

VENUE

From 20th to 22nd September 2017, the European Space Agency (ESA) and Airbus Defence and Space Ltd as well as various sponsors and supporters, will hold the 17th European Space Mechanisms and Tribology Symposium at the University of Hertfordshire, de Havilland Campus, Hatfield, England.

<http://www.herts.ac.uk/contact-us/where-to-find-us/de-havilland-aps-and-directions>

AIMS AND SCOPE

- » The aims of the Symposium are to foster a dialogue between space mechanisms engineers on the design, development, testing, production and in-flight experience of spacecraft and payload mechanisms
- » Encourage personal contacts in the mechanisms and tribology community
- » Provide a networking opportunity as well as a presentation platform for companies and organizations
- » Encourage the transfer of technology to and from space applications
- » Promote awareness that space opportunities afford sustainable industrial growth.

PRELIMINARY PROGRAMME

The areas listed below are expected to be the major themes for the Symposium. Papers presenting hardware and covering these areas, coming from European and non-European entities, are specifically encouraged. However, papers covering other Space Mechanism related topics will be assessed on merit. All abstracts submitted will be given due consideration.

MECHANISMS DESIGN, ANALYSIS, MANUFACTURING, ASSEMBLY, INTEGRATION AND TESTING

- » Lessons learned from qualification
- » Descriptions of novel and challenging designs
- » New methods for design, analysis, simulations and testing of mechanisms
- » Design guidelines, high reliability
- » Design/manufacturing/verification for high-volume production
- » Design for disturbance attenuation, low shock, low noise performance

COMPONENTS/EQUIPMENT, MICRO/NANO DEVICES

- » Motors, actuators, transmission devices, bearings
- » Hold-down/release, deployment, pointing, scanning, high-precision and high performance devices
- » Wheels, mechanical coolers, pumps, valves, solar array drive mechanisms, etc.
- » Sensors, miniaturisation of space mechanisms, MEMS, micro/nano developments

TRIBOLOGY AND MATERIALS

- » Lubricants and lubrication for bearings, gears, joints, electrical contacts
- » Application of smart materials in mechanisms
- » Extreme temperatures, environments, and operating conditions, long term storage
- » New tribo-materials and /or surface modification
- » Tribology for micro/nano devices

LAUNCH VEHICLES

Separation systems, engine/propulsion regulation, gimbaling devices, turbopumps

IN-ORBIT PERFORMANCE AND POST-FLIGHT INVESTIGATIONS

- » Experience with flown hardware, including reports on in-flight mechanism performance and anomalies, lessons learned
- » Post-flight investigation of mechanisms and tribological components

SCIENCE OBSERVATORIES, EARTH REMOTE SENSING, AND

PLANETARY EXPLORATION MECHANISMS

- » Mechanisms for manipulations, robots, rovers
- » Sampling systems and in-situ analysis devices
- » Mechanical devices for science and remote sensing instruments

SPACE PLATFORMS, TETHERS, RE-ENTRY VEHICLE MECHANISMS

- » Mechanisms for re-entry vehicles and the International Space Station
- » Long-term mechanism operation and maintenance in space

Oral or poster presentations may be accompanied by the demonstration of novel mechanisms and products.

REGISTRATION AND FEES

The Symposium programme containing details of the registration procedure will be issued in April 2017. Information on the submission of abstracts and papers is given under "Call for Papers" below and on the website.

The registration fee (covers participation in the Symposium, coffee breaks, lunches, social events and a CD-ROM with proceedings) is £500. + VAT for early registration until 1 July, or £550. + VAT afterwards. The fee for partners participating in the social events will be published in the web-page.

STUDENTS PARTICIPATION

Students of local universities will participate in 17th ESMATS with the development of innovative solutions to typical space problems chosen by ESA & Airbus Defence and Space Ltd.

Selected students will attend the symposium and present their works in the exhibition hall.

TOURIST INFORMATION

There will be local tourist information available during the symposium.

SPECIAL EVENT

Prior to the Symposium meal in the evening of Thursday 21st September at Hatfield House, there will be an opportunity for a limited number of participants to participate in a 1 hour guided tour of Hatfield House, a Royal history-soaked mansion with links to Henry VIII.

CANCELLATION POLICY

A registration can be cancelled at a minimum administration fee of 10% per participant until 1st September 2017. Cancellations after this date are not eligible for refund. Substitution of participants is permitted.

