



CALL for PAPERS - NAECON 2018 July 23-26, 2018 in Dayton, Ohio

Abstracts Due: April 30, 2018 Full Paper Due: August 15, 2018
Submission Details: sites.ieee.org/naecon-2018

The 2018 IEEE National Aerospace Electronics Conference (NAECON) will be held on July 23-26, at the Holiday Inn Dayton/Fairborn I-675 2800 Presidential Dr, Fairborn, Ohio 45324 USA

NAECON 2018 (70th Year Anniversary) is exploring new research and contributions for the next generation aerospace sensor integration with autonomy, artificial intelligence and machine learning.



The NAECON Grand Challenge Problem is **“Cooperative Autonomous Systems and Technologies”**.
NAECON’s theme is **“Futuristic Autonomy in Motion”**.

NAECON (National Aerospace and Electronics Conference) is the oldest and premier IEEE Conference presenting research in all aspects of theory, design, and applications of aerospace systems and sensors.

Sponsored by: IEEE-USA, University of Dayton and IEEE Dayton Section

Supported by: Air Force Institute of Technology, Wright State University, The Ohio State University, IEEE Circuits & Systems Society (CAS), and IEEE Aerospace & Electronics Systems Society (AESS)

CONFIRMED KEYNOTE/PLENARY SPEAKERS (Autonomy)

- Dr. Steve Rogers, Air Force Research Laboratory
- Dr. Alberto Valdes-Garcia, IBM Watson Research Center
- Dr. Erik Blasch, Air Force Office of Scientific Research
- Dr. Brian Pierce, DARPA I2O



CALL for PAPERS - NAECON 2018

July 23-26, 2018 in Dayton, Ohio

AES Focused Sessions:

- **Aerospace Power Systems and Power Electronics** (Chairs: Dr. Jinhui Zhang, GE EPIS Center and Dr. Zhenhua Jiang, University of Dayton)
- **Photonics Devices and Systems** (Chairs: Dr. Nicholas Limberopoulos, Air Force Research Laboratory and Dr. Paul McManamon, University of Dayton)
- **Radar, Tomography and RF sensing** (Chairs: Dr. Brian Rigling, Wright State University and Dr. Mike Wicks, University of Dayton)
- **Electronic Warfare** (Chairs: Dr. Andrew Bogle and Dr. Bob Penno, University of Dayton)
- **Machine Learning, Guidance and Control** (Chairs: Dr. Gary Lamont, Air Force Institute of Technology and Dr. Matthew Sambora, AFLCMC)
- **Terahertz and Millimeter Wave Devices** (Chairs: Dr. Elliott Brown, Wright State University and Dr. Kubilay Sertel, The Ohio State University)
- **Cooperative Autonomous Systems and Technology** (Chairs: Dr. Rob Williams, Director, Discovery Lab Global and Dr. Randall Geiger, Iowa State University)

CAS Focused Sessions:

- **Analog Devices and Processing** (Chair: Dr. Jose Siva-Martinez, Texas A&M)
- **Cybersecurity and Trusted Systems** (Chairs: Dr. Charles Cerny, Dr. Matt Casto, and Dr. David Kapp, Air Force Research Laboratory)
- **Low SWaP Sensor Processing** (Chairs: Kerry Hill, Air Force Research Laboratory and Al Scarpelli, Air Force Research Laboratory)
- **Emerging Electronics and Microsystems** (Chairs: Dr. Soumyajit Mandal, Case Western Reserve University and Dr. Vamsy Chodavarapu, University of Dayton)
- **Digital Signal and Image Processing** (Chairs: Dr. Eric Balster and Dr. Russell Hardie, University of Dayton)
- **Deep Learning and Artificial Intelligence** (Chairs: Dr. Tarek Taha, University of Dayton and Dr. Nilesh Powar, University of Dayton Research Institute)

Industry Focused Session:

- **Panel on Innovation and Entrepreneurship** (Chairs: Dr. Gary Scalzi, Air Force Research Laboratory, Phil Ratterman, UDRI and John French, Ohio Aerospace Institute)



