2019

Awards Ceremony

22 May 2019
IEEE International Conference on Robotics & Automation
Montreal, Canada
IEEE Robotics and Automation Society
President
Wolfram Burgard
University of Freiburg, Germany

IEEE Robotics and Automation Society
Awards Chair
Raja Chatila
ISIR, Sorbonne Université, France

ICRA 2019 General co-Chairs
Gregory Dudek - Samsung Electronics and
McGill University, Canada

ICRA 2019 Program Chair
Jaydev P. Desai
Georgia Institute of Technology, USA

ICRA Conference Editorial Board
Editor-in-Chief
Ayanna Howard
Georgia Institute of Technology, USA

ICRA 2019 Awards co-Chairs
Oliver Brock - Technical University of Berlin, Germany
Vijay Kumar - University of Pennsylvania, USA
Michael Wang - Hong Kong University of Science
and Technology, Hong Kong

RAS Staff
Kathy Colabaugh - Society Operations Manager
Amy Reeder - Program Specialist
Recognition of Professional Achievement

For nearly a century, the IEEE Awards program has paid tribute to technical professionals whose exceptional achievements and outstanding contributions have made a lasting impact on technology, society and the engineering profession.

That tradition of public recognition continues today. In the 21st century, IEEE Awards are valued as among the highest honors a technical professional can receive. They are an esteemed symbol of the admiration of one’s peers—the most prized form of prestige—bestowed upon individuals whose accomplishments have enhanced the global economy while improving the quality of daily life.

Legacy of Innovation

IEEE Awards recognize and encourage important contributions to technology, science and the profession. They honor achievements in education, industry, research and service, and they encompass the breadth of the many IEEE technical interest areas from computer science, electrical engineering, information technologies and microelectronics, to optoelectronics, radar technologies, signal processing and beyond. Each award has its own unique mission and criteria, and offers the opportunity to honor distinguished colleagues, inspiring teachers and corporate leaders.

Through the Awards program, the IEEE, and the societies that preceded it, also have played an important role in encouraging innovation. Individuals honored with IEEE Awards join a remarkable group of such well-known pioneers as Bell, Edison, Marconi, Noyce and Grove—among many others. These individuals, in turn, provide inspiration and personal role models for aspiring professionals.

IEEE Awards Selection Process

Nominations for IEEE awards and recognitions are initiated by the members and others, then reviewed by a panel of peers—professionals who are especially knowledgeable in a particular field. Their recommendations are, in turn, submitted to the IEEE Awards Board for further review prior to final approval by the IEEE Board of Directors. The awards fall into seven categories:

- Medals
- Honorary Memberships
- Service Awards
- Corporate Recognitions
- Technical Field Awards
- Prize Paper Awards
- Scholarship Awards
The IEEE Robotics and Automation Award

The IEEE Robotics and Automation Award was established in 2002 by the IEEE Board of Directors, and is presented for contributions in the field of robotics and automation. It includes but is not limited to: manufacturing automation; robotics and automation in unstructured environments; sensor design; integration and fusion; robot design; modeling; planning and control; methodologies for robotics and automation, and the quality of the nomination.

Sponsored by the IEEE Robotics & Automation Society, the award consists of a bronze medal, certificate, and honorarium.

For additional information on IEEE Technical Field Awards and Medals, to view complete lists of past recipients, or to nominate a colleague or associate for IEEE Technical Field Awards and Medals, please visit: www.ieee.org/awards

Past Recipients
2018 – Matthew T. Mason
2017 – Oussama Khatib
2016 – Raffaello D’Andrea
2015 – Rodney A. Brooks
2014 – Shigeo Hirose
2013 – Ruzena Bajcsy
2012 – Bernard Roth
2011 – Hirochika Inoue
2010 – Toshio Fukuda
2009 – Antal Bejczy
2008 – Paul G. Backes
   Eric T. Baumgartner
   Larry H. Matthies
2007 – Gerd Hirzinger
2006 – George A. Bekey
2005 – Seiemon Inaba
2004 – Joseph F. Engelberger
2019 IEEE Robotics and Automation Award

Zexiang Li and Frank Wang

For contributions to the development and commercialization of civilian drones, aerial imaging technology, robotics engineering advancement, innovation, and entrepreneurship

The aerial technology innovations of Zexiang Li and Frank Wang are fueling one of the most significant robotics developments of the past decade—the rise of the drone and its growing impact on society. Wang and Li were the first to dispel the stereotype that useful aerial robots were expensive and unwieldy, repositioning drones from luxurious toys to practical tools. They cofounded Da-Jiang Innovations (DJI), the world’s largest manufacturer and leader in consumer drones and aerial imaging technology. Their flight control systems have provided robotics researchers with platforms for research in visual navigation, collective robotics, simultaneous localization and mapping, and object detection and tracking. Among DJI’s many innovations are drones designed specifically for agricultural applications, autopilot drones for search and rescue, and camera stabilization technology that achieves movie-grade aerial footage for the motion-picture and film industry.

