Postdoctoral Research opening

Signal processing & inverse problems for the future SKA

MAGELLAN Project
3D image reconstruction for the very large arrays in radio astronomy

Applications are invited for a 2-year postdoctoral researcher position at Lagrange Laboratory located in Nice (France). This position is available from september 2016.

Successful candidate will work in the signal processing group of Lagrange Laboratory to develop new theory and algorithms for large scale image reconstruction with application to radio astronomy. The group includes André Ferrari, Prof., Chiara Ferrari, Ast. and David Mary, Prof.

Host institution and place of work

The advertised position is hosted by Observatoire de la Côte d'Azur. Observatoire de la Côte d'Azur is deeply involved in the preparatory work for the incoming and future radio telescopes.

The successful candidate will be based at Lagrange laboratory, in the Fizeau building located on the Valrose Campus of the University of Nice Sophia-Antipolis. The Valrose Campus is located in the center of Nice.

Project Description

Keywords: inverse problems, radio astronomy, large scale problems, SKA.

MAGELLAN project focuses on data processing for very large interferometers for radioastronomy such as SKA (Square Kilometer Array). It addresses the design of efficient algorithms for image reconstruction.

The reconstruction algorithms for SKA precursors must face simultaneously the reconstruction of a very wide field of view from hundreds of thousands of complex visibilities, a large variety of sources morphologies as well as an extremely high targeted sensitivity level. The challenging objective of the project is the reconstruction of "spatio-spectral" images, where the spectral dimension critically blows up the size of the inverse problem, with targeted sizes reaching 80 TB for SKA cubes. More informations at `magellan.oca.eu`.

Applicant profile

Candidates should have a PhD in a relevant discipline (inverse problems, applied mathematics, radio astronomy or a related discipline). Strong skills in both algorithm development and analysis for signal/data processing is required. The successful candidate must demonstrate strong self-motivation, excellent written and spoken English communication skills as well as team spirit.