



Presentation for SRS

2010 Mars 24

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SNSB Space Research Programme

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ESA Science Programme

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Space Research Advisory Committee

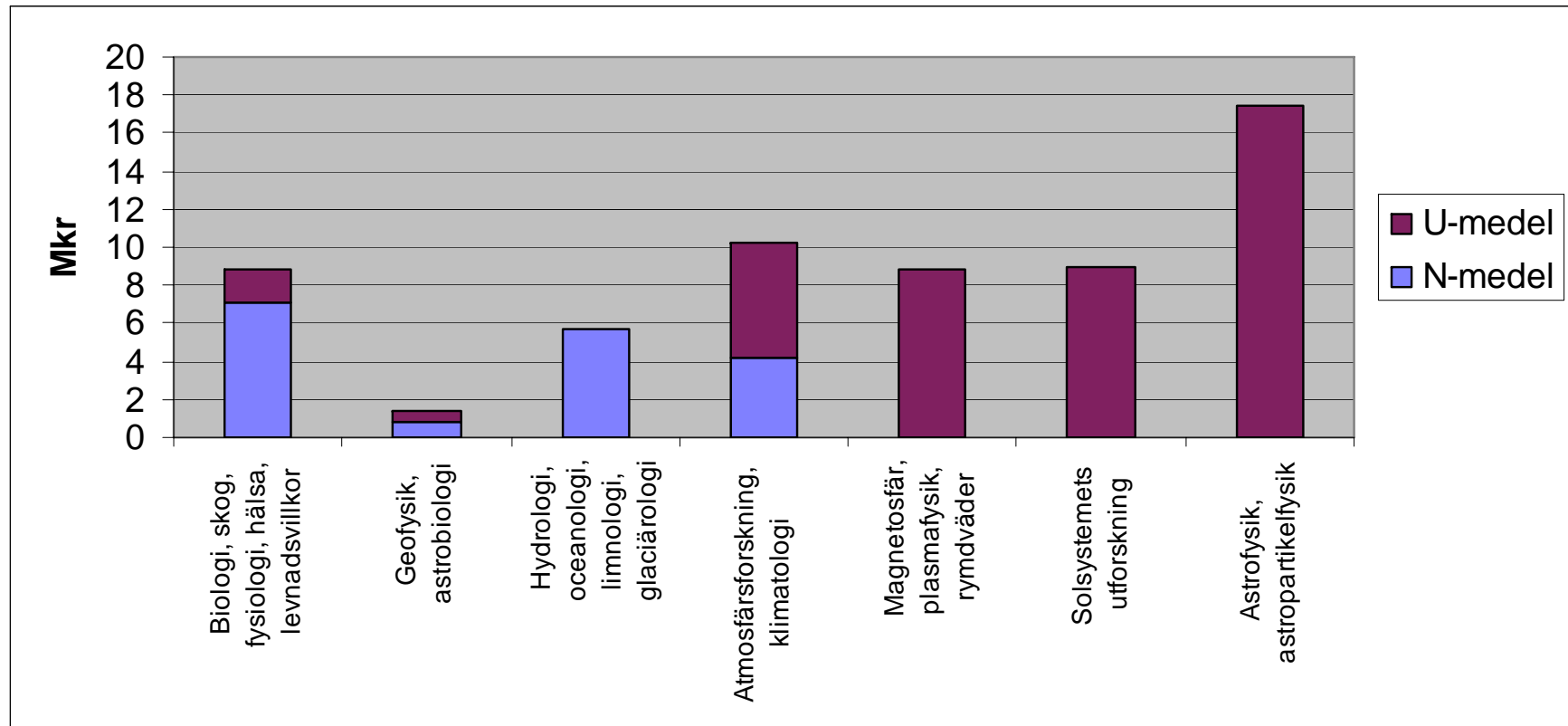
New Members

- Jörg Büchner
- Therese Encrenaz
- Gunnar Myhre
- Eva Olsson

Continuing Members

- Mats Larsson (chair)
- David Hall
- Ulrike Langematz
- Niels Lund
- Birgitta Nordström (vice chair)
- Christoffel Waelkens

National Space Research Programme





Early Technology Development

SRAC met on March 11 and proposed a set of grants for basic technology development in preparation of instrumentation on future space projects. The grants amount to **8.1 Mkr** (incl. OH) and are intended to cover the period until June 2011.

The main purpose is to make it possible for Swedish research groups to prepare for future **Cosmic Vision** projects and allow them to propose instruments that are mature enough for selection by ESA.

Missions related to the grants: **Laplace, Solar Orbiter, Plato, (Spica)**

Grants based on Call 2009-CV and postponed proposals from the regular call.