An IEEE Fellow, Zexiang Li is a professor with the Department of Electrical and Electronic Engineering at the Hong Kong University of Science and Technology, Clearwater Bay, Hong Kong, China.

An IEEE Member, Frank Wang is founder and chief executive officer of SZ DJI Technology Co., Ltd., Shenzhen, China.
IEEE Fellows

Elevated as of January 2019

IEEE Fellow is the highest grade of Institute membership, conferred only by election by the Board of Directors. Candidates must be senior members with at least five years of IEEE membership. The nominator is responsible for preparation of the formal nomination form; identification of five to eight IEEE Fellows, capable of assessing the candidate’s contributions, who agree to serve as references; identification of an IEEE Society or Council whose evaluating committee will assess the candidate’s technical qualifications and contributions. All material is sent to the Fellow Committee, which must review all nominations and assessments, and prepare a ranked list. The total number of Fellow recommendations each year cannot exceed 0.1% of IEEE membership, exclusive of Students and Affiliates.

Congratulations to the
IEEE Robotics and Automation Society
2019 Fellow Class

Hyouk Ryeol Choi - Sungkyunkwan University, South Korea
“For contributions to robotic interactive sensing”

Jose Luis Contreras – University of Houston, USA
“For contributions to brain-machine interfaces and wearable exoskeletons”

Kerstin Dautenhahn - University of Waterloo, Canada
“For contributions to social robotics and human-robot interaction”

Santosh Devasia - University of Washington, USA
“For contributions to feedforward control of nonminimum-phase systems”

Robert Fish – NETovations, USA
“For application of visual communications and networking”

Emilio Frazzoli - Massachusetts Institute of Technology, USA
“For contributions to motion planning and control of autonomous vehicles”
Anibal Ollero Baturone - University of Seville, Spain
“For contributions to the development and deployment of aerial robots”

Keum-Shik Hong - Pusan National University, South Korea
“For contributions to adaptive estimation and brain-computer interface techniques”

Zeng-Guang Hou - Institute of Automation, Chinese Academy of Sciences, China
“For contributions to neural network optimization and control for rehabilitation”

Xiaoping Peter Liu - Carleton University, Canada
“For contributions to system identification and networked teleoperation”

Evangelos Papadopoulos - National Technical University of Athens, Greece
“For contributions to space and field robotics”

Jan Peters - Technische Universitaet Darmstadt, Germany
“For contributions to robot learning of dexterous motor skills”

Hong Qiao - Institute of Automation, Chinese Academy of Sciences, China
“For contributions to robotic manipulation and biologically inspired robotic cognition”

Fuchun Sun - Tsinghua University, China
“For contributions to neural network control of nonlinear systems with applications to robotic manipulators”

Carme Torras - Institut de Robòtica i Informàtica Industrial (CSIC-UPC), Spain
“For contributions to learning algorithms for robot perception, planning and manipulation”

Robert Wood - Harvard University, USA
“For contributions to small-scale and soft robotics”

Min Wu - University of Maryland, USA
“For contribution to control and automation for complex systems”

Naiqi Wu - Guangdong University of Technology, China
“For contributions to discrete-event production systems”

Eiichi Yoshida - National Institute of Advanced Industrial Science and Technology (AIST), Japan
“For leadership in the development of modular reconfigurable robotic systems”
Bradley J. Nelson

In recognition of
outstanding contributions in
micro and nano robotics

Brad Nelson has been the Professor of Robotics and Intelligent Systems at ETH Zürich since 2002, where his research focuses on microrobotics, nanorobotics, and medical robotics. Fundamentally, he is interested in how to make tiny intelligent machines that are millimeters to nanometers in size with applications in medicine. He studied mechanical engineering at the University of Illinois and the University of Minnesota, worked as a computer vision researcher at Honeywell and a software engineer at Motorola, served as a United States Peace Corps Volunteer in Botswana, Africa, and then obtained a Ph.D. in Robotics from Carnegie Mellon University. He was an Assistant Professor at the University of Illinois at Chicago and an Associate Professor at the University of Minnesota before moving to ETH.

