

CALL FOR PAPERS!

45th AEROSPACE MECHANISMS SYMPOSIUM

MAY 13-15, 2020

Houston, Texas

Sponsored and Organized by the Mechanisms Education Association

in cooperation with

NASA Johnson Space Center and Lockheed Martin Space



SYMPOSIUM OBJECTIVES

This symposium is concerned with the problems of design, fabrication, test, and operational use of aerospace mechanisms. Emphasis is on hardware developments. The symposium provides both a social and technical forum for personnel active in the field of mechanisms technology. The symposium attracts papers and attendees internationally. As in years past, expect to have mechanism courses / seminars the two days prior to the symposium. The full symposium program will be sent in early 2018 that will include details about the reception, supplier displays, banquet, and tour.

SUMMARIES AND PAPERS

Papers for presentation and publication are selected from summaries of approximately 1000 words plus figures (total of 4 pages maximum). **Summaries are due 4 October 2019.** The summary must include:

- A clear description of what is to be presented. Minimize non-essential design information and emphasize what lessons will be presented, results and conclusions. Tell what is unique about the work and why your paper should be chosen.
- Identify the status of the work; one of the following statements shall be included:
 - Concept only
 - Design/Analysis complete only
 - Engineering/Breadboard/Development testing complete only
 - Qualification testing complete only
 - Flight model built and testing complete only
 - Flown
- Indicate whether the subject has been previously published.
- One or two figures, preferably containing test data that supports important findings and photographs to illustrate the maturity of the work.

Paper selection is based on the following criteria:

- Ability to educate with "lessons learned" from development difficulties, ground tests, or flight anomalies. First preference is given to papers that discuss fully-developed, tested and/or flown space or aircraft mechanisms. Lessons learned are particularly important. Such papers are often more valuable than reports of purely successful efforts since they help others avoid similar problems in the future. University student space project work is also highly encouraged and the Mechanisms Education Association may provide some registration/travel stipends for student authors.
- Unique and innovative characteristics of design solutions.

- Quality, general usefulness, and lasting value of the information to be presented.

Authors are notified in late October 2019. The final 14-page paper is due 24 January 2020. The paper is published in the symposium proceedings and the author makes a 25-minute presentation at the symposium (the written paper and presentation must be done in the English language). Paper acceptance is a commitment to present the paper at the symposium. Potential authors are advised to clear travel budget, security and export control issues prior to offering the paper. The Dr. George Herzl Award is awarded to the author of the best paper.

The committee may also choose poster papers (please indicate if you only want to be considered for a poster paper), which are 6-page published papers and authors make a 10-minute presentation at the symposium and may also have a table/display at the supplier exhibits.

TOPICS

- Mechanisms for commercial, military, government, or scientific spacecraft/aircraft, and related test and support facilities. Includes the design, analysis, manufacture and test of antenna, sensor, solar sail, solar array or instrument deployment; release & pointing mechanisms; steering mirrors & payload mechanisms; gimbals; EVA mechanisms; robotic systems; separation mechanisms; utility transfer; and momentum/reaction wheels.
- Components and tribology - space tribology, bearings, gears, actuators, motors, release mechanisms, or mechanism lubrication papers containing test data
- Flight data, in orbit performance or anomaly investigations of space mechanisms
- Papers may be accepted based on new, innovative, futuristic designs even without full development / testing

CONTACT

The summary, along with the full address, phone, and e-mail of author and co-authors, **must be submitted electronically no later than 4 October 2019** to:

Mr. Edward A. Boesiger, General Chairman
Lockheed Martin Space
408-743-2377
ed.boesiger@lmco.com

THE SYMPOSIUM ORGANIZING COMMITTEE

Host Chairs

Brandan Robertson, NASA JSC
Christopher P. Hansen, NASA JSC

General Chairman - Edward A. Boesiger, Lockheed Martin
Deputy Chairman - Stuart H. Loewenthal, Lockheed Martin

Steven W. Bauman, NASA GRC
William Caldwell, NASA ARC
Damon C. Delap, NASA GRC
Jared A. Dervan, NASA MSFC
Adam G. Dokos, NASA KSC
Michael J. Dube, NASA NESC
Carlton L. Foster, NASA MSFC (retired)
Lionel Gaillard, ESA/ESTeC
Claef F. Hakun, NASA GSFC
Louise Jandura, JPL
Alan C. Littlefield, NASA KSC (retired)
Ronald E. Mancini, NASA ARC (retired)
Fred G. Martwick, NASA ARC
Donald H. McQueen, Jr., NASA MSFC
Robert P. Mueller, NASA KSC
Joseph W. Pellicciotti, NASA OCE
Minh Phan, NASA GSFC
Joseph P. Schepis, NASA GSFC
Donald R. Sevilla, JPL

James E. Wells, NASA LaRC
Jonathan P. Wood, Lockheed Martin

www.aeromechanisms.com