

Editorial Note:

The Launching of *the Journal of Instrumentation, Automation and Systems (JIAS)*

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Although the discipline of Instrumentation, Automation and Systems has been the subject of active research and development in the past many decades, Instrumentation, Automation and Systems play more and more important role and become necessary and part of our modern life. Such instrumentation, automation and systems can be as small as smart phones, laptop computers, embedded systems used in our daily life, and as large as cars, airplanes, trains, ships, and unmanned air, space, ground, on- and under-water vehicles etc. To make all these systems working properly for their different design purposes, we cannot imagine this will be possible without the advances in instrumentation, automation and systems. Smart actuators, smart sensors, and smart instruments make the automation level and overall systems performance better and safer. Every day, we can see the new developments in instrumentation, automation and systems. How can we reflect these new developments in a timely and professional way? All these facts make the birth of this new journal: *The Journal of Instrumentation, Automation and Systems (JIAS)*, thanks to the sponsorship of the International Society on Intelligent Unmanned Systems and the UNSYSdigital.

The objective and scope of *The Journal of Instrumentation, Automation and Systems (JIAS)* are to publish qualified papers timely and regularly on the relevant areas including, but are not limited to: Sensors/Actuators/Instruments, Controllers: Hardware, software, and systems, Radar and signal processing, Internet and multimedia systems, Information technology, Fieldbus technology and interfaces, Mechatronics systems and applications, Intelligent systems, Control and instrumentation, Signal and image processing, Machine vision, Robotics, Automation, Manufacturing mechatronics, Smart materials and structures and applications, MEMS and NEMS, Autonomous/Unmanned systems, Real-time systems, Distributed control and remote monitoring, System integration, Fault detection and diagnosis (FDD), Fault tolerant control (FTC), Virtual instrumentation and control, Engineering applications of Instrumentation, Automation and Systems.

In this first issue, five typical papers with various different topics are included. First paper by Post *et al* presents Design and Construction of a Magnetic Field Simulator for CubeSat Attitude Control Testing for aerospace systems application; Second paper by Haryono *et al* deals with Technical Implementation of Dual Mode Fault Tolerance in Field Programmable Gate Array (FPGA); The third paper by Setu and Abhishek presents Development of a Coaxial MAV with Real-Time Obstacle Avoidance Capability for application to unmanned aerial vehicles; In the fourth paper, Enjarini and Gräser proposes Robust Depth-Based Planar Segmentation Algorithm Based on Gradient of Depth Feature for images processing with applications to laser scanners or cameras etc. Finally, Roy *et al* develops Transmitter and Receiver Design at L-band and X-band for FM-CW Radar Altimeter application. These papers cover wide topics on Instrumentation, Automation and Systems with different applications.

As a new journal in the active and important field of Instrumentation, Automation and Systems, it is our hope that JIAS will add new values and new information on the state-of-the-art in the field, provide a good and unique platform to authors working in the field to publish their new, valuable, and latest developments on the above-mentioned relevant topics, and provide readers valuable information on the new results, methods, developments in the field of Instrumentation, Automation and Systems.

Welcome and thank for the contributions and interests to this new *Journal of Instrumentation, Automation and Systems (JIAS)*. I would like to use this opportunity as well to express my sincerest appreciation for the great efforts and contributions of all participating authors of this first issue and all future issues, the Editorial Advisory Board Members, Editorial Board Members, and Publishing Staffs, without whom the publication of this new *JIAS* would never be possible. For more information on the *JIAS* and paper submission, please refer to <https://ejournal.unsysdigital.com/index.php/ejias/index>.

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