Brad has over thirty years of experience in the field of robotics and has received a number of awards for his work in robotics, nanotechnology, and biomedicine. He was named to the "Scientific American 50", Scientific American magazine's annual list recognizing fifty outstanding acts of leadership in science and technology from the past year. His lab is the undefeated international champion in Robocup's Nanogram Soccer League, and he is in the Guinness Book of World Records for the "Most Advanced Mini Robot for Medical Use." His research group has won more than a dozen best paper awards at various international conferences and in international journals.

Brad serves on the advisory boards of a number of academic departments and research institutes across North America, Europe, and Asia and is on the editorial boards of several academic journals. He is the Department Head of Mechanical and Process Engineering at ETH and has been the Chairman of the ETH Electron Microscopy Center and a member of the Research Council of the Swiss National Science Foundation. He is a member of the board of directors of three Swiss companies.
IEEE RAS Pioneer Award

Roland Siegwart

For fundamental pioneering contributions to Robotics Research in the areas of autonomous navigation and design of flying and walking robots

Roland Siegwart is professor for autonomous mobile robots at ETH Zurich, founding co-director of the Wyss Translational Center Zurich and member of the board of directors of multiple high tech companies. He studied mechanical engineering at ETH, spent ten years as professor at EPFL Lausanne (1996 – 2006), was vice president of ETH Zurich (2010 – 2014) and held visiting positions at Stanford University and NASA Ames.

He is and was the coordinator of multiple large European projects and co-founder of half a dozen spin-off companies. He is an IEEE Fellow, recipient of the IEEE RAS Inaba Technical Award and officer of the International Federation of Robotics Research (IFRR). He was general chair or co-chair of several conferences in robotics including IROS 2002, AIM 2007, FSR 2007, ISRR 2009, ICRA 2012, FSR 2017 and CoRL 2018. He has co-authored over 500 scientific publications, got over 30 best paper awards and has a Google Scholar H-Index of 95. His interests are in the design and navigation of wheeled, walking and flying robots operating in complex and highly dynamical environments.
IEEE RAS George Saridis Leadership Award in Robotics and Automation

Nancy M. Amato

For exceptional leadership in service of RAS conferences, publications, and membership, as well as mentorship of RAS volunteers

Nancy M. Amato is Abel Bliss Professor and Department Head of Computer Science at the University of Illinois at Urbana-Champaign. Before joining Illinois in January 2019, she was Regents Professor and Unocal Professor of Computer Science and Engineering at Texas A&M University.

Amato received undergraduate degrees in Mathematical Sciences and Economics from Stanford, and M.S. and Ph.D. degrees in Computer Science from UC Berkeley and the University of Illinois, respectively. Her research focuses on motion planning and robotics, computational biology and geometry, and parallel computing. She has graduated 23 PhD students, with most going to faculty positions in academia (10) or research positions in government, industry or academic research labs (10). She is VP for Member Activities for the IEEE Robotics and Automation Society (RAS), served as program chair for the 2015 IEEE International Conference on Robotics and Automation (ICRA) and for Robotics: Science and Systems (RSS) in 2016. She is an elected member of the Computing Research Association (CRA) Board of Directors (2014-2020) and is Vice Chair Elect of the CRA Executive Committee (2019-2021), was an elected member of the IEEE RAS AdCom (2009-2014), was co-Chair of CRA-Women (2014-2017) and of the NCWIT Academic Alliance (2009-2011).

Amato received the 2017 RAS Distinguished Service Award, the 2014 CRA Habermann Award, the inaugural NCWIT Harrold/Notkin Research and Graduate Mentoring Award in 2014, the 2013 IEEE Hewlett-Packard/Harriet B. Rigas Award, and Texas A&M university-level awards in teaching (2011) and research (2018). She is a Fellow of the AAAI, AAAS, ACM, and IEEE.
IEEE RAS George Saridis Leadership Award in Robotics and Automation

Alessandro De Luca

For contributions to the robotics and automation community through research innovation and education, and for leadership in publication and conference

Alessandro De Luca is Professor of Robotics, Automation, and Automatic Control at the Sapienza University of Rome, and the Director of the Master program in Control Engineering. He served RAS Publications for about 20 years, being the first Editor-in-Chief of the IEEE Transactions on Robotics (2004-08) and Vice-President for Publication Activities (2012-13). He was General Chair of ICRA 2007 in Rome and Program Chair of ICRA 2016 in Stockholm. He received the Helmholtz Humboldt Research Award in 2005, the IEEE Fellowship in 2007, and the IEEE-RAS Distinguished Service Award in 2009. His research interests cover control methods for a variety of robotic systems (flexible manipulators, kinematically redundant arms, underactuated robots, wheeled mobile robots, locomotion platforms), as well as physical human-robot interaction and fault detection/isolation. He published over 200 journal and conference papers and book chapters, receiving two best conference paper awards (ICRA 1998, BioRob 2012) and a best application paper award (IROS 2008). He is an author of the PROSE-awarded Springer Handbook of Robotics. He coordinated the EU project SAPHARI – Safe and Autonomous Physical Human-Aware Robot Interaction (2011-15).
IEEE RAS George Saridis Leadership Award in Robotics and Automation