WORKING LANGUAGE AND PRESENTATION TIME

The working language of the symposium will be English. For each paper presented orally, 15 minutes are allocated followed by 5 minutes for discussion. Posters will be displayed during the whole symposium in the exhibition area.

PRESENTATION POLICY

Recording devices are not permitted during the sessions.

CALL FOR PAPERS

Authors are invited to submit proposals for presentations to the Symposium in the form of an extended abstract using the online submission tool (up to 500 words including drawings or photos, no mail or email submissions).

The abstract submission shall include

- » title of the paper
- » author(s) name(s) and affiliation(s), and address
- » telephone, and e-mail address
- » a clear and precise outline of the novelty of the paper and major points of interest
- » an indication as to whether a paper on the subject has previously been published
- » an indication of presentation preference (oral or poster)
- » confirmation that the intended content can be presented and published in Europe

Abstracts selection will be based on the following criteria

- » relevance to space mechanisms and tribology
- » topic based on lessons learnt
- » topic based on hardware test results
- » originality/novelty of the innovation presented
- » quality and clarity of abstract

CALENDAR OF EVENTS

21. Sep 2016	First Announcement/Call for Papers
01. Feb 2017	Abstracts deadline
12. Apr 2017	Authors notification, Preliminary Programme & Start of Registration
07. Jun 2017	Deadline for Papers & Authors registration
21. Jun 2017	Second Announcement/ Final Programme
18.-19. Sep 2017	Tribology and Mechanisms design Courses
20.-22. Sep 2017	Symposium and Distribution of Proceedings

DEADLINE FOR ABSTRACTS

Abstracts should be submitted online by 1st Feb 2017 using the link available in www.esmats.eu. Any related questions should be sent by email to esmats17@airbus.com

PROCEEDINGS

Authors will be notified of the Organisation Committee's decision by 12th April 2017. Authors whose papers have been accepted will receive author's guidelines for the preparation of a paper for inclusion in the symposium proceedings that will be distributed to all participants at the Symposium. The proceedings will be available digitally, a paper copy may be ordered at registration at extra cost.

COURSES

At the same location, and prior to ESMATS, two courses will be offered. The European Space Tribology Laboratory (ESTL) will be holding this time its condensed Space Tribology Course (STC) on the 18th of September and a new course concerning Advanced Mechanisms Design will be provided by ESA/ESTEC Mechanisms' experts on the 19th of September. Further information about this courses and registration procedure will be provided on www.esmats.eu when they open for registration in April 2017. To avoid disappointment, potential course delegates are advised to book early to secure a place on the course of their choice.

EXHIBITION AREA

An area will be available for hardware exhibition close to the auditorium. Booking can be made through the conference web page.

LOCAL ARRANGEMENTS

Accommodation will be a mixture of hotels in the local area and 150 en-suite bedrooms on the University Campus. Booking of the University rooms will be done via the online form provided on the website (www.esmats.eu) on a first come first serve basis. Links to hotels are also available on the website as well as further information on transport etc. Early reservations are highly advisable.

ADDRESS OF THE SYMPOSIUM SITE

University of Hertfordshire,
de Havilland Campus,
Hatfield
AL10 9BE,
England

<http://www.herts.ac.uk/contact-us/where-to-find-us/de-havilland-aps-and-directions>

ORGANISING COMMITTEE

Name	Function,Company
Lionel Gaillard	(Chairman), ESA/ESTEC
Martin Gittins	(Co-Chairman), Airbus Defence and Space
Reiner Barho	Airbus Defence and Space
Ed Boesiger	(US Coordinator) Lockheed Martin
Jean-Luc Bozet	Université de Liège
Carlos Compostizo	SENER
Henk Cruijssen	Airbus Defence and Space Netherlands
Christian Dupuy	CNES
Manfred Falkner	ESA/ESTEC
Xavier Francois	Thales Alenia Space
Volker Gass	Swiss Space Center
Oliver Kunz	RUAG Space
Simon Lewis	ESTL-ESR Technology
Johan Mürer	Kongsberg
Enrico Suetta	SELEX Galileo

General information about ESMATS is available at www.esmats.eu



17TH EUROPEAN SPACE MECHANISMS AND TRIBOLOGY SYMPOSIUM

20TH-22ND SEPTEMBER 2017
WWW.ESMATS.EU

UNIVERSITY OF HERTFORDSHIRE
DE HAVILLAND CAMPUS
HATFIELD, HERTFORDSHIRE
UNITED KINGDOM