SNSB Call 2010-R

Call for Research Proposals in all fields of Space Research and Earth Observations

Deadline: 2010 May 20

News

- 35 % rule for overhead out of date
- More specific requirement for space relevance of proposed projects
- Web-based platform for applications under construction



ESA Science Programme

Cosmic Vision





Large projects (L missions)

Preliminary budget: 900 M€

Candidates for the L1-slot (2020-2022)

- Laplace/JGO (Jupiter Ganymede Orbiter)
- IXO (International X-ray Observatory)
- LISA (Laser Interferometer Space Antenna, gravitational wave detector)

Laplace

ESA and NASA have selected the primary candidate for a joint mission to the gas giants:

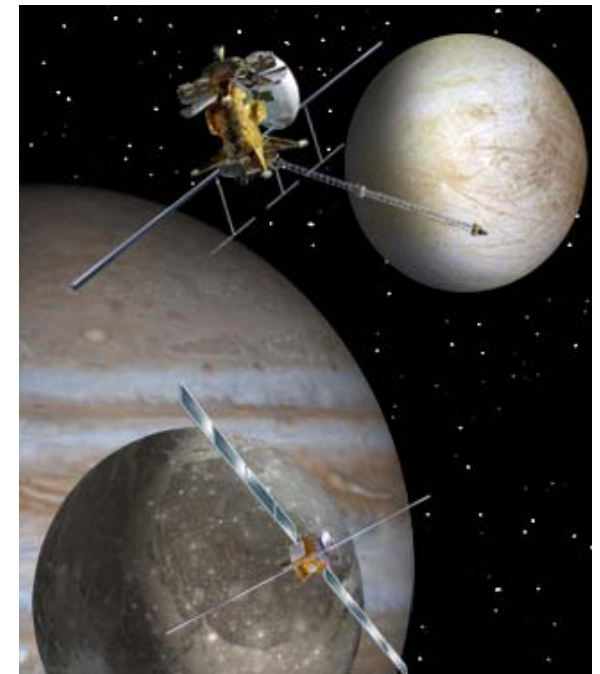
Europa Jupiter System Mission (Laplace)

NASA-led: Jupiter Europa Orbiter (JEO)

ESA-led: Jupiter Ganymede Orbiter (JGO)

This project will have to compete with other major NASA missions and other ESA L-mission candidates (IXO & LISA).

The Titan Saturn System Mission has not been ruled out, but it is less mature and can only be considered at a later stage.





Medium-sized projects (M missions)

Budget: 450 M€/mission

Candidates for the M1 and M2 slots (2017-2019)

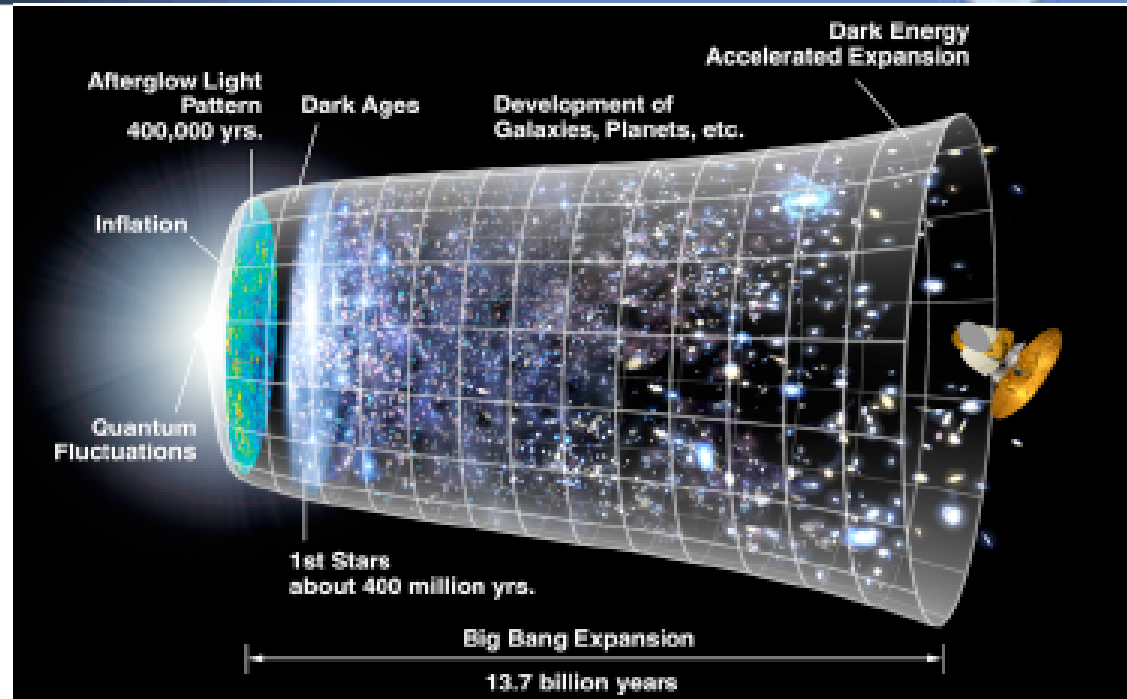
- **Euclid** (dark energy, cosmology)
- **Plato** (exoplanet detection through precision stellar photometry)
- **Solar Orbiter** (solar probe, extensively studied)