David E. Orin

For exceptional leadership and dedication to RAS financial activities, governance, and awards

David E. Orin received his Ph.D. degree in Electrical Engineering from The Ohio State University in 1976. From 1976-1980, he taught at Case Western Reserve University. Since 1981, he has been at The Ohio State University, where he is currently a Professor Emeritus of Electrical and Computer Engineering. He was a sabbatical faculty at Sandia National Laboratories in 1996.

Professor Orin was the President of the IEEE Robotics and Automation Society (RAS) for 2012-3. He has been active as an officer or Administrative Committee (AdCom) member nearly continuously for more than twenty-five years: Secretary (1991-5), Vice President for Finance & Treasurer (1996-2003), AdCom (1993-5, 2004-6, 2009), President Elect (2010-11), President (2012-3), Junior Past President & Chair of the Nominations Committee (2014-5), and Senior Past President & Chair of the Awards Committee (2016-7). He was previously the Co-Chair of the Fellow Evaluation Committee of RAS (2007-9) and Awards Committee (2008-10). He served on the Editorial Board for the award-winning Springer Handbook of Robotics (2003-16) as a Part Editor (Part I: Robotics Foundations).

For his leadership in financial activities, he received the Distinguished Service Award from IEEE RAS in 2004. He is a Life Fellow of the IEEE (1993). He has received two Best Paper awards: the Fourth National Applied Mechanisms and Robotics Conference (1995) and the International Journal of Humanoid Robotics (2016).
IEEE RAS Distinguished Service Award

Allison Okamura

For outstanding service as 
Editor-in-Chief of the RAS 
Conference Editorial Board and 
contributions to RAS’s new journal, 
IEEE Robotics and Automation Letters

Allison M. Okamura received the BS degree from the University of California at Berkeley in 1994, and the MS and PhD degrees from Stanford University in 1996 and 2000, respectively, all in mechanical engineering. She is currently Professor in the mechanical engineering department at Stanford University, with a courtesy appointment in computer science. She was previously Professor and Vice Chair of mechanical engineering at Johns Hopkins University. She is currently the Editor-in-Chief of the journal IEEE Robotics and Automation Letters. She has been an associate editor of the IEEE Transactions on Haptics, editor-in-chief of the IEEE International Conference on Robotics and Automation Conference Editorial Board, an editor of the International Journal of Robotics Research, and co-chair of the IEEE Haptics Symposium. Her awards include the 2016 Duca Family University Fellow in Undergraduate Education, 2009 IEEE Technical Committee on Haptics Early Career Award, 2005 IEEE Robotics and Automation Society Early Academic Career Award, and 2004 NSF CAREER Award. She is an IEEE Fellow. Her academic interests include haptics, teleoperation, virtual environments and simulators, medical robotics, soft robotics, neuromechanics and rehabilitation, prosthetics, and education. Outside academia, she enjoys spending time with her husband and two children, running, and playing ice hockey.
Jeannette Bohg is an Assistant Professor of Computer Science at Stanford University. She was a group leader at the Autonomous Motion Department (AMD) of the MPI for Intelligent Systems until September 2017. Before joining AMD in January 2012, Jeannette Bohg was a PhD student at the Computer Vision and Active Perception lab (CVAP) at KTH in Stockholm. Her thesis on Multi-modal scene understanding for Robotic Grasping was performed under the supervision of Prof. Danica Kragic. She studied at Chalmers in Gothenburg and at the Technical University in Dresden where she received her Master in Art and Technology and her Diploma in Computer Science, respectively. Her research focuses on perception for autonomous robotic manipulation and grasping. She is specifically interesting in developing methods that are goal-directed, real-time and multi-modal such that they can provide meaningful feedback for execution and learning.
IEEE RAS Early Academic Career Award in Robotics and Automation

Marco Hutter

For his major contributions to actuation, design, and control of legged robots

Marco Hutter is an assistant professor for robotic systems at ETH Zürich, a Branco Weiss fellow, and founder of ANYbotics AG. He studied mechanical engineering and completed his doctoral degree in robotics at ETH. Marco’s research interests are in the development of novel machines and actuation concepts together with the underlying control, planning, and learning algorithms for locomotion and manipulation. His research group and the spin-off company are participating in several research projects, industrial collaborations, and competitions that target the application of autonomous, mostly legged robots like ANYmal in challenging environments for search and rescue, industrial inspection, space exploration, forestry or construction operation.
IEEE RAS Early Academic Career Award
in Robotics and Automation

