

CALL FOR PAPERS Special Issue
Advanced Command, Control and On-Board Data Processing for Space Avionic Systems
IEEE Transactions on Emerging Topics in Computing

IEEE Transaction on Emerging Topics in Computing (TETC) seeks original manuscripts for a Special Issue/Section on **Command, control and on board data processing for space avionic systems** scheduled to appear in the **third issue of 2018**. The domain of space avionic systems is changing extremely rapidly, compared to other technical domains in space-faring industry, under the pressure of an intense competition, the continuous emergence of new markets and players, the need for cost reduction, as well as an increased obsolescence rate of components and processes.

This rapidly changing landscape is as well opening a large amount of opportunities for the space avionic systems: the new high-performance processors architectures and silicon processes, which offer the possibility to integrate different functions until now implemented on several boards either in a single chip (SoC), or in application-specific standard products (ASSP) or in new large FPGAs are allowing multi-fold gains in performances and miniaturization for electronic systems.

Reliability and availability constraints remain the main driving requirements for established space hardware manufacturers. In this context, the emergence of space systems based on Commercial-Off-The-Shelf (COTS) only and aggressive commercial platforms adds further uncertainties and possibilities to an already very dynamic landscape. New creative and technically sound solutions are needed to provide a valid and attractive alternative to the tempting shortcut of cutting costs by waving the rigorous test and quality assurance processes applied to bigger satellite.

Design for Testability of Space Systems:	New Components and Building Blocks:	Emerging Trends:
<ul style="list-style-type: none"> • Space Embedded Systems • How to evaluate reliability of modern space embedded systems, beyond MIL-HDBK-217 • Validation and Verification • Automated Testing, diagnostic and tools • Evolutions, reuse and modularity in ground support equipment 	<ul style="list-style-type: none"> • Microprocessor SoC for Space use • Designs using space grade FPGAs • CAN applications in space industry • Use of COTS components for Space 	<ul style="list-style-type: none"> • Centralization vs. distributed systems • SW complexity management • CAN-FD vs. SpW-D and Ethernet for future command and control systems

Submitted articles must not have been previously published or currently submitted for journal publication elsewhere. As an author, you are responsible for understanding and adhering to our submission guidelines. You can access them at the IEEE Computer Society web site, www.computer.org. Please thoroughly read these before submitting your manuscript. TETC is the newest Transactions of the IEEE Computer Society with Open Access only.

Please submit your paper to Manuscript Central at <https://mc.manuscriptcentral.com/tetc-cs> Please note the following important dates.

Submission Deadline: September 1 2017

Reviews Completed: December 1 2017

Major Revisions Due (if Needed): January 1 2018

Reviews of Revisions Completed (if Needed): February 1 2018

Minor Revisions Due (if Needed): March 1 20178

Notification of Final Acceptance: May 1 2018

Publication Materials for Final Manuscripts Due: June 1 2018

Publication date: Third Issue 2018 (Sept Issue)

Guest Editors	
<p>Gianluca Furano ESA European Space Technology Centre Keplerlaan 1 2201AZ Noordwijk, The Netherlands gianluca.furano@esa.int</p>	<p>Marco Ottavi Associate Professor Department of Electronic Engineering University of Rome Tor Vergata Rome ITALY 00131 ottavi@ing.uniroma2.it</p>