



Space environment stability and resilience -Stardust-R Network Training School III

March 15-19, 2021, Iași, Romania

Main webpage: <https://www.math.uaic.ro/~TSIII/>
Stardust-R webpage: <http://www.stardust-network.eu/>
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FIRST ANNOUNCEMENT

Nowadays, one of the main challenges of the international community is to ensure that space environment will remain accessible and safe to operate in the near future. This goal demands the synergetic effort of higher education institutions, R&D centers, industries and space operators and also involves the training of young specialists who can develop effective solutions to reduce the impact of space debris. The emergence of new open problems in space traffic management requires the development of adequate tools and technologies involving computational intelligence to quantify uncertainty in orbital mechanics, multi-fidelity approaches for the effective and efficient prediction of re-entry demisability, dynamics modelling and stability analysis of space debris in different orbital regimes, exploitation of the regular and chaotic character to devise disposal orbits, orbit determination of space debris by linking spatially and temporally distant data sets, robotics to perform rendezvous, docking, on servicing, repair and dispose.

Key topics

TS-III provides a comprehensive training on the tools developed to keep the space environment stable and resilient. Featuring 20 hours of lectures from invited speakers, 8 hours of lectures on transferable skills and meetings with industry, the School focuses on the following topics:

- Computational Intelligence and the quantification of uncertainty
- The art of demise
- The dynamics of chaos and the disposal of space debris
- The linkage problem
- The manipulation of non-cooperative targets and on orbit servicing

Invited lecturers

Jose de Gea Fernandez, University of Bremen, Germany
Livia Giacomini, The National Institute for Astrophysics (INAF), Italy
Giovanni F. Gronchi, University of Pisa, Italy
Stijn Lemmens, Space Debris Office, Space Safety Programme Office, ESA
Giuseppe Pucacco, University of Rome Tor Vergata, Italy
Victor Rodriguez Fernandez, Technical University of Madrid, Spain

Invited speakers

Ulpia Botezatu, Romanian Space Agency (ROSA), Romania
Linda Dimare, SpaceDyS: services and software for space dynamics, Italy
Ionut Grozea, DEIMOS Space Romania
Dan Istriteanu, RARTEL S.A., Romania

Public talk by

Mirel Bîrlan, Astronomical Institute of Romanian Academy, Romania

Scientific Organizing Committee

David Camacho, Technical University of Madrid, Spain
Alessandra Celletti, University of Rome Tor Vergata, Italy
Christos Efthymiopoulos, University of Padova, Italy
Christoph Lhotka, Space Research Institute, Austrian Academy of Sciences, Austria
Edmondo Minisci, University of Strathclyde, UK
Giuseppe Pucacco, University of Rome Tor Vergata, Italy
Massimiliano Vasile, University of Strathclyde, UK

Local Organizing Committee

Marius Apetrii, University Alexandru Ioan Cuza Iasi, Romania
Alessandra Celletti, University of Rome Tor Vergata, Italy
Catalin Gales, University Alexandru Ioan Cuza Iasi, Romania
Sergey Gordeyev, University of Strathclyde, UK
Christoph Lhotka, Space Research Institute, Austrian Academy of Sciences, Austria
Edmondo Minisci, University of Strathclyde, UK
Mauricio Misquero, University of Rome Tor Vergata, Italy
Roberto Paoli, University Alexandru Ioan Cuza Iasi, Romania
Giuseppe Pucacco, University of Rome Tor Vergata, Italy
Tudor Vartolomei, University of Rome Tor Vergata, Italy

Important deadlines

Registration deadline: **January 31, 2020.**

Remark

Due to the current COVID-19 emergency the School is planned to be held in a hybrid form that combines in-person activities with an online component. In case the health situation does not improve all activities will be held in full remote connection, both for speakers and participants. A final decision will be taken in January 2021.

Information on the Venue, Registration, etc. can be found on the website:
<https://www.math.uaic.ro/~TSIII/>