Ilana Nisky

For contributions to
neuroscience-grounded analysis,
design, and training in haptic,
teleoperation, and robot-assisted
surgery systems

Ilana Nisky completed her BSc, MSc, and PhD studies at Ben-Gurion University of the Negev in Israel, before pursuing a postdoctoral research in the Department of Mechanical Engineering at Stanford University. Since 2014, she serves as senior lecturer in the Department of Biomedical Engineering at Ben-Gurion University of the Negev, where she established and spearheads BGU’s Biomedical Robotics Lab, and since summer of 2018 the Israel-Italy Virtual Lab on Artificial Somatosensation for Humans and Humanoids. She has authored more than 60 scholarly articles in peer-reviewed journals and numerous abstracts in international conferences. Awards include the Haptics Symposium best student paper award, several Best Poster awards, the prestigious Alon Fellowship for young faculty from the Israeli Council for High Education, and the Marie Curie International Outgoing Fellowship from the European Commission. In 2014-2018 she served as an executive committee member of the EuroHaptics Society, and is currently a board member of the Israeli Society for Medical and Biological Engineering. Nisky is a Senior Member of IEEE, a member of the Society for the Neural Control of Movement, the Society for Neuroscience, Technical Committee on Haptics, and American Physiology Society.

Nisky's research interests include haptics, robotics, human and machine learning, teleoperation, robot-assisted surgery, and human motor control. Her research goals are: (I) apply theories about human sensorimotor control, perception, adaptation, learning, and skill acquisition in the design, control, and training of human-operated medical and surgical robotic systems, and (II) understand the human sensorimotor control, perception, and learning in real-life tasks like surgery, and in virtual tasks like virtual reality games or surgical simulation. She and her students develop and experimentally validate computational models of perception, action, and adaptation, focusing on physical interaction with haptic devices. Their specific focus is on models that can be useful for understanding tasks that are relevant in medical applications, and in a variety of precision and fine manipulation tasks.
IEEE Robotics and Automation Award
for Product Innovation

Sarcos Robotics

Sarcos® Robotics Guardian S Mobile IoT Platform

Sarcos' Guardian S is a revolutionary, first-of-its kind cloud-connected mobile Internet of Things (IoT) and sensor platform that provides inspection and surveillance capabilities to augment human-based inspections in challenging environments. With a uniquely capable, cost-effective and versatile form factor, the Guardian S can be tele-operated from miles away, can reliably traverse challenging terrain including stairs, culverts, pipes, tanks and ferromagnetic vertical surfaces (magnetic version only), and can facilitate two-way real-time video, voice and data communication between the human operator and robot. It assists workers on the job by removing them from direct involvement in hazardous situations, reducing their risk of injury and saving lives.

Weighing ~17 lbs., the Guardian S robot is designed specifically to navigate uneven or challenging terrain and to access small, confined spaces with a 7" diameter. It has applicability in industries ranging from defense, public safety, security, non-destructive testing, disaster recovery, infrastructure inspection and maintenance, aerospace, maritime, oil and gas, petrochemical and mining.
RAS Most Active Technical Committee Award

This Award recognizes outstanding performance by an IEEE Robotics & Automation Society Technical Committee. Factors are: breadth & quality of the TC activities in recruiting members, arranging workshops, tutorials, special issues, and other events.

Technical Committee on Soft Robotics

2018 Co-Chairs:
Fumiya Iida, Cecilia Laschi, Ryuma Niiyama and Yiğit Mengüç

RAS Chapter of the Year Award

This Award recognizes an IEEE Robotics & Automation Society Chapter which provides outstanding activities and services to its local RAS members in one or more of the following areas: technical meetings, tours and conferences, seminars and/or tutorials, plus other services and activities.

Italian Chapter of IEEE Robotics and Automation Society

Co-Chairs:
Lucia Pallottino
Andrea Maria Zanchettin
NEW THIS YEAR!

IEEE ICRA Milestone Award

IEEE RAS Award
for the most influential ICRA paper
published during the years 1997-2001

The award is being given out for the first time this year, and is intended to recognize the most influential paper published in the Proceedings of the IEEE International Conference on Robotics and Automation (ICRA) from approximately 20 years ago, between 1997-2001. Unlike the other RAS best paper awards that attempt to predict the future potential impact of a paper, this award looks back at the actual impact a paper has had.

“Randomized Kinodynamic Planning”

Steven M. LaValle and James J. Kuffner, Jr.