CALL for PAPERS - NAECON 2018

July 23-26, 2018 in Dayton, Ohio

AUTHOR SUBMISSION PROCEDURES

Prospective authors are invited to submit a 50-word abstract and a 1000-word summary of their paper for consideration for oral or poster presentation. All submissions will be considered by the technical program committee for either an oral presentation or a poster presentation. If an author only wishes his/her paper to be considered for the poster session, please indicate this during submission. All accepted submissions (including posters), require a full author registration. An author may register one paper or poster with his/her main registration and each additional accepted submission will cost an additional \$100. Note: All authors need to have full registration to attend and present a paper, even if another coauthor has registered a shared paper as an additional submission. Please indicate if submitting for NAECON Autonomy Grand Challenge or just the Autonomy Session (AES Focused Session), if appropriate. Submission is in electronic form via the website. Acceptable format for final paper submission is: PDF (IEEE Xplore compatible PDF). Accepted papers will be published in the conference proceedings, subject to advance registration of at least one of the listed authors, and presentation of the paper. Authors should obtain company and government clearances prior to submission of papers. IEEE copy right release forms are required with the final camera-ready paper. All papers will be reviewed by the Program Committee. They will be judged with respect to their quality, originality, and relevance. Nominations will be solicited for the D.W. Repperger Best Paper Award.

Step-by-step instructions for authors:

- (STEP 1) Prepare a 50-word abstract and a 1000-word summary. Please use a short, succinct title and try to limit your title to one line of text. Do not add qualifying phases that describe methods, tools, materials, applications, context, etc. These more properly belong in the abstract, not in the title itself.
- (STEP 2) Submit your 50-word Abstract and a 1000-word summary via the conference website form, selecting one target session for your paper. Session names appear under "AES Focused Sessions", "CAS Focused Sessions" or "Industry Focused Sessions"
- (STEP 3) If your submission is accepted, you will receive a three-digit "Acceptance Number" Refer to this number on ALL future correspondence to us. Consider this your paper number.
- (STEP 4) Register your presenter for the conference. We must receive one conference registration for each selected paper. To be published in our proceedings and to appear on IEEE xPlore, a qualified presenter must appear in person and present the paper. "No-shows" will not be published.
- (STEP 5) Produce your camera-ready full paper per the IEEE template available at https://www.ieee.org/conferences_events/conferences/publishing/templates.html
- (STEP 6) Check your camera-ready full paper using PDF-express, www.pdf-express.org.
- (STEP 7) You will receive a compliant PDF file named as "PID #####".
- (STEP 8) Submit your compliant "PID" file via the conference website, accompanied by a signed IEEE © form, available at <http://sites.ieee.org/naecon-2018/files/2017/12/IEEECopyrightForm.pdf>. The form can be sent in any readable image format, jpg, pdf, etc. Always refer to your 3-digit acceptance number in this and all communication with organizers.



CALL for PAPERS - NAECON 2018

July 23-26, 2018 in Dayton, Ohio

2018 Larrell Walters Grand Challenge on

Cooperative Autonomous Systems and Technologies (CAST)

Background: The concept of autonomy is finding its way into systems and technologies for a diverse range of commercial and defense applications from smart cars to unmanned aerial systems (UAS) within a supporting autonomy architecture consisting of command and control, information exploitation and dissemination, and manned-unmanned teaming. The grand challenge of autonomy exists at both the systems and technologies level.

Challenge Problem: Design or fabrication approaches, and/or possible innovative concepts for either hardware (to include sensing and computing technologies), embedded algorithms, and architectures that could be adapted to assist smart cars traveling on smart roads through smart towns. Judges will determine the Grand Challenge Winner, details will be on the web page.

Approach: This design challenge can be based either (a) simulation, (b) hardware, or (c) software design and validation. Note that the submission includes a paper, and presentation. Please indicate "NAECON Grand Challenge" on the abstract submission to NAECON.

STEM Poster Session: A separate poster session will showcase undergraduate CAST-related projects from area high school and undergraduate students.