

Special Issue on **Flexible and Conformal Antennas and Applications**

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Flexible and conformal electronics is an emerging technology field that has attracted immense interest due to the potential for cross-cutting applications in areas such as aerospace, biomedicine, and the automobile industry. There are numerous ongoing research efforts in flexible antenna technology since these antennas can enable communications in curved surfaces not suitable for traditional rigid antennas. These antennas also exhibit wide adaptability, low mass density, small volume, light weight, and low cost. A considerable effort is being carried out on the novel antenna configurations exhibiting agile operating frequencies, tunable bandwidth, switchable polarization, and reconfigurable radiation pattern. Some of the most significant research efforts include membrane-based antennas that attach and interconnect electronics chips onto the antenna surface, approaches of achieving conformal/flexible antennas utilizing printed circuit board (PCB), textile-based wearable antennas, 3D printed antennas based on nanomaterials, such as nanosilver ink, nanocopper ink, and graphene, and flexible antennas based on transferred 2D graphene sheet. For active antennas (such as phased-array antennas), flexibility in high-speed digital switching, amplifiers, and digital beamforming networks are important aspects as well.

We invite investigators to contribute original research articles as well as review articles that will stimulate the continuing efforts to understand and develop flexible antennas. We are particularly interested in articles describing new technologies to develop flexible antennas, advances in nanomaterials, and new insights into active high-speed flexible electronics components.

Potential topics include but are not limited to the following:

- ▶ Recent developments in novel flexible antenna research
- ▶ 3D and 4D printed antennas and structures
- ▶ 2D nanomaterial based antennas
- ▶ Flexible membrane antennas and structures
- ▶ Flexible phased-array antennas including flexible electronics components and beam forming networks for phased-array antennas
- ▶ Flexible antennas and sensors for body-centric wireless sensing systems
- ▶ Ultra-wideband flexible antennas
- ▶ Reconfigurable flexible antennas
- ▶ Computational modeling and simulation of flexible antennas

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Manuscript Due

Friday, 25 August 2017

First Round of Reviews

Friday, 17 November 2017

Publication Date

Friday, 12 January 2018