

2017 INTERNATIONAL CONFERENCE ON UNMANNED AIRCRAFT SYSTEMS



<http://www.uasconferences.com>

June 13-16, 2017

Miami Marriott Biscayne Bay
1633 North Bayshore Drive
Miami, FL 33132



ICUAS ASSOCIATION EXECUTIVE COMMITTEE

Randal Beard, BYU, USA
Pascual Campoy, Universidad Politecnica Madrid, Spain
Ben M. Chen, National University of Singapore, Singapore
YangQuan Chen, UC Merced, USA
Rogelio Lozano, Université de Technologie de Compiègne, FR
Paul Oh, University of Nevada Las Vegas, USA
Anibal Ollero, Universidad de Sevilla, Spain
Daniel Pack, UT San Antonio, USA
Fulvia Quagliotti, Politecnico di Torino, Italy
Camille-Alain Rabbath, Défense R&D, and Concordia U., CA
Matthew J. Rutherford, University of Denver, USA
Hyunchul (David) Shim, KAIST, South Korea
Salah Sukkarieh, University of Sydney, Australia
George Vachtsevanos, Georgia Institute of Technology, USA
Kimon Valavanis, University of Denver, USA
Youmin Zhang, Concordia University, Canada

CONFERENCE STEERING COMMITTEE

T. I. Fossen, Norwegian Univ. of S&T, Thor.Fossen@itk.ntnu.no
Jonathan How, MIT, jhow@mit.edu
Luis Mejias, Queensland U of Tech., luis.mejias@gut.edu.au
Anibal Ollero, Universidad de Sevilla, aollero@us.es
Roland Siegwart, ETH Zurich, rsiegwart@ethz.ch
Didier Theilliol, U de Lorraine, Didier.Theilliol@univ-lorraine.fr
Nikos Tsoveloudis, Technical U of Crete, nikost@dpm.tuc.gr

HONORARY CHAIRS

Kimon Valavanis, University of Denver, kimon.valavanis@du.edu
Frank Lewis, U of Texas at Arlington, lewis@uta.edu
Stephen Wilkerson, ARL, stephen.a.wilkerson.civ@mail.mil

GENERAL CHAIRS

YangQuan Chen, UC Merced, yangquan.chen@ucmerced.edu
Rogelio Lozano, U de Tech. de Compiègne, rlozano@hds.utc.fr
Antonios Tsourdos, Cranfield Univ., a.tsourdos@cranfield.ac.uk

PROGRAM CHAIRS

Youmin Zhang, Concordia Univ., ymzhang@encs.concordia.ca
James Morrison, KAIST, james.morrison@kaist.edu
Terrence Martin, Queensland University of Technology, t.martin@qut.edu.au

SPECIAL SESSIONS & TUTORIAL/WORKSHOP CHAIR

Kostas Alexis, University of Nevada, Reno, kalexis@unr.edu

PUBLICATIONS/PUBLICITY CHAIR

Matthew Rutherford, University of Denver, mjr@cs.du.edu

LOCAL ARRANGEMENTS CHAIR

Marjorie Darrah, West Virginia U, Marjorie.Darrah@mail.wvu.edu

REGISTRATION/FINANCE CHAIR

Dina Fragkedaki, University of Denver, dina.fragkedaki@du.edu

IEEE CSS LIAISON

Randal Beard, BYU, beard@byu.edu

ELECTRONIC SERVICES COORDINATOR

Pradeep Misra, Wright State University, p.x.misra@gmail.com

INTERNATIONAL PROGRAM COMMITTEE (IPC)

F. Alarcón, F. Andert, I. F. Mondragón Bernal, S. Bogdan, A. S. Brandao, T. Brown, J. Caetano, S. Carpin, L. R. G. Carrillo, P. Castillo, O. Cetin, H. Chao, A. Chamseddine, J. Chudoba, L. Ciarletta, J. A. Cobano, J. Colorado, H. Rodríguez Cortes, C. Cuerno, J. Cui, G. de Croon, R. Czyba, A. Dolgikh, H. B. Duan, S. Durand, H. Edge, G. Fasano, M. Sarcinelli-Filho, A. T. Espinoza Fraire, M. Geiser, A. H. Goktogan, L. Felipe Gonzalez, G. Guglieri, T. Hamel, J. Hill, T. Arne Johansen, I. Kaminer, J. Keller, Y. Kim, Z. Kowalczyk, A. D. Lara, N. Larrieu, D. Lee, S. Longhi, G. Lu, J. Luo, A. Mancini, T. L. Martin, C. Martínez, I. Maza, D. Melita, M. A. Olivares-Mendez, L. Merino, M. Nahon, H. Noura, D. Nolan, U. Ozdemir, Z.-R. Peng, J. Qi, Y. H. Qu, S. Rathinam, H. Romero, J. M. Martin-Sanchez, S. Park, S. Saripalli, M. Saska, M. Shaqura, R. Sharma, S. Schopferer, A. Schulte, T. Sobh, R. Stansbury, K. Stol, P. B. Sujit, B. Theys, B. Upcroft, K. Uchiyama, J. Verbeke, A. Viguria, S. Wang, X. Yu.

