

IEEE AWPL Special Cluster 2019 on “Antenna-in-Package, Antenna-on-Chip, Antenna-IC Interface: Joint Design and Co-integration”

IEEE Antennas and Wireless Propagation Letters (AWPL) announces a special cluster on “Antenna-in-Package, Antenna-on-Chip, Antenna-IC Interface: Joint Design and Co-integration Aspects.” Miniaturization of microwave components and circuits is a foremost challenge for the proliferation of Internet of Things (IoT) and emergence of non-traditional applications of electromagnetics. Historically, radio frequency frontends and antennas methodologies have separately evolved using distinct fabrication technologies, ultimately relying on component-level assemblies and integrations. This approach fundamentally limits the form factor of microwave components and radio system performance, which is a major disadvantage with future wireless devices and sensors.

Recent confluence of major thrusts such as 5G, autonomous driving, microwave in medicine and space has spurred the need for monolithic integration of antennas and microwave circuits. In addition, advancements in fabrication technologies such as 3D printing and additive manufacturing, graphene and conductive electrodes, semiconductor, and multi-layer polymers have catalyzed investigations of novel antenna-in-package, antenna-on-chip concepts and related technologies. Collectively, these approaches can introduce exciting paradigm shifts in antenna design, integration and applications. The aim of this special cluster proposal is to solicit and assemble the latest studies that highlight current research involving antenna-in-package, antenna-on-chip technologies and circuit-antenna co-integration solutions.

The special issue of papers will consider the latest research in but not limited to the following areas:

- **New Design and Integration Strategies:** AoC and AiP Designs, Integration strategies, interconnects, thermal management, EMI/EMC analysis methods that are tailored to the circuit architecture
- **Fabrication technologies:** New methods for fabricating AiP, AoC and active antenna topologies
- **Measurement strategies:** Passive and active characterization of AiP, AoC and calibration techniques
- **Applications:** Novel and potentially impactful applications with technical details and proof of concept

The Guest Editors of this Focused Cluster are:

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Prospective authors are encouraged to contact the Guest Editors for any questions or to determine the suitability of their contribution for this special cluster.

Papers should be prepared following the same submission instructions as for regular IEEE AWPL manuscripts (four-pages technical content maximum and one reference page, double-column, IEEE format), available via the Information for Authors website (<http://awpl.eleceng.adelaide.edu.au/authors.htm>). The authors should indicate in the cover letter to the Editor-in-Chief that the manuscript is being submitted in response to the Call for Papers for the focused cluster. Prospective authors should refer to the timeline below for key dates. The publication charges will be at the standard rates for AWPL.

Key dates:

- Submission deadline: March 31, 2019
- First decision: May 15, 2019
- Revised manuscripts deadline: June 15, 2019
- Final decision: July 30, 2019
- Final manuscripts due by: September 1, 2019
- Online publication: shortly after final manuscript submission
- Cluster publication: November 2019 issue of AWPL