

## About the Symposium

The International Symposium on Formation Flying, Missions and Technologies continues the tradition of organisation by national and international space agencies: started in Toulouse, France in October 2002, and organised in Washington DC in 2004, it is now being hosted by the European Space Agency, at its research and technology centre in The Netherlands. The Symposium focuses exclusively on technologies and systems for formation flying, and will offer the opportunity to discuss ideas and share experiences with participants from all over the world.

The 3<sup>rd</sup> International Symposium on Formation Flying, Missions and Technologies is organised by the European Space Agency in collaboration with CSA (Canada) and NASA (USA).

## Registration Fees

Early registration (before <b>1 February 2008</b> )	€ 275
Regular registration	€ 350
Early student registration	€ 175
Regular student registration	€ 250

The fee includes the conference kit, the Proceedings, a reception drink, the Symposium dinner, refreshments, and transportation to and from the hotels booked by the ESTEC hotel reservation service.

## Local Arrangements

Block bookings of local hotels have been made by the ESTEC hotel reservation service in various price categories and at preferential rates. A hotel reservation form is available on the conference website.

A social programme for accompanying persons will be organised if there is sufficient interest.

## Programme Committee

### Chairman

Finn Ankersen ESA

### Co-chair

Jesse Leitner GSFC

Alfred Ng CSA

M Bavdaz	ESA	M Cosmo	ASI
R Crowther	RAL	S D'Amico	DLR
I Gibson	BNSC	J Gonzalez	ESA
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O Mitsushige	JAXA	P Pelipenko	CNES
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D Seguela	CNES	S Shin-Ichiro	JAXA
Z Sodnik	ESA	F Svelto	ASI
F Teston	ESA	Z Yunhua	CNSA

## Local Organising Committee

Finn Ankersen ESA  
Luca Maresi ESA

## Contacts

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FIRST ANNOUNCEMENT AND CALL FOR PAPERS

# 3<sup>rd</sup> International Symposium on Formation Flying, Missions and Technologies

ESA/ESTEC

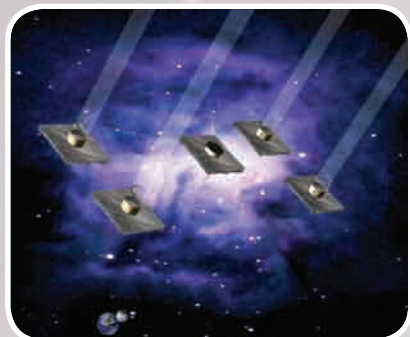
NOORDWIJK, THE NETHERLANDS

23 - 25 APRIL 2008



## Background

Flying satellites in formation is one of the new challenges for space technology. Formation flying will open the door to hitherto unthinkable applications.



Unlike satellite constellations that use multiple satellites to increase the functionality of a single satellite, formation flying uses multiple satellites to form a single sensor much larger

than anything that could be obtained from a single satellite, e.g. a long baseline interferometric telescope. The challenge is to deploy multiple satellites and keep them in formation with an accuracy close to the sensing wavelength. Mastering these technologies will enable measurements that are unachievable with a single satellite.

Development is underway on the necessary technologies and subsystems. Metrology systems capable of measuring distances between satellites with an accuracy of better than a micron, and propulsion systems with super-fine throttability, are technologies proven at laboratory level, and these let scientists and engineers start drafting space systems that will make use of new measurement concepts. However, systems are not yet flight-proven. Furthermore, a few more technologies are still to be demonstrated: the geometry of the formation will often involve trajectories needing continuous thrust and fast closed-loop control, meaning more complex GNC systems. Formation flying systems will need high on-board autonomy and the capacity to work with both centralised and decentralised architectures.

Ground testing and in-orbit commissioning will surely pose new problems to be solved. The complexity of the space segment will require demanding ground operations. Engineers designing the on-board software will need to work closely with the ground segment to design a system that will keep the cost of operations at a reasonable level.

These are just a few of the themes that have been recently discussed in the field of Formation Flying; many more of which we are not yet aware will arise in the near future.

## Topics of Interest

The following topics will be covered at the symposium; other relevant topics may be accepted also. Research should be new since the previous symposium.

- Description of planned or approved missions (applications, design, programme aspects, etc.)
- Lessons learned from current missions
- New mission concepts
- Technologies and design of distributed sensors
- Platform technologies (propulsion, power supply, attitude, ranging, etc.)
- Launchers (impacts on formation and satellite design, formation launching, etc.)
- Inter-satellite links (ISL), distributed processing
- Orbit design and trajectories
- Guidance, Navigation and Control systems
- Operations, mission planning
- Design and simulation tools for involved fields
- Testing and launch preparations
- Regulatory issues (space debris, ISL frequencies)

## Abstract Submission

Contributed papers will be selected based on submitted draft papers in A4 format in English.

Abstracts should be submitted via the submission form on the conference website at:

<http://conferences.esa.int>

Abstracts must be submitted by **31 October 2007**.

## Proceedings

The Proceedings of the Symposium will be published as ESA Special Publication SP-654, on CD only.

Full author instructions for manuscript preparation will be provided to accepted authors approximately two months before the Symposium.

Papers must be submitted by **11 April 2008**.