Still under consideration under Japanese lead: **SPICA**

Rejected for M1 and M2: **Cross Scale, Marco Polo**

Euclid

This space telescope will map the large-scale distribution of galaxies, probe the distribution of dark matter and test theories of dark energy



SSAC has given this project the highest scientific ranking among the M-class candidates. It is therefore likely to fly if the costs can be capped at a reasonable level and no technical show-stoppers emerge.

PLATO

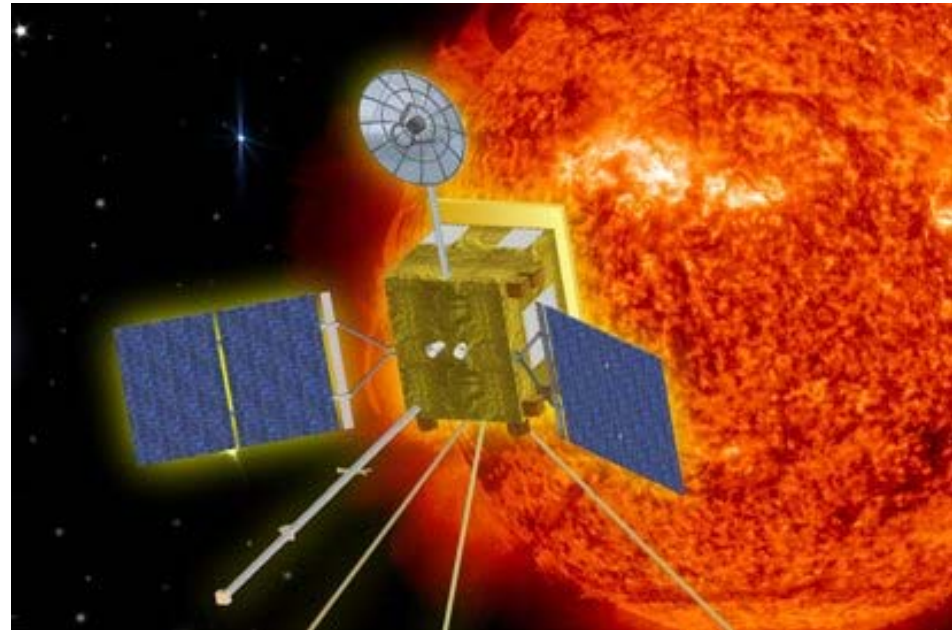
Extra-solar planets will be identified through long-term, high-stability stellar photometry. It is intended to bridge the gap between the hot Jupiter systems found by current techniques and planetary systems like ours.



Plato is intended to be sent to the Lagrange point L2, where continuous observations of a particular part of the sky are not hindered by the sun, Earth or moon.

Solar Orbiter

Close-up observations of the sun and the inner heliosphere, including the polar regions. The project relies heavily on heritage from BepiColombo for thermal technology.



Solar Orbiter is the most mature mission concept of the three candidates for M1 and M2. Its instruments have already been chosen and it is the only candidate mission that can be flown already in 2017, according to current estimates.



Science Programme workshop

Workshop in Palermo, 2010 April 19-21

Participation by SPC, the ESA executive, SSAC, advisory groups

Three Task Groups have been established to prepare the workshop:

- TG1 – Role of **Small Missions** in the Science Programme
- TG2 – **Next call** for Cosmic Vision and prospects for **L missions**
- TG3 – SPC's future role and implications from ESA's **Financial Reform**



TG1: Small Missions

The question of small missions within the ESA Science Programme has long been debated. A task group has now been set up to prepare input for a discussion at the Palermo workshop on the the possible role of small missions in the Science Programme

Questions to be addressed:

- 1. What is a small mission?**
- 2. What can be done with a small mission?**
- 3. What role could small missions play within the Scientific Programme?**
- 4. How can such small missions be implemented most effectively?**