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Keep the Gradient

I shall begin by thanking all the members of the IEEE Robotics and Automation Society (RAS) for giving me the opportunity to serve as President for 2008 and 2009. It is a great honor for me, and I will do my best to meet your expectations and to uphold the high standards of excellence set by my 15 predecessors, including the five past presidents of the former Council. I am looking forward to working closely with the distinguished colleagues who run our Society and who have become good friends over the years since I first attended our flagship conference, the IEEE International Conference on Robotics and Automation, in 1986. During these 22 years, I have had the privilege to observe the growth of our Society from inside and offer my services in several capacities.



We are fortunate that the excellent past leadership in our Society has achieved a number of important successes, such as

- ◆ top-ranked publications in robotics
- ◆ new leading publication in automation science and engineering
- ◆ highly respected joint publications with other societies
- ◆ premier conferences and topical workshops in robotics and automation
- ◆ new exciting educational programs in robotics
- ◆ increased interest toward industrial activities
- ◆ strong financial reserves.

This has happened thanks to a strong team of dedicated volunteers who are committed to promote science and technology and, above all, work hard to advance our Society.

On the other hand, robotics and automation is becoming more and more pervasive in the big arena of systems science. Today, new communities of users and developers are forming with little connection to the core of robotics and automation research. A strategic goal for our Society is one of outreach and openness to these communities. It is indeed at the intersection of different disciplines that the most striking advances happen. Further progress and the expected growth of our field will depend largely on our abilities to favor such interaction and encourage cooperation.

As we undertake this endeavor, we must carry on our mission to promote and disseminate robotics and automation science through the highest possible quality in conferences and publications. This mission benefits greatly from the enormous potential of both technical and industrial activities. Our success will ultimately depend on our capacities to properly invest our finances, as well as to encourage active participation of our membership, especially the students who represent our bright future. Sharing a common vision, seeking continuous feedback, ensuring transparency, promoting new challenges, and awarding excellence are among the ingredients in this course.

The following picture, taken at the IEEE/RSJ International Conference on Intelligent Robots and Systems in San Diego last fall, features the ten officers forming our Executive Committee plus our parliamentarian. Four officers (Ken Goldberg, Ian Walker, Xiaoping Yun, and



From left: Xiaoping Yun (treasurer), Alex Zelinsky (vice-president for Industrial Activities), Robin Murphy (parliamentarian), Alicia Casals (vice-president for Member Activities), John Hollerbach (vice-president for Conference Activities), Kazuhiro Kosuge (president-elect), Ken Goldberg (vice-president for Technical Activities), Bruno Siciliano (president), Peter Luh (vice-president for Publications Activities), Frank Park (secretary), and Ian Walker (vice-president for Financial Activities).

Robin Murphy) are continuing to serve after the previous term under Dick Volz, and I should take this opportunity to thank the outgoing officers (Antonio Bicchi, Bill Hamel, Sukhan Lee, T.-J. Tarn, and Shigeki Sugano) for having offered their experience in the transition to the new officers (Alicia Casals, John Hollerbach, Peter Luh, Alex Zelinsky, and Frank Park). Our newly elected President-Elect Kazuhiro Kosuge will chair the Long-Range Planning Committee and cooperate with us.

Here are the challenges I have collected from our six vice-presidents, which our team is committed to pursue for the next two years.

Conference Activities Board (CAB)

Vice-President John Hollerbach

The number of conferences that RAS sponsors and cosponsors is large and growing, while the paperwork for running any conference is increasing. Our goals are

- ◆ to manage the portfolio of RAS conferences as effectively as possible (conference approval, conference openings, conference closings, and technically sponsored conferences)
- ◆ to monitor the quality of these conferences through the Steering Committee for Technical Programs to make sure they meet RAS standards
- ◆ to consolidate the Conference Editorial Board (the committed service of its Editor-in-Chief Seth Hutchinson is here acknowledged)

- ◆ to identify a unified and efficient conference software system of choice for RAS
- ◆ to utilize the RAS Web site to post and track information about conferences, to make their management easier
- ◆ to introduce a quick-start Web page to assist conference organizers in the required procedures and paperwork
- ◆ to expand the robotics and automation community that RAS serves by strategic linkages to important non-RAS conferences.

Financial Activities Board (FAB)

Vice-President Ian Walker

From the financial point of view, the key goal is to develop more accurate and timely estimates of the Society's financial state, so that we can more effectively utilize our resources. The main challenge here is that for many of the major contributors (positively and negatively) to the Society budget (e.g., final conference surpluses) we only have estimates at the time we need to make funding decisions. This uncertainty is amplified at the present, as this is a time of significant change within the IEEE, in terms of the way the IEEE calculates charges and payments to Societies. We are working in two main directions:

- ◆ to better monitor and predict the financial aspects of our Society's operations
- ◆ to predict the changes to our Society's finances resulting from the IEEE's proposed internal financial changes.

Industrial Activities Board (IAB)

Vice-President Alex Zelinsky

The outreach of our Society to the industry is a key challenge for robotics and automation growth and the impact on the new emerging markets. Our specific goals are:

- ◆ to further develop and extend the network of representatives in various countries around the world to track industrial activities, particularly new robotics product and service innovation
- ◆ to promote innovation by growing the IEEE–International Federation of Robotics Joint Forum on Innovation and Entrepreneurship in Robotics and Automation into a substantive RAS activity
- ◆ to continue to position RAS as a key player for the development of standards in robotics and automation by working with the industry and the research community; the activities of RAS will be coordinated with that of other standardization defining organizations, such as the International Standards Organization, the International Electrotechnical Commission, and the IEEE Standards Board
- ◆ to continue the technology road-mapping process for robotics and automation with the purpose of representing the industry's and community's views about the future vision for the industry and new

products or services by providing a broader view of the future possibilities and implications of robotics technologies to help guide business and government decision makers

- ◆ to encourage new IEEE Members from the industrial community to join RAS and participate in our Society activities
- ◆ to ensure that all Industrial Activities Board information is readily available and up to date for RAS Members on the Society Web site.

