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**IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing**

**Special Issue on**
**"Fast and Intelligent Algorithms and Frameworks for High-Resolution Earth Observation Applications"**

Recent years have witnessed the ever-growing availability of remote sensing (RS) data sources from both satellite and airborne sensors on a great popularity of Earth observation (EO)-related applications, e.g., resource surveys, environmental protection, disaster surveillance and climate meteorological observation. The high-resolution data acquired by such platforms could provide diverse and complementary information, which enhance capabilities for better understanding of the Earth and accelerate the development of the geoscience and remote sensing industry. However, with the explosive growing of the high-resolution remote sensing data, human monitoring and processing becomes tedious and difficult. Thus, there exists an urgent demand for rapid and automatic understanding and analyzing acquired high-resolution Earth observation data. Meanwhile, a series of algorithms and frameworks represented by machine learning and deep neural networks have combined the remote sensing big data with intelligent information processing paradigms, bring significant progress in high-resolution Earth observation related applications. Though booming recently, the existing methods could hardly meet the requirement of rapid response in some practical time-sensitive task (e.g., disaster rescuing, extreme weather forecasting). To this end, it remains a core issue to design an efficient and intelligent algorithm or framework to handle massive remote sensing data with large-scale and high-resolution.

This special issue intends to assemble recent advances and explore novel research investigations related to intelligent and rapid algorithms for widespread high-resolution Earth Observation applications and real-world issues. Prospective authors are invited to submit their original unpublished contributions to this special issue.

The broad topics include (but are not limited to):

- Tutorials of the advances for high-resolution Earth observation applications
- New models and algorithms for remote sensing processing and representation
- Multi-modal remote sensing data fusion, analysis and understanding
- Large-scale Earth-observation data compressing and transmission
- Model compression and distillation for remote sensing data
- Fast simulation and implementation for remote sensing processing algorithm
- Emerging high-resolution Earth observation applications

**Schedule**

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| January 1, 2022 | Submission system opening |
| May 30, 2022 | Submission system closing |

**Format**

All submissions will be peer reviewed according to the IEEE Geoscience and Remote Sensing Society guidelines. Submitted articles should not have been published or be under review elsewhere. Submit your manuscript on http://mc.manuscriptcentral.com/jstars, using the Manuscript Central interface and select "**Fast and Intelligent Algorithms and Frameworks for High-Resolution Earth Observation Applications**" special issue manuscript type. Prospective authors should consult https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9082768 for guidelines and information on paper submission.

All submissions must be formatted using the IEEE standard format (double column, single spaced). Please visit http://www.ieee.org/publications_standards/publications/authors/author_templates.html to download a template for transactions. Please note that as of January 1, 2020, IEEE J-STARS has become a fully open-access journal charging a flat publication fee $1,250 per paper.

**Guest Editors**


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