussion at its meeting during May. Once approved by the IEEE, the SMDL will be offered at reasonable annual subscription rates to RAS members. Note that *IEEE Robotics and Automation Magazine* comes with Society membership.

Technical Activities Board (TAB)

The IEEE celebrated its 125th anniversary with an event in New York: http://www.ieee.org/web/aboutus/news/2009/11march.html. One part of this was celebrating key research milestones. The IEEE milestones program of the IEEE History Committee honors significant achievements in electrical, electronic, and computer engineering and the associated sciences. Milestones recognize the technological innovation and excellence for the benefit of humanity found in unique products, services, seminal papers, and patents. A list of milestones can be found at http://www.ieeeghn.org/wiki/index.php/Milestones:Proposing_a_Milestone. Dick Volz noted that it would be terrific to include milestones from robotics and automation. Since there is a significant application process, Ken Goldberg, our VP for technical activities, has initiated a wiki discussion on the RAS Web site to get input from members on what they consider key milestones in our field. The Web site has been set up recently.

The RAS technical committees (TCs) are reviewed every three years and evaluated for possible retirement. There should be no stigma to retiring a TC. TCs are created to spur activity in specific research areas and should naturally retire to make room for new TCs after six to nine years when a TC topic has declined or is sufficiently thriving. The Triennial Review asks TC cochairs for a three-page report, including:

◆ honest assessment of TC over the past three years, goals for the next three years, and the feasibility of retiring the TC
◆ list of activities during past three years
◆ list of outreach activities outside RAS
◆ list of important publications over the past three years in TC area
◆ summary of top three technical innovations in the area during the past three years
◆ number of members of each year in the past three years
◆ recommendations (and alternates) for new cochairs: one from each primary region.

Each year approximately one third of the TCs are reviewed on a rotational basis. In spring 2009, the following nine TCs are being reviewed:

◆ Aerial Robotics and Unmanned Aerial Vehicles
◆ Autonomous Ground Vehicles and Intelligent Transportation Systems
◆ Bio Robotics
◆ Human–Robot Interaction and Coordination
◆ Micro/Nano Robotics and Automation
◆ Networked Robots
◆ Rehabilitation and Assistive Robotics
◆ Roboethics
◆ Telerobotics.

Electronic Products and Service Board (EPSB)

The developments around our Web site continue uninterrupted, as reported from our EPBS Chair (and Editor-in-Chief of the magazine) Stefano Stramigioli. Last month, a lot of time was invested in improving the pages and procedural issues for the various award evaluations and for restructuring the exposition of all cosponsored publications. Besides that, on the basis of the comments formulated during the last AdCom in Nice, the meeting system is being improved to run meetings more effectively and automatically register possible motions. Also, the automatic scheduling of resources for meetings is under construction. This has been a goal for a while but, because of other higher priorities, had been left on the side. We hope that this will soon be completed and constitute a valuable contribution for the efficiency of planning various meetings.

As usual, we look forward to receiving comments and suggestions from all members. Please, do not hesitate to contact me, any of the officers, or Rosalyn Snyder. Contact information for RAS officers and committee chairs is on our home page.

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RAS President 2008–2009