Member Activities Board (MAB)

Vice-President Alicia Casals

The strength of our Society relies on the quantity and involvement of its members as well as on the enthusiasm and steering power of its leading team. Our mission is to ensure that RAS can approach its current and future members, helping them to be aware of the benefits that they can obtain from our Society and the activities they can join or promote. We plan to achieve the following goals through our Standing Committees:

- ◆ to promote RAS through its chapters (so far mainly the chapter chairs have been involved) and encourage them to reach its members and promote RAS activities at the national level
- ◆ to increase educational activities involving students, such as special sessions in conferences and publications, by facilitating participation in RAS activities through special fees, as well as promoting social activities and creating the seeds for further cooperation
- ◆ to identify potential problems that impede participation of members from emerging countries in RAS activities and look for solutions related to economical or legal aspects, while taking care to provide equal opportunities for everybody
- ◆ to serve members by giving information of their possible involvement, helping on funding, mentoring young members, and looking for relationships with other societies or specialties.

Publications Activities Board (PAB)

Vice-President Peter Luh

The intellectual properties and income of RAS rest heavily on publications. The publication activities, however, are facing drastic changes in recent years because of online publications with multimedia capabilities and the concomitant push for open access and decrease in print subscriptions. In the mean time, many emerging areas stipulate new publications. We are, thus, in an exciting and challenging era for publications. Currently, RAS publishes *IEEE Transactions on Robotics (TRO)*, *IEEE Transactions on Automation Science and Engineering (TASE)*, and *IEEE Robotics and Automation Magazine (RAM)*, and the committed service of their Editors-in-Chief Alessandro De Luca (*TRO*), Nukala Viswanadham

(*TASE*), and Stefano Stramigioli (*RAM*) is here acknowledged. We are also cosponsoring the following:

- ◆ *IEEE/ASME Transactions on Mechatronics*
- ◆ *IEEE/ASME Journal on Microelectromechanical Systems*
- ◆ *IEEE Transactions on Nanobioscience*
- ◆ *IEEE Transactions on Nanotechnology*
- ◆ *IEEE Sensors Journal*
- ◆ *IEEE Systems Journal*.

All these journals are among the top journals in their respective fields of interest. We are also cosponsoring the new *IEEE Transactions on Haptics*, which is expected in the second half of 2008. Our goals for the publications are:

- ◆ to work with individual editorial boards to continue improving the quality of publications as measured by the impact factors and the number of *IEEE Xplore* downloads while decreasing the time periods from submission to first decision and to final publication through a continuing improvement process and further exploration of advanced multimedia capabilities
- ◆ to work with the Financial Activities Board to analyze the financial conditions of publications and find opportunities to improve the conditions while keeping abreast of the open access issue
- ◆ to work with other boards, the general RAS membership, and other societies to encourage visionary papers and special issues on emerging areas, survey or review papers on maturing topics, IEEE Press books, possibly new journals after careful market analysis, and general submissions (including manuscripts overhauled from conference papers) for high-quality services to members and the profession.

Technical Activities Board (TAB)

Vice-President Ken Goldberg

Technical activities are truly the amplifiers of ongoing top research and future directions in our Society and beyond. Some specific goals we wish to achieve are as follows:

- ◆ to develop stronger links between the technical committees (TCs) and RAS conferences and publications by encouraging TCs to post lists of related papers and summaries of milestones and having TCs play an active role in coordinating sessions and special events at conferences
- ◆ to implement a triennial review process for our 23 TCs to facilitate creation of new TCs and to initiate a regular "TC Spotlight" feature in *RAM*
- ◆ to implement technical communities, a new category for large, highly active TCs that have at least 150 members
- ◆ to help in the Conference on Automation Science and Engineering, enabling it to grow to a major RAS conference and to encourage new research in automation, particularly in the areas of lab automation, life sciences, and security

- ◆ to increase the size of the Distinguished Lecturer (DL) program from 24 to 30
- ◆ to develop online databases to maintain information on TCs, DLs, and mailing lists for all TCs
- ◆ to involve more young researchers in the TC and DL programs, so that all TCs should have at least one cochair under age 35.

Needless to say, the list of challenges discussed is rather ambitious, and the financial implications of any new initiative shall be weighed with respect to the service provided to our members. Inspired by a truly collegiate spirit, I will cooperate with the Executive Committee, the Administrative Committee, as well as the various boards and committees to tune the ideas, enrich the list, establish new goals, and set up the most appropriate and cost-effective procedures to achieve them.

I trust that a good atmosphere is a success key in the management of a team of volunteers, who should be vigorously and enthusiastically motivated to invest their valuable time in the running of RAS. I consider interpersonal contacts to be of

extreme importance, and I will promote that sense of camaraderie, which ultimately makes our Society a very pleasant environment to be active in.

The final word is for our outgoing president and good friend Dick Volz. Dick is an incredible source of knowledge within the RAS and the IEEE. His loyalty and generosity have probably no equal. I have carefully watched him during these two years I have been serving as president-elect, and I hope I have learned how to be a good president. I trust he will continue to be a precious advisor to our team of Society leaders.

I am humbled and delighted to be offered this dream-come-true prestigious opportunity. As I used to say to my pals . . . keep the gradient ;-)



Bruno Siciliano
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RAS President 2008-2009



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