



CALL FOR PAPERS
8th International Conference on
Recent Advances in Space Technologies
"Space Economy: Development and Sustainability"



RAST 2017

19-22 June 2017, İstanbul, Türkiye

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IEEE



Organized by:

Turkish Air Force Academy(TurAFA), Turkey
Istanbul Technical University(İTÜ), Turkey
Boğaziçi University(BOUN), Turkey
Middle East Technical University(METU), Turkey

In Technical Co-operation with:

IEEE Aerospace & Electronic Systems Society
IEEE Geoscience & Remote Sensing Society
AIAA (American Inst. for Aeronautics & Astronautics)
EARSel-Euro. Assoc. of Remote Sensing Lab.
ISPRS-Int. Soc. for Photogrammetry & Remote Sens.
URSI-International Union of Radio Science

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Preamble: Space technologies have made enormous contributions to the functioning of modern society, with large ensuing economic gains. The early days of discussion on whether space is an economic viability, have long given way to how further new economic gains are due from new opportunities and new applications. World space sector has an annual turnover of over 300 billion dollars and rising. Irreplaceable applications of space technologies in Earth observation, navigation and communication have come to the point of making space a necessity rather than an option today. The role of space in further development and sustainability of economic growth is actively on the agenda of the spacefaring nations as well as others. Investment in space programs has produced large economic returns and has been a driving force behind technological innovation, benefiting both the developed and developing World. The use of satellite technology in navigation, communications, meteorology, and earth observation is giving rise to a growing stream of applications in such areas as air, sea and land transport, natural resource management, agriculture, environmental and climate change monitoring, social development, entertainment and so on. This is all creating new markets and new ways of making life easier for all sectors of society. On the other hand, while recent economic problems in certain spacefaring nations are affecting new government initiatives, the private sector has been enlarging its domain in space operations including new launching systems and space tourism, in addition to the more conventional areas. Developments in electronics and miniaturization are further fueling space applications. In recognition of current economic challenges, for an ambitious, yet sustainable, space program to be both feasible and affordable, adequate funding levels must not only be maintained in the short term but must also be consistent over the long term. It is, therefore, vital for government, industry, academia, and other stakeholders to reach consensus on a clear path forward, leveraging the necessary partnership between the public and private sectors to ensure advanced space technology development priorities and capabilities.

Objectives: RAST 2017 has the main objective of providing a forum for the presentation and review of developments in space economy, as well as all aspects of recent developments in space technologies. In particular, a focus is desired on a historical and current evaluation of the economic aspects of space technology and how it can further contribute to economic development, with specific emphasis on the developing and less developed World, while at the same time making a serious contribution to the sustainability of the environment and natural resources. Presentations are encouraged from government and international space agencies as well as the private sector.

Participants: As in previous RAST Conferences, RAST 2017 is intended to be a forum for the exchange of recent research results and ideas in space technologies and applications; this time with specific reference to space economy. It should be of interest to a wide range of participants from government agencies, relevant international institutions, universities, research organizations, space companies, as well as media and the general public. The conference should serve as an opportunity for networking and fruitful exchange with fellow participants on topics of mutual interest.

Topics: In general, contributions regarding all aspects of recent developments in space technologies are welcome. Presentations addressing the specific theme of RAST 2017 are especially encouraged. Papers may fall under, but not be limited to the following topics:

- Economic aspects of space, review and prospects
- New and emerging private space initiatives
- Space tourism for ordinary people including legal, physiological and other aspects
- Asteroid mining, legal and technological aspects
- New human habitable spacecraft, space capsules
- Space technologies that contribute to public safety, and humanitarian efforts in the face of both natural, man-made threats,
- Earth observation projects and programs geared especially toward prediction, mitigation, monitoring of natural disasters
- Computational modeling for design, development and control of space vehicles.
- Development of new and affordable launch capabilities
- Small satellites, micro, nano and pico satellites, cubesats
- New and novel instrumentation for various spacecraft functions, including ADCS, power, vehicle control, space robotics etc.
- Design and construction of space structures, space systems, materials, simulation and testing
- Additive manufacturing technologies for space applications
- Applications of nanotechnology in space
- New remote sensing technologies and applications, i.e. hyperspectral sensing, SAR, applications in environment, agriculture, etc.
- Big Data from Space: Exploration of different types and huge amounts of data generated by space assets
- Developments in GNSS, interoperability, new applications, including regional positioning systems
- Satellite time and frequency transfer systems
- Advanced technologies for satellite communications
- Scientific applications, deep space, near-earth space, space weather, microgravity
- Energy from space
- Computational modeling of material processing and other flow physics associated processes under microgravity conditions
- International cooperation, especially among spacefaring and developing countries
- Space law, space medicine, and benefits of information available from space (social, educational and others)
- Visions of the future of space science, multiverses, black holes, etc.

Special Sessions: Participants of the conference are encouraged to organize special sessions (4-6 papers) in a particular area within the conference theme. For details, please visit the web site.

Call for Tutorial/Workshop: Participants of the conference are encouraged to organize tutorials or workshops in a particular area within the conference theme. For details, please visit the web site.

Exhibition: Exhibitors are welcomed during the conference.

Student Paper Competition: Student paper competition is planned. The winner will be rewarded with a certificate of honour and honorarium. For details, please visit the web site.

Paper Submission: Prospective participants are invited to submit electronically full papers of their work, following the instructions available on the web page. **All accepted papers will be published in the conference proceedings, which will be available at the time of the conference. Presented papers will be recommended for publication in IEEE Xplore, Scopus and Web of Science (THOMSON REUTERS Conference Proceedings Citation Index)** as the previous RASTs. After the conference, the extended and enhanced versions of the selected papers will be considered for publication in the Journal of Aeronautics and Space Technologies (www.hho.edu.tr/HutenDergisi/JAST/).

Important Dates: Special session proposals
Submission of full papers
Notification of acceptance
Submission of camera-ready full papers

3 February 2017
17 February 2017
27 March 2017
8 May 2017

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