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Call for Papers

Journal of Defense Modeling and Simulation: Applications, Methodology, Technology (JDMS)

Special Issue: Modeling & Simulation of Unmanned and/or Autonomous Systems for Civilian Use

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Introduction

Extensive in-theater uses of unmanned tele-operated and/or autonomous systems have shown promise for technology transfer into the civilian sector. Missions in hazardous environments and high risk activities are only a small part of the potential applications enabled by convergence of technologies that once were exclusive to the defense domain. For example, long-loiter time aerial reconnaissance and surveillance, commonly performed to monitor hostile forces, can also be used to guide aerial drops on forest fires, perform real-time assessment of disaster areas and add 24/7 capabilities (e.g., via night vision) to improve the mission tempo of emergency responders. In addition, recent experiments in Afghanistan (e.g., KMAX) show the value of unmanned systems for logistics resupply to forward operating bases along routes hazardous both in geography and population. In the civilian world, package delivery drones are all but a reality, but severe barriers exist to ensure smooth and safe integration into the national airspace. Similarly, unmanned surface systems have widereaching applications in port protection, waterways mapping and scientific data gathering. Modeling and simulation is a critical enabling technology facilitating the transformation of unmanned systems and is necessary for understanding the operational and technology implications of using unmanned and/or autonomous vehicles for civilian use. The goal of this Special Issue is to provide both descriptive and prescriptive approaches to modeling and simulating unmanned and/or autonomous systems, their security contributions / issues to, and overlaps between manned / unmanned capabilities and support tools (e.g., overall frameworks for scenario planning …). Potential contributions can include but are not limited to –

- General framework for a modeling and simulation test-bed that results in advanced development of components of an unmanned aerial, ground, surface and under-water systems in civilian domains
- Case studies of known unmanned and/or autonomous vehicle uses in civil environments
- Autonomous Aerial Vehicle failure modes and means for quantifying this threat to civil air space - Tools, Techniques, Methods
- Definition of risk for autonomous vehicles in the civil domain • Use of existing national safety standards (e.g., US Department of Transportation, …) for autonomous vehicle modeling
- Training for critical incident response via autonomous vehicles
- Human factors involved in the tele-operation of unmanned and semi-autonomous vehicles
- Use of legacy air transport systems to manage autonomous vehicles
- Methods for describing joint manned / unmanned common pictures
- Approaches to joint manned / unmanned scenario planning

Papers submitted should not be concurrently under review at another conference, journal, or similar venue.

Instructions for Manuscript Preparation

For manuscript formatting and other guidelines, please visit the [Author Guidelines for JDMS](#).

Note: Manuscripts must not have been previously published or be submitted for publication elsewhere. Each submitted manuscript must include title, names, authors' affiliations, postal and e-mail addresses, and a list of keywords. For multiple author submission, please identify the corresponding author.

Due Dates

Submission of papers: October 30, 2016

Expected Publication: Summer 2017

Submissions for full paper review

All manuscripts must be submitted electronically through the paper submission system to the JDMS Manuscript Submission System.

In the title page, author(s) must specifically mark that the paper is intended for this special issue as follows: "Submission for the Special Issue of JDMS: **Modeling & Simulation of Unmanned and/or Autonomous Systems for Civilian Use**.

Please follow the guidelines for submission on the Manuscript Central site.

Final paper submissions

Each final submission must be prepared based on the JDMS journal requirements (see the Author Guidelines for JDMS page).

For questions contact the editor at:

Vicki Pate, Managing Editor
Journal of Defense Modeling & Simulation
vmpate@scs.org

Yiannis Papelis, Guest Editor
YPapelis@odu.edu