

IEEE Signal Processing Magazine

Call For Papers

Advances in Radar Systems for Modern Civilian and Commercial Applications

The Radar (Radio Detection And Ranging) was developed during WWII for defense and security applications. Since then, radar use has been progressively widened to numerous civilian applications including airport and harbor traffic control, remote sensing of the Earth, wave forecasting and marine climatology, high precision detection of small surface movements, biomass and deforestation measuring, volcano and earthquake monitoring and, more recently, car cruise control and collision avoidance, monitoring of heart and respiratory beat, physiological liquid detection and monitoring of artery walls and vocal cord movements, with devices that, thanks to the progress of the technology, in some cases can be even smaller than a modern smartphones. Nowadays, the use of radar-like sensors is getting more and more pervasive, and the future will maybe see the radar as an ubiquitous sensor, devoted to applications completely unexpected when it was used for the first time.

This special issue invites tutorial-style surveys and overviews of recent research and development in radar signal processing for the most modern civilian and commercial applications, including Continuous Wave (CW) and Ultra-Wide Band (UWB) radars for medical applications, Ground-Penetrating Radars (GPR) for archeology, automotive radars and compact small Synthetic Aperture Radars (SAR).

The main object of this special issue is to show that radars can have multiple uses, different from the classical ones already experimented over the last 60 years, provided that, in many cases, the cost can be kept limited, the power consumption handled in a smart way, and the signal processing optimized for each specific application.

Topics of Interest include (but are not limited to):

<ul style="list-style-type: none">• CW and UWB radars for medical applications.	<ul style="list-style-type: none">• Radar entomology
<ul style="list-style-type: none">• Radars for space exploration and space debris detection.	<ul style="list-style-type: none">• Modern radars for extreme weather forecast
<ul style="list-style-type: none">• Short, mid and long range automotive radars	<ul style="list-style-type: none">• Compact SAR for short range applications
<ul style="list-style-type: none">• Co-existence of automotive radars and communication systems	<ul style="list-style-type: none">• GPR for archeology and civil engineering

White papers are required, and full articles are invited based on the review of white papers. Articles submitted must be of tutorial and overview/survey nature and in accessible style to a broad audience. Submissions will be reviewed according to the IEEE Signal Processing Magazine guidelines, and should not have been published or under review elsewhere. Submissions should be made online at <http://mc.manuscriptcentral.com/sps-ieee>. For guidelines and information on paper submissions, visit <http://www.signalprocessingsociety.org/publications/periodicals/spm/>.

Important Dates: Expected publication date for the special issue is **May 2019**.

White papers due	June 10, 2018
Invitation notification	July 10, 2018
Full manuscripts due:	September 25, 2018
Final decision	March 15, 2019
Publication issue	July 2019

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