

# First Crisis In Cosmology Conference

## CCC-I

### Moncao, Portugal June 23-25

**Astrophysicists gather to discuss new challenges and alternatives to the Big Bang**

**For Immediate Release**

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The past year has brought more and more data from the cosmos that challenge the predictions of the Big Bang, the dominant theory of cosmology. Increasing numbers of astronomers are thinking that the field has entered a crisis. To look at the new data, examine the difficulties facing the Big Bang and to discuss entirely different views of the universe and its history, including those without a Big Bang, some three dozen astrophysicists will converge on the village of Moncao, Portugal for the First Crisis In Cosmology Conference June 23-25.

“Right now almost every basic prediction of the Big Bang is contradicted by observations” says Conference Chair Eric J. Lerner, of Lawrenceville Plasma Physics. A dozen presentations in the first session of the conference will review some of the most important of these contradictions. “For example,” says Lerner, “conventional cosmology says that the cosmic background radiation should look symmetric on the sky, but it does not; the universe at high redshift (very young age) should look different from the present day universe, but it looks about the same. Huge superclusters of galaxies have not had time to form since the Big Bang, the predictions of light elements abundances are wrong, and there’s no dark matter in some places where conventional cosmology says there should be.”

A second session will detail the conceptual defects of the Big Bang. “According to the most recent discoveries, our understanding of the universe is more and more based on ad-hoc assumptions invoking the existence of a number of unknown entities, like dark matter, dark energy, quintessence, and so on,” comments Riccardo Scarpa of the European Southern Observatory, another conference organizer. “Though it is not possible to exclude their existence, the properties of the current consensus universe look quite weird.” Conference presenters will show how basic physical laws, such as conservation of energy, are violated by conventional cosmology.

“Given the state of the dominant model, it is not surprising that a number of alternative cosmologies are being proposed in the attempt to find a more robust and elegant explanation of the observations,” says Scarpa. “Non-Big Bang alternatives have increasingly shown promise to coherently explain the observations and to predict new phenomena. We believe, therefore, that a shift in effort in cosmology to these alternatives is essential if the field is to advance.”

The third conference session will present a number of leading alternatives to the Big Bang, including both general world-views that explain a wide range of cosmic phenomena, and more focused theories that provide alternative explanations of the cosmic background radiation, the Hubble relationship, and the observations now attributed to dark matter and dark energy. “We should look for a complete picture of the universe, which is in agreement with the challenging observations from the most distant space”, argues Eugene Savov from Bulgarian Academy of Sciences, member of the conference organizing committee.

Participants from 15 countries will also engage in general discussion of the evidence and alternatives, and of possible future tests to distinguish among them. Advocates of the Big Bang will not be excluded—in fact one presentation will be devoted to a broad defense of the existing model.

The conference, organized by the Alternative Cosmology Group, emerged from discussions among signers of an Open Letter on Cosmology published May 24, 2004 in the science news magazine *New Scientist*. The letter warned that non-Big-Bang work was being excluded from funding, suppressing open debate. “We’re looking forward to an excellent opportunity for scientific exchange in cosmology, a largely immature area of human knowledge,” explains conference organizer Jose Almeida of the University of Minho, which is hosting the conference. “We hope this will be the first in a series of conferences that will help us in understanding our universe”

The conference has received financial support from the University of Minho, The Institute for Advanced Studies at Austin, Domingos Silva Teixeira, the Fundacio para a Cienciae e a Tecnologia and the Luso-American Foundation. Details and program are available at <http://www.cosmology.info/2005conference/>.