



BRADLEY J. NELSON, Switzerland

Bradley J. Nelson (S'91-M'96-SM'06-F'11) is the Professor of Robotics and Intelligent Systems at ETH Zürich. His primary research focus is on microrobotics and nanorobotics emphasizing applications in biology and medicine. He received a B.S.M.E. from the University of Illinois at Urbana-Champaign and an M.S.M.E. from the University of Minnesota. He has been at Honeywell and Motorola and served as a United States Peace Corps Volunteer in Botswana, Africa, before obtaining a Ph.D. in Robotics from Carnegie Mellon University in 1995. He was Assistant Professor at the University of Illinois at Chicago (1995-1998) and Associate Professor at the University of Minnesota (1998-2002). He became Full Professor at ETH Zürich in 2002. He has received a number of awards and has served on several editorial boards. He has been Department Head of Mechanical and Process Engineering, Chairman of the ETH Electron Microscopy Center, and is on the Research Council of the Swiss National Science Foundation.

IEEE Activities:

COMMITTEES/BOARDS: RAS AdCom 2010-2013; RAS Fellow Evaluation Committee 2012, 2013; Nanotechnology Council Fellow Evaluation Committee, 2012, 2013; Nanotechnology Council Award Committee 2010-2013; Editor-at-Large, Conference Activities Board, RAS, since 2010; Publication Activities Board, RAS Steering Board Member of *ASME/IEEE Journal of Microelectromechanical Systems*, since 2000; Editorial Board *IEEE Transactions on Nanotechnology*, since 2007; Editorial Board *IEEE Transactions on Robotics*, 2004-2007; Editorial Board *IEEE Robotics and Automation Magazine*, 2000-2003.

REGIONS: 8

SECTIONS/CHAPTERS: Switzerland

SOCIETY: Robotics and Automation Society; Nanotechnology Council

CONFERENCES: Organizing Committee IROS 2013 and 2014; Program Chair, 2007 IEEE Conference on Nanotechnology (IEEE-NANO), Hong Kong, 2007; Program Chair, 2007 IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM), Zurich, Switzerland, 2007; Program Chair, 2005 IEEE Int. Conf. on Robotics and Biomimetics (ROBIO), Hong Kong and Macau, July 2005; European Program Co-Chair, 2006 IEEE Int. Conf. on Robotics and Automation, Orlando, May 2006; Exhibits Chair, 2004 IEEE Int. Conf. on Robotics and Automation, New Orleans, May 2004; Tutorial and Workshop Co-Chair, 2001 IEEE/RSJ Int. Conf. on Intelligent Robots and Sys. (IROS), Hawaii, October 2001; Program committee member of a number of IEEE conferences.

OTHER: RAS Distinguished Lecturer 2003-2005, 2008-2010; Senior Editor *IEEE Transaction on Robotics*, since 2010; Senior Editor *IEEE Transactions on Nanotechnology*, since 2007; Associate Editor *IEEE Transactions on Robotics*, 2004-2007; Associate Editor *IEEE Robotics and Automation Magazine* 2000-2003.

Qualifications: I have served the Robotics and Automation society as a conference organizer, on editorial boards, on technical committees, as a member of AdCom, and on publication committees. I regularly participate in RAS sponsored activities and have done so for over seventeen years, so I have a relatively broad and long perspective of RAS. In addition, I have served my university in a variety of roles both technical and managerial including research funding committees, department head, chair of our centralized electron microscopy facility, university tenure committees, and more. These experiences, plus having spent seven years as a professor in North America, eleven years in Europe, and three years as an adjunct professor in Asia, have provided me with a comprehensive view of how RAS can and should contribute to our research and education activities as well as our careers.

Major Accomplishments: I served as program chair of three major conferences sponsored by the Robotics and Automation Society and have served as a senior editor of *TRO* and associate editor of *TRO* and *RAM*. I have

also created a productive research group in terms of both quality and quantity in the fields of micro and nano robotics.

Position Statement: Robotics is taking over the world, and as a member of the AdCom, I will help ensure that RAS does whatever it can to help this trend continue to accelerate. From an educational perspective, nothing seems to motivate young students more than robotics projects. From a research perspective, many countries around the world are observing dramatically increasing activities in our research field. To sustain educational and research activities and to help them grow, RAS must do all it can to help move our ideas and our people into viable commercial enterprises to the overall benefit of society. As a member of AdCom, I will ensure that our focus will be on education, research, and the transfer of robotics and automation to industry.

I have had the privilege to observe the IEEE Robotics and Automation Society from a number of different perspectives having served on the editorial boards of *TRO*, *TNANO*, and *RAM*, as Program Chair of three major Robotics and Automation Society sponsored conferences, and on the Publication Activities Board. I published my first paper at ICRA in 1987, attended my first ICRA in 1993 and have attended every ICRA since then but one. I have also served my university in a number of capacities, both technical and managerial. My experience as a faculty member in North American, Europe, and Asia has helped me to understand the similarities and differences we all experience in research, education, government, and industry.

These experiences have helped me to more fully realize the importance of organizing stimulating conferences in our field in which high quality work is presented. I also understand why we must never stop striving to maintain first rate, high quality journals. As a department head leading a mechanical engineering department with a broad range of expertise, I have also seen how important it is that we never forget that our primary goal is to develop science and technology for the benefit of society. RAS should continue to play an important role in these areas. Furthermore, it is critical to our careers in academia, industry, and government, that we maintain a dynamic society that constantly looks to the future, a society that we are proud to be a part of. And it should be fun, too.