SETH HUTCHINSON, US

Seth Hutchinson (S'85-M'88-SM'00-F'07) received his Ph.D. from Purdue University in 1988. In 1990 he joined the faculty at the University of Illinois in Urbana-Champaign, where he is currently a Professor in the Department of Electrical and Computer Engineering, the Coordinated Science Laboratory, and the Beckman Institute for Advanced Science and Technology. He served as Associate Department Head of ECE from 2001 to 2007. Hutchinson has held visiting positions at L'Institut Francais Mechanique Avancee in Clermont-Ferrand; Tecnologico de Monterry, Campus Estado de Mexico; Ecole Nationale Superieure de Telecommuications, Paris; and the Australian National University. He currently serves on the editorial boards of the *International Journal of Robotics Research* and the *Journal of Intelligent Service Robotics*. In addition to approximately 200 peer reviewed publications, he is coauthor of the books "Principles of Robot Motion: Theory, Algorithms, and Implementations," published by MIT Press, and "Robot Modeling and Control," published by Wiley. Hutchinson is a Fellow of the IEEE.

Major Accomplishments: In the context of IEEE activities, my proudest accomplishment is to have served as the first Editor-in-Chief of the Conference Editorial Board (CEB) of the Robotics and Automation Society (RAS). Since 2007, the entire review process for ICRA, the RAS flagship conference, has been handled entirely by the CEB. Prior to 2007, the quality of the ICRA review process was uneven from year to year. In those days, reviewing was handled by a Program Committee, typically consisting of more than 100 members, chosen each year in an ad hoc manner by the conference organizers. The CEB has introduced stability and quality assurance into the review process for ICRA, providing a standing Editorial Board, whose members serve multi-year terms. Further, the CEB now serves as an entry point for junior researchers who wish to become involved in conference organization or who wish to join Editorial Boards for RAS publications.

For the last five years, I have served as Editor-in-Chief of the *IEEE Transactions on Robotics* (*T-RO*). In qualitative terms, *T-RO* along with *IJRR* have long been regarded as the top two journals in robotics, and this reputation continues. In quantitative terms, since 2007 *T-RO* has typically received on the order of 650 submissions per year, while maintaining an acceptance rate of approximately 20%, and managing to reduce submission-to-publication time to an average of 10 months. According to the Thomson-Reuters Journal of Citation Reports (JCR), in the last five years the *T-RO* impact factor has improved from approximately 2.0 to 2.5 (ranked #2 for 2012, behind IJRR), while *T-RO* is ranked #1 in cited half-life (archival value), total citations, and in Eigenfactor. In personal terms, assembling and working with the *T-RO* Editorial Board has been the high point of my tenure as Editor-in-Chief.

In addition to serving as Editor-in-Chief for the Conference Editorial Board and for the *Transactions on Robotics*, I have served within our Society as associate vice president for publications, program co-chair for IROS(2008, 2014), co-chair of the IEEE Technical Committee on Computer and Robot Vision, and as a member of various RAS committees, including the Steering Committee for Technical Programs, the Publications Activities Board, the Financial Activities Board, the Technical Activities Board, and the AdCom.

Position Statement: Robotics has experienced explosive growth in the last decade, in both research and commercial applications. Keeping pace with this growth will be a significant challenge in the near term for our Society. In the face of these challenges, I believe that the first mission of the Robotics and Automation Society (RAS) should be to foster the creation and dissemination of new ideas and creative research.

The RAS Transactions (both *T-RO* and *T-ASE*) are key components of this mission. In the near term, these publications will confront a number of difficult questions. What should be the role of open access, and what open access models are best suited to our community? Are there ways in which the review process can be

improved upon, in terms of quality, speed, and perhaps most importantly, the time demands placed on the research community? Are the current Transactions sufficient, or is it time for RAS to consider adding journals in specialized or related areas? What is the best way to integrate young researchers into the editorial structure, given the rapid increase in young researchers now joining our research community? Are there ways to effectively work with other societies or publications to foster interdisciplinary collaborations that could push the frontiers of robotics research? Answering these questions will require maintaining a tricky balance between aggressive innovation, and fierce protection of our high standards.

Conferences and workshops are equally, if not more important in this mission. The number of submissions to both ICRA and IROS has essentially tripled in the last decade. Our old models for these conferences are not sustainable if these trends continue. As a society, we will need to decide on a number of issues. What should be the balance between the multi-track oral presentation format and the poster presentation format? Should RAS make an effort to sponsor smaller, single-track conferences on specialized topics? Should acceptance rates be reduced so that the number of conference presentations remains manageable? Are there ways in which the reviewing burden on the community can be reduced? Is it possible to centralize certain activities (e.g., paper submission, reviewing, etc.) across multiple conferences, and perhaps even journals, reducing or eliminating redundant work?

In addition to confronting problems related to the Society's growth, RAS must aggressively continue to cultivate new research areas. For example, RAS should offer both financial and logistical support to new conferences and workshops that are organized by young researchers. To assimilate the next generation of researchers into our community, RAS should strive to further reduce, or even eliminate any conference registration fees for students. Workshops and tutorials should always be of minimal cost to students, preferably free.

As the premier robotics society, RAS can afford to support related societies and publications, enhancing the robotics community as a whole, without regard to protecting its self-interests. As the leading robotics society, it should aggressively seek to do so.