



A Focus Collection on “Pathways to Advanced Flexible Electronics: Materials, Structures, and Systems”

CALL FOR PAPERS

Flexible electronics have emerged as a key frontier of next-generation electronic technologies, driving continuous breakthroughs from material design and structural innovation to system-level integration. With the rapid advancement of artificial intelligence (AI), the Internet of Things (IoT), wearable devices, soft robotics, and digital healthcare, flexible electronic systems are expected to deliver not only excellent electrical and mechanical performance but also multifunctionality, stretchability, self-healing capability, and intelligent responsiveness to meet the growing demands of complex environments.

In recent years, remarkable progress has been made in functional materials, bioinspired micro/nanostructures, and scalable manufacturing processes, leading to significant improvements in the sensitivity, stability, and environmental adaptability of flexible electronic devices. Meanwhile, the integration of system-level architectures and AI-driven algorithms has accelerated the evolution of flexible electronics from single-function sensors to intelligent, self-adaptive, and decision-making systems.

To promote academic exchange and technological innovation in this rapidly evolving field, Journal of Semiconductors launches this focus collection titled “Pathways to Advanced Flexible Electronics: Materials, Structures, and Systems”. The collection welcomes original research papers and comprehensive reviews focusing on recent advances in materials, device structures, integration technologies, and system applications of flexible electronics, particularly in intelligent sensing, energy management, healthcare, and robotics.

We warmly invite researchers worldwide to contribute their latest work and insights, and to join us in exploring the key scientific challenges and emerging opportunities shaping the future of flexible electronics.

This collection focuses but not limited to the following topics:

1. Flexible electronic devices and systems
2. Flexible optical and optoelectronic devices and systems
3. AI incorporated/enhanced devices and systems for multimodal sensors
4. E-skins and OE-skins
5. Neuromorphic devices and brain-inspired sensors
6. Advanced manufacturing technologies for flexible and smart electronics
7. Wearable electronic technology
8. Advanced functional materials and flexible devices
9. Application of flexible electronics in personalized active diagnosis and treatment
10. Intelligent autonomous perception and machine learning

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Manuscript Submission:

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Submit your manuscripts directly to the listing guest editors via the e-mail addresses above or directly submit via the online submission address at <https://mc03.manuscriptcentral.com/jos-iop>.

Please notify us in advance of your intention to submit a research paper.

Key Timetable Dates:

Manuscript Submission Deadline: **April 15, 2026**

Manuscript Acceptance Date: **May 15, 2026**

Publication Date: **August 15, 2026**