

CALL FOR PAPERS

IEEE Journal of Selected Areas in Sensors Special Section on

**Advanced Technologies in Force
and Torque Sensing and Their
Applications**

As robotics, automation, and human-machine collaboration evolve rapidly, the role of force and torque (F/T) sensors and advanced sensing methods has become increasingly critical. Traditional sensing techniques—such as strain gauges, piezoelectric materials, and capacitive elements—are still widely used. However, advanced requirements for sensitivity, accuracy, integration, and robustness are driving innovation across the entire sensing pipeline: from sensor design and decoupling to calibration and real-time integration.

This special section aims to highlight cutting-edge developments in F/T sensing technologies and their broad applications in intelligent machines, collaborative robots (cobots), biomechanical systems, robotics, industrial machinery, and adaptive control. Topics of interest include but are not limited to:

- - Novel sensing principles for F/T sensors
- - High-accuracy decoupling techniques with minimal crosstalk
- - Calibration strategies and systems for F/T sensing
- - Intelligent force control algorithms and applications
- - Integration of F/T sensors into robotic and mechanical systems
- - Physical and mechanical quantities measured by F/T
- - Energy harvesting and transformation via F/T sensing
- - Innovative applications in human-machine interaction, biomechanics, and collaborative automation, automotive and aerospace industries, renewable energy systems, power electronics, and micro/nano force sensors

This special section welcomes original research articles, practical implementations, review papers, and tutorials that contribute to innovations in force/torque sensor technologies and their practical use across domains.

All submitted manuscripts will undergo the standard IEEE Journal of Selected Areas in Sensors (JSAS) peer-review process. Authors must submit their manuscripts via the IEEE Author Portal:

<https://ieee.atyponrex.com/journal/jsas>.

Please select “Advanced Technologies in Force and Torque Sensing and Their Applications” from the “Manuscript Type” dropdown menu during the submission process. Authors are also encouraged to suggest reviewers when submitting their papers.

More information about manuscript preparation and submission guidelines is available at the JSAS website:

<https://ieee-jsas.org/>

Important Dates

- - Manuscript Submission Deadline: June 30th, 2026
- - First-Round Review Completion: July 2026

- - Revision Submission Deadline: August 2026
- - Final Notification of Acceptance: September 2026
- - Publication Date: October 2026

Guest Editors

- Prof. Yu-Jen Wang, National Sun Yat-Sen University, Taiwan (email: yjwang@mail.nsysu.edu.tw), conducting research on Multi-axis F/T sensing and intelligent systems. Currently an Associate Editor of IEEE Sensors Journal.
<https://scholar.google.com.tw/citations?user=PWzyUiUAAAAJ&hl=zh-TW>
- Prof. Masahide Oshima, Suwa University of Science, Japan (email: moshima@rs.sus.ac.jp), conducting research on Bearing-less motors and sensing technologies.
<https://www.researchgate.net/scientific-contributions/Masahide-Oshima-2096346829>
- Prof. Tien-Fu Lu, The University of Adelaide, Australia (email: tien-fu.lu@adelaide.edu.au) conducting research on Intelligent mechatronic and robotic systems.
<https://scholar.google.com/citations?user=OptzrK4AAAAJ&hl=en>
- Prof. Cheng-Chi Wang, National Sun Yat-Sen University, Taiwan (email: wcc@mail.nsysu.edu.tw) conducting research on Nonlinear dynamics and smart machines.
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