

First announcement of the ASTRONET symposium on:

A Science Vision for European Astronomy
In the next 15-20 years

Palais des Congrès, Futuroscope de Poitiers (France)

January 23rd-25th, 2007

Dear Colleagues,

For the first time in history, European astronomy is undertaking a comprehensive long-term planning effort, covering all astronomical disciplines and all European astronomical communities. As a first step, the EC-funded European research area network ASTRONET is currently preparing a **Science Vision for European Astronomy**, and we invite you to contribute to this important venture.

The Science Vision will be prepared in a two-step procedure: A draft document is being prepared by a team of community-based working groups (see below), This draft will then be presented for discussion and comments by the community at large, first through a web-based discussion forum, then at an international **Science Vision Symposium** that will take place in **January 23rd - 25th near Poitiers (France)**.

The ASTRONET Science Vision is being prepared by a Science Vision Working Group (SVWG), assisted by four sub-panels. The SVWG is responsible for the preparation of the comprehensive **Science Vision** document, and is composed of the chairs and co-chairs of the panels and several members at large. Full information about ASTRONET, including the membership of the SVWG and the panels, is available on line at www.astronet-eu.org.

The four sub-panels are formed by experts from the community and have been charged by the ASTRONET board to address the following broad science questions:

Panel A: Do we understand the extremes of the universe?

- How did the Universe begin?
- What is dark matter and dark energy?
- Can we observe strong gravity in action?
- What do neutron stars and black holes tell us about strong gravity?
- How do supernovae and gamma-ray bursts work?
- How do black hole accretion, jets and outflows operate?
- What do we learn about the Universe from energetic radiation and particles?

Panel B: How do galaxies form and evolve?

- How did the universe emerge from its dark ages?
- How did the structure of the cosmic web evolve?
- Where are most of the chemical elements throughout cosmic time?
- What is the cycling of stars, gas and dust in galaxies?
- How did the Milky Way form?

Panel C: What is the origin and evolution of stars and planetary systems?

- How do stars and stellar systems form?
- Is the initial mass function of stars universal?
- What do we learn by probing stellar interiors?
- What is the life-cycle of the interstellar medium and stars?
- How do planetary systems form and evolve?
- What are the demographics of planets in the Galaxy?
- How do we tell which planets harbor life?

Panel D: How do we fit in?

- How do we study the Sun to explore fundamental astrophysical processes?
- What drives Solar variability on all scales?
- What is the impact of Solar variability on life on earth?
- What is the dynamical history of the Solar system?
- What can we learn from Solar system exploration about its formation and evolution?
- Where should we look for life in the Solar system?

A first version of the complete document will be widely distributed, and the web-based discussion forum will be opened at the beginning of December to provide opportunities for everybody in the community to participate in the discussion.

After this phase, the purpose of the **Science Vision Symposium** is to present and discuss the draft recommendations of the SVWG and its expert sub-panels. After the presentation at this symposium, the recommendations will be open for discussion, both in the form of plenary sessions, and in specialized, parallel sessions where the conclusions of the expert sub-panels will be debated. The SVWG will consider all the comments received when formulating the final document that will be released in the Spring of 2007.

The ASTRONET Board invites all astronomers in all of Europe to contribute to these discussions, both through the web-based forum, and by attending the **Science Vision Symposium**. Specific information about the Symposium including registration forms, assistance with travel/accommodation reservations, and options for financial support is available at <http://www.eso.org/SciChall07> and through the ASTRONET web pages.

The SVWG acts as the Scientific Organizing committee for the Symposium. Since there is a practical upper limit of about 450 people, you are kindly requested to pre-register quickly, **preferably by December 5th, 2006**. We apologize in advance if space limitations might prevent some of you from attending.