For information about the ICUAS Association see www.icuas.com

The 2017 International Conference on Unmanned Aircraft Systems, **ICUAS'17**, will be held on June 13-16, in the luxurious Miami Marriott Biscayne Bay, Miami, FL, <http://www.marriott.com/hotels/travel/miabb-miami-marriott-biscayne-bay>, the only marina front downtown hotel. June 13 will be a Workshop/Tutorial day, followed by the three-day technical Conference on June 14-16. Judging from the interest ICUAS has drawn over the past eight years and its growth, **ICUAS'17** is again expected to continue on this path and attract the highest number of participants from academia, industry, federal and state agencies, government, the private sector, users, practitioners and engineers who wish to be affiliated with and contribute technically to this highly demanding and rapidly evolving and expanding field. Details may be found at <http://www.uasconferences.com> and related links. **ICUAS'17** is fully sponsored by the **ICUAS Association**, a non-profit organization; Information about the organization may be found at www.icuas.com. The theme of **ICUAS'17** will focus on the very challenging and timely topic of '**networked unmanned systems**'. National and international organizations, agencies, industry, military and civilian authorities are working towards defining roadmaps of UAS expectations, technical requirements and standards that are prerequisite to their full utilization, as well as legal, policy and ethical issues. The next generation of UAS is expected to be used for a wide spectrum of civilian and public domain applications. Challenges to be faced and overcome include, among others, see-and-avoid systems, robust and fault-tolerant flight control systems, payloads, communications, levels of autonomy, manned-unmanned swarms, network-controlled swarms, as well as challenges related to policies, procedures, regulations, safety, risk analysis assessment, airworthiness, certification issues, operational constraints, standardization and frequency management, all of paramount importance, which, coupled with 'smart', 'environmentally friendly' cutting edge technologies will pave the way towards full integration of UAS with manned aviation and into the respective national airspace.

ICUAS'17 aims at bringing together different groups of qualified military and civilian representatives worldwide, organization representatives, funding agencies, industry and academia, to discuss the current state of UAS advances, and the roadmap to their full utilization in civilian and public domains. Special emphasis will be given to current and future research opportunities, and to 'what comes next' in terms of the essential technologies that need to be utilized to advance further UAS. Conference topics include:

Airspace Control	Integration	See-and-Avoid Systems
Airspace Management	Interoperability	Security
Airworthiness	Levels of Safety	Sensor Fusion
Air Vehicle Operations	Manned/Unmanned Aviation	Simulation
Autonomy	Micro- and Mini- UAS	Smart Sensors
Biologically Inspired UAS	Navigation	Standardization
Certification	Networked Swarms	Swarms
Control Architectures	Payloads	Technology Challenges
Energy Efficient UAS	Path Planning	Training
Environmental Issues	Regulations	UAS Applications
Fail-Safe Systems	Reliability of UAS	UAS Communications
Frequency Management	Risk Analysis	UAS Testbeds

Unmanned system collaboration and coordination, formation control, validation and verification and unmanned system design for assured autonomy, are topics of great interest to **ICUAS'17**.

Through Keynote addresses, round table panel discussions and presentations, it is expected that the outcome of the Conference will be a clear understanding of what industry, military, civilian, national/international authorities need, and what are the crucial next steps that need to be completed before UAS are utilized in everyday life applications.

IMPORTANT DATES

February 12, 2017:

April 14, 2017:

May 5, 2017:

April 14 – May 5, 2017:

Full Papers/ Invited Papers/Tutorial Proposals Due

Acceptance/Rejection Notification

Upload Final, Camera Ready Papers

Early Registration

PAPER SUBMISSION

All papers must be submitted and uploaded electronically. Go to <https://contols.papercept.net>. Click on the link "Submit a Contribution to **ICUAS'17**" and follow the steps. The paper format must follow IEEE paper submission rules, two-column format using 10 point fonts, Times New Roman. The maximum number of pages per submitted paper is 10. For accepted papers, up to two additional pages will be permitted for a charge of \$100 per additional page. Illustrations and references are included in the page count. **Invited and Special Sessions:** Proposals for invited/special sessions must be submitted/uploaded electronically. A Summary Statement describing the motivation and relevance of the proposed session, invited paper titles and author names must be uploaded electronically by February 12, 2017. In addition, authors must submit **FULL versions of invited papers** electronically, through <https://contols.papercept.net>. Each paper must be marked as 'Invited Session Paper'. **Workshops/Tutorials:** Proposals for workshops/tutorials should contain title, the list of speakers, and extended summaries (2000 words) of their presentations. Proposals must be sent by e-mail to the Tutorial/ Workshop Chair by February 12, 2017. **Paper Review Process:** All submitted papers will undergo a peer review process coordinated by the Program Chairs, Advisory Committee Members, IPC members and qualified reviewers. Authors will be notified of results at the latest by April 14, 2017. *Accepted papers must be uploaded electronically no later than May 5, 2017.* Authors are encouraged to accompany their presentations with multimedia material, which will be included in the Conference Digital Proceedings. Conference Proceedings will be acquired by IEEE and they appear in IEEE Xplore.