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Institutional Interviews : 2009 : INAF - Interview

## INSTITUTIONAL INTERVIEWS - 2009

October 2009



### INAF

Featured Institution Interview

In a recent analysis of **Essential Science Indicators<sup>SM</sup>** from *Thomson Reuters*, the Istituto Nazionale di Astrofisica (INAF) had the highest percent **increase** in citations from February to May of this year in the field of Space Science. Their current record in the database includes 1,217 papers cited a total of 15,081 times between January 1, 1999 and June 30, 2009.

In the interview below, ScienceWatch.com talks with Dr. Tommaso Maccacaro, President of the INAF, and Dr. Paolo Vettolani, the Director of the INAF's Projects Department, about the organization's history and citation achievements.

### **SW: How do you account for the INAF's increase in the number of citations in the field of Space Science in recent years?**

Funding for research, in particular for fundamental (as opposed to applied) research is dramatically shrinking in Italy. There is a growing consensus that the fewer resources should be distributed based upon scientific merit. Hence the effort by INAF scientists to continue producing first-class research results.

### **SW: Does this reflect a deliberate plan to enhance the organization's research effort in this field, or was this an unexpected or serendipitous development?**

It is more serendipitous than planned; again, it may be related to the fact that when the resources are limited it is the strongest groups that should be preserved and fed, so as to maintain international competitiveness.

### **SW: Are there specific areas of research within the realm of Space Science on which the INAF particularly focuses?**

Actually not. There are areas in which INAF is strong, for instance, high-energy astrophysics, for which there is a long tradition in the country. In other important areas we are admittedly weak, and, following the suggestions of the long-term plan formulated by the INAF Scientific Council, the Institute is trying to upgrade.

### **SW: What factors or circumstances led the INAF to its work in this field?**

INAF is the National Institute of Astrophysics in Italy, which was formed



*Large Binocular Telescope*

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in the year 2000 by joining 12 astronomical observatories, and in 2005 it was joined by three Institutes of the National Research Council working in the areas of high-energy astrophysics, planetary science, and radio-astronomy. Therefore, working in the field of Space Sciences is the mission of the Institute.

**SW: What is your prediction for the state of our knowledge about this particular field 10 years from now?**

Space Science has progressed very rapidly in the last 10 years with the advent of new, extremely powerful observational facilities—both ground- and space-based, such as the 8-meter class telescopes in Chile and Hawaii. In a sense Space Science has become as "big" a science as particle physics has been for many years. This trend is going to continue with the advent in the next decade of even bigger facilities like the Extremely Large Telescopes of the 30- to 40-meters class, the Square Kilometer Array, and the James Webb Space Telescope.

These projects will allow exploration of the Cosmos to larger distances in space and time, in greater detail, and over the whole electromagnetic spectrum. It will also be possible to acquire better knowledge of the Sun and the Solar System and of extraterrestrial planets. The discovery of earth-like planets, in particular, will be a gigantic step ahead.

**SW: What research fields or capabilities do you see as critical for the future of the INAF?**

To maintain state-of-the-art facilities for ground-based and space observations, and to be able to participate in major international collaborations. ■

**Tommaso Maccacaro, President**  
**Paolo Vettolani, Director Projects Department**  
**INAF**  
**Roma, Italy**

**INAF's current most-cited paper in *Essential Science Indicators*, with 239 cites:**

Burrows DN, *et al.*, "The Swift X-ray telescope," *Space Sci. Rev.* 120(3-4): 165-95, 2005. Source: *Essential Science Indicators* from Thomson Reuters.

**Additional Information:**

INAF was a **Rising Star** in Space Science in July 2009.

KEYWORDS: ASTRONOMICAL OBSERVATORIES, NATIONAL INSTITUTIONS, FUNDING, HIGH-ENERGY ASTROPHYSICS, PLANETARY SCIENCE, RADIO ASTRONOMY, TELESCOPES, GROUND-BASED OBSERVATIONS, SPACE OBSERVATIONS.

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