Proceedings of the
1999 IEEE International Conference on Robotics and Automation, pp. 473–479
IEEE/IFR Innovation and Entrepreneurship Award

This award is cosponsored by IEEE Robotics and Automation Society and the International Federation of Robotics. The purpose of the IERA award is to highlight and honor the achievements of the inventors with value creating ideas and entrepreneurs who propel those ideas into world-class products.

This year, the IEEE/IFR Joint Forum on Innovation and Entrepreneurship in Robotics and Automation will be held on 20 May 2019, in conjunction with the IEEE International Conference on Robotics and Automation (ICRA) 20-24 May 2019 in Montreal, Canada. The Recipient of the IERA Award will be chosen at that time.

Finalists

**ABB**

Chelsea Hsu  
**ABB OmniCoreTM controller:** Representing a new era in robot control, ABB’s OmniCore controller provides the ultimate flexibility, connectivity, and performance for motion control applications.

**MIR: Mobile Industrial Robots**

Denise Innocenti  
**MiR500** is a collaborative and autonomous mobile robot that is designed to automate and optimize the transportation of heavy loads and pallets across industries.

**PhotoNeo**

Andrea Pufferova  
**PhotoNeo 3D Kamera:** Next generation of 3D robot vision for flexible automation and bin picking

**UVD Robots/Blue Ocean Robotics**

Claus Risager  
The **UV-Disinfection Robot** is an autonomous mobile disinfection robot for the healthcare sector.
RAS Publication Awards
The RAS publication awards recognize excellence and the best research papers published in the previous calendar year.

King-Sun Fu Memorial
IEEE Transactions on Robotics
Best Paper Award

“Grasping Without Squeezing: Design and Modeling of Shear-Activated Grippers”
Elliot Wright Hawkes, Hao Jiang, David L. Christensen, Amy K. Han, Mark R. Cutkosky
IEEE Transactions on Robotics;
vol. 34, no. 1, pp. 91-112, February 2018

Honorable Mention

Sami Haddadin, Kai Krieger, Alin Albu-Schäffer, Torsten Lilge
IEEE Transactions on Robotics;
volume 34, number 1, pages 91-112, February 2018

“VINS-Mono: A Robust and Versatile Monocular Visual-Inertial State Estimator”
Tong Qin, Peiliang Li, Shaojie Shen
IEEE Transactions on Robotics;
volume 34, number 4, pages 1004-1020, August 2018
IEEE Robotics and Automation Letters
Best Paper Award

Winner to be announced at the ICRA Award Luncheon on 22 May 2019.

IEEE Robotics & Automation Magazine
Best Paper Award


Christian Hubicki, Andy Abate, Patrick Clary, Siavash Rezazadeh, Mikhail Jones, Andrew Peekema, Johnathan Van Why, Ryan Domres, Albert Wu, William Martin, Hartmut Geyer and Jonathan Hurst

IEEE Robotics & Automation Magazine
vol. 25, no. 3, pp. 23-39, September 2018
IEEE Transactions on Automation Science and Engineering
Best Paper Award

“Chiller Plant Operation Optimization: Energy-efficient Primary-only and Primary-secondary Systems”

Danxu Zhang, Peter B. Luh, Junqiang Fan, and Shalabh Gupta

IEEE Transactions on Automation Science and Engineering
vol. 15, no. 1, pp. 341-355, January 2018

-----------------------------

IEEE Transactions on Automation Science and Engineering
Best New Application Paper Award
(Sponsored by Googol Technology (HK) Ltd)

“Correctness Guarantees for the Composition of Lane Keeping and Adaptive Cruise Control ”

Xiangru Xu, Jessy W. Grizzle, Paulo Tabuada, and Aaron D. Ames

IEEE Transactions on Automation Science and Engineering
vol. 15, no. 3, pp. 1216-1229, July 2018
IEEE Robotics & Automation Society
Special Recognition

RAS recognizes the following Administrative Committee (AdCom) Members and Officers whose terms ended in 2018. Their dedication and hard work is greatly appreciated.

Administrative Committee Members
Serving 2016-2018
Gianluca Antonelli*
François Chaumette
Peter Corke
Bill Hamel
Max Qing Hu Meng
Carme Torras

*re-elected for 2019-2021

Member of the Administrative Committee
Chair, Student Activities Committee
Serving 2016-2018
Megan Emmons

Special Thanks and Recognition

IEEE Transactions on Robotics (T-RO)
Editor-in-Chief from July 2013-June 2018
Frank Park

IEEE Robotics and Automation Letters (RA-L)
Editor-in-Chief from June 2015-May 2018
Antonio Bicchi
RAS Awards

Nominate a Colleague for an RAS Award!

