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PRESS RELEASE—For Immediate Release

Annual Reviews publishes first multidisciplinary autonomous systems review journal

The *Annual Review of Control, Robotics, and Autonomous Systems*, led by Editor Naomi Ehrich Leonard, highlights theoretical and applied research in control and robotics that drives and enriches the engineering of autonomous systems.

Annual Reviews, a nonprofit publisher of scholarly review journals for more than 85 years, announces the publication of the first volume of the *Annual Review of Control, Robotics, and Autonomous Systems*, its 49th review journal. The new journal is the first of its kind to cover both the broad fields of control and robotics and their fundamental roles in the increasingly important area of autonomous systems.

Topics in the first volume cover control and its connections to game theory, distributed optimization, Kalman filtering, geometric mechanics, privacy, data-driven strategies, and deep learning, together with robotics and its connections to manipulation, materials, mechanisms, planning, decision-making, and synthesis. Applications include artificial touch, soft micro and bio-inspired robotics, minimally invasive medical technologies, rehabilitative robotics, autonomous flight, airspace management, and systems biology.

Tremendous progress across industry and academia has advanced the theory and applications of control, robotics, and autonomous systems. The global robotics market is expected to reach $67 billion by 2025, with significant annual growth rates, according to industry analysis conducted by Boston Consulting Group. Autonomous vehicles are already on the road and in the air, while robots vacuum floors at home. Scientists explore the ocean with fleets of autonomous underwater vehicles. At hospitals, surgeons and engineers are supported by robotics to deliver minimally invasive medical interventions, diagnostics, and drug delivery. Veterans and many others benefit from advanced prosthetics. The comprehensive reviews in the *Annual Review of Control, Robotics, and Autonomous Systems* provide expert syntheses that cover decades of foundational research and assess the challenges and potential future directions of these fields.

On publishing the inaugural volume, the journal's Editor, Dr. Naomi Ehrich Leonard, addressed her vision for the journal and the value of review articles in a highly multidisciplinary field:

"The opportunities are enormous for control, robotics, and autonomous systems to help make the world a better place. Search and rescue, environmental monitoring, surgical assistance, and smart grids are just a few high-impact applications. The *Annual Review of Control, Robotics, and Autonomous Systems* provides a much-needed unifying forum for the richly varied and ever-evolving research that promotes creativity and advances control, robotics, and the engineering of autonomous systems. Researchers and practitioners alike will find the articles of great value in learning and integrating across the many interconnected disciplines that contribute to this fantastically exciting field."

The control field features innovation, development, and application of methodologies for the design and analysis of autonomous system response to sensory feedback, with the aim of regulating the stability, speed, accuracy, efficiency, reliability, and robustness of autonomous system behavior. The robotics

field features innovation, design, analysis, creation, operation, and application of robots from industrial to nano-scale, from the bottom of the ocean, to the inside of the human body, to the surface of Mars, and everywhere in between. To fully cover the research at the nexus of control, robotics, and autonomous systems, the journal's articles connect to many related fields, including mechanics, optimization, communication, information theory, machine learning, computing, signal processing, human behavioral sciences, and biology.

Dr. Leonard, who is the Edwin S. Wilsey Professor of Mechanical and Aerospace Engineering at Princeton University, has been recognized as a MacArthur Fellow. She pursues collaborative, multidisciplinary research in control, dynamics, and robotics with engineers, oceanographers, biologists, and choreographers. She has explored the mechanisms that explain the collective dynamics of animal groups, including killifish, honeybees, caribou, and starlings, and has developed bio-inspired methodologies for control of robot teams. One of Dr. Leonard's largest projects culminated in a field demonstration in Monterey Bay, California, of an autonomous ocean-observing system that featured a coordinated network of underwater robotic gliders.

The full volume, publishing online May 29, 2018, will be freely available online for an initial preview period.

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About Annual Reviews
Annual Reviews is a nonprofit publisher dedicated to synthesizing and integrating knowledge for the progress of science and the benefit of society. For more than 85 years, Annual Reviews has offered expert review journals that today span 50 titles across the biomedical, life, physical, and social sciences. Annual Reviews launched *Knowable Magazine* in 2017, an open access digital magazine to explore the real-world significance of this highly cited scholarship and make it accessible to broad audiences.

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