Deadline: 1 August 2019

Nominations can be submitted on-line or by email
Please see the RAS website for more details

www.ieee-ras.org
ICRA 2019 Awards

Creating a world class technical program for ICRA requires the contributions of many. With the following awards, IEEE RAS recognizes individuals who provided outstanding contributions to the ICRA Conference Editorial Board, which is responsible for reviewing submissions to ICRA.

Best Associate Editor Award

- Joshua Schultz, University of Tulsa, USA
- Raffaella Carloni, University of Groningen, Netherlands

Best Reviewer Award

- Mabel Zhang, University of Pennsylvania, USA
- Douglas Morrison, Australian Centre for Robotic Vision, Australia
- Timm Linder, University of Freiburg, Germany
- Gregory Formosa, University of Colorado, Boulder, USA
The ICRA Best Paper Awards are presented to one of the selected finalists listed for each category. In the event of multiple winners, the prize is shared.

IEEE ICRA Best Paper Award in Automation - Finalists

- Robotic Orientation Control of Deformable Cells
  Changsheng Dai, Zhuoran Zhang, Yuchen Lu, Guanqiao Shan, Xian Wang, Qili Zhao, Yu Sun
- Towards Robust Product Packing with a Minimalistic End-Effector
  Rahul Shome, Wei Neo Tang, Changkyu Song, Chaitanya Mitash, Chris Kourtev, Jingjin Yu, Abdeslam Boularias, Kostas E. Bekris
- Contactless Robotic Micromanipulation in Air Using a Magneto-acoustic System
  Omid Youssefi, Eric D. Diller

IEEE ICRA Best Paper Award in Cognitive Robotics - Finalists (sponsored by KROS)

- Efficient Symbolic Reactive Synthesis for Finite-Horizon Tasks
  Keliang He, Andrew Wells, Lydia Kavraki, Moshe Vardi
- Making Sense of Vision and Touch: Self-Supervised Learning of Multimodal Representations for Contact-Rich Tasks
  Michelle A. Lee, Yuke Zhu, Krishnan Srinivasan, Parth Shah, Silvio Savarese, Li Fei-Fei, Animesh Garg, Jeannette Bohg
- Combined Task and Motion Planning under Partial Observability: An Optimization-Based Approach
  Camille Phiquepal, Marc Toussaint
IEEE ICRA Best Paper Award on Human-Robot Interaction (HRI) - Finalists (sponsored by ABB)

- Gesture Recognition via Flexible Capacitive Touch Electrodes
  Louis Dankovich, Sarah Bergbreiter
- Deconfliction of Motion Paths with Traffic Inspired Rules in Robot–Robot and Human–Robot Interactions
  Federico Celi, Li Wang, Lucia Pallottino, Magnus Egerstedt
- The Role of Closed-Loop Hand Control in Handshaking Interactions
  Francesco Vigni, Espen Knoop, Domenico Prattichizzo, Monica Malvezzi

-----------------------------

IEEE ICRA Best Paper Award in Medical Robotics - Finalists (sponsored by Intuitive Surgical, Inc)

- Soft Robotic Glove with Integrated Sensing for Intuitive Grasping Assistance Post SCI Injury
  Yu Meng Zhou, Diana Wagner, Kristin Nuckols, Roman Heimgartner, Carolina Correia, Megan Clarke, Dorothy Orzel, Conor J. Walsh
- Shape Sensing of Variable Stiffness Soft Robots using Electrical Impedance Tomography
  James Avery, Mark Runciman, Ara Darzi, George P. Mylonas
- Adaptive Control of Sclera Force and Insertion Depth for Safe Robot-Assisted Retinal Surgery
  Ali Ebrahimi, Niravkumar Patel, Changyan He, Peter Gehlbach, Marin Kobilarov, Iulian Iordachita
IEEE ICRA Best Paper Award on Multi-Robot Systems - Finalists (sponsored by Amazon Robotics)

- Distributed Multi-Robot Formation Splitting and Merging in Dynamic Environments
  Hai Zhu, Jelle Juhl, Laura Ferranti, Javier Alonso-Mora
- Fast and In Sync: Periodic Swarm Patterns for Quadrotors
  Xintong Du, Carlos Enrique Luis Goncalves, Marijan Vukosavljev, Angela P. Schoellig

---------------------------------------------------------------

IEEE ICRA Best Paper Award in Robot Manipulation - Finalists (sponsored by Ben Wegbreit)

- Robust Learning of Tactile Force Estimation through Robot Interaction
  Balakumar Sundaralingam, Alex Lambert, Ankur Handa, Byron Boots, Tucker Hermans, Stan Birchfield, Nathan Ratliff, Dieter Fox
- Shallow-Depth Insertion: Peg in Shallow Hole through Robotic In-Hand Manipulation
  Chung Hee Kim, Jungwon Seo
- Pre-Grasp Sliding Manipulation Planning of Thin Objects Using Soft, Compliant, or Underactuated Hands
  Kaijy Hang, Andrew Morgan, Aaron Dollar
IEEE ICRA Best Paper Award in Robot Vision - Finalists  
(sponsored by Ben Wegbreit)

- Learning Scene Geometry for Visual Localization in Challenging Conditions
  Nathan Piasco, Désiré Sidibé, Valérie Gouet-Brunet, Cédric Demonceaux
- Multi-Robot Region-of-Interest Reconstruction with Dec-MCTS
  Fouad Sukkar, Graeme Best, Chanyeol Yoo, Robert Fitch
- Geo-Supervised Visual Depth Prediction
  Xiaohan Fei, Alex Wong, Stefano Soatto

---

IEEE ICRA Best Paper Award in Service Robotics - Finalists  
(sponsored by KUKA)

- Eagle Shoal: A new designed modular tactile sensing dexterous hand for domestic service robots
  Tao Wang, Zhanxiao Geng, Bo Kang, Xiaochuan Luo
- Multi-Robot Region-of-Interest Reconstruction with Dec-MCTS
  Fouad Sukkar, Graeme Best, Chanyeol Yoo, Robert Fitch
- Classification of Household Materials via Spectroscopy
  Zackory Erickson, Nathan Luskey, Sonia Chernova, Charles C. Kemp
IEEE ICRA Best Paper Award on Unmanned Aerial Vehicles - Finalists
(sponsored by Cooperative Research Centre for Trusted Autonomous Systems)

- Design and Control of a Passively Morphing Quadcopter
  Nathan Bucki, Mark Wilfried Mueller
- Search-based 3D Planning and Trajectory Optimization for Safe Micro Aerial Vehicle Flight Under Sensor Visibility Constraints
  Matthias Nieuwenhuisen, Sven Behnke
- Fast and In Sync: Periodic Swarm Patterns for Quadrotors
  Xintong Du, Carlos Enrique Luis Goncalves, Marijan Vukosavljev, Angela P. Schoellig

---

***NEW THIS YEAR***

IEEE ICRA Best Paper Award on Mechanisms and Design - Finalists
(sponsored by Moog)

- LineRanger Analysis and Field Testing of an Innovative Robot for Efficient Assessment of Bundled High-Voltage Powerlines
  Pierre-Luc Richard, Nicolas Pouliot, François Morin, Marco Lepage, Philippe Hamelin, Marin Lagacé, Alex Sartor, Ghislain Lambert, Serge Montambault
- Adjustable Power Modulation for a Leg Mechanism Suitable for Running
  Mark Plecnik, Katherine Fearing, Ronald Fearing
- Development and Experimental Validation of Aerial Vehicle with Passive Rotating Shell on Each Rotor
  Carl John Salaan, Kenjiro Tadakuma, Yoshiito Okada, Yusuke Sakai, Kazunori Ohno, Satoshi Tadokoro
IEEE ICRA Best Student Paper Award Finalists

♦ Closing the Sim-to-Real Loop: Adapting Simulation Randomization with Real World Experience
  Yevgen Chebotar, Ankur Handa, Viktor Makoviychuk, Miles Macklin, Jan Isaac, Nathan Ratliff, Dieter Fox

♦ Online Multilayered Motion Planning with Dynamic Constraints for Autonomous Underwater Vehicles
  Eduard Vidal, Mark Moll, Narcís Palomeras, Juan David Hernández, Marc Carreras, Lydia E. Kavraki

♦ Drift-free Roll and Pitch Estimation for High-acceleration Hopping
  Justin K. Yim, Eric K. Wang, Ronald S. Fearing
IEEE ICRA Best Conference Paper Award Finalists

- *Making Sense of Vision and Touch: Self-Supervised Learning of Multimodal Representations for Contact-Rich Tasks*
  Michelle A. Lee, Yuke Zhu, Krishnan Srinivasan, Parth Shah, Silvio Savarese, Li Fei-Fei, Animesh Garg, Jeannette Bohg
- *Deep Visuo-Tactile Learning: Estimation of Tactile Properties from Images*
  Kuniyuki Takahashi, Jethro Tan
- *Variational End-to-End Navigation and Localization*
  Alexander Amini, Guy Rosman, Sertac Karaman, Daniela Rus
See You Next Year!!!

IEEE International Conference on Robotics and Automation (ICRA 2020)

31 May - 4 June 2020
Paris, France

www.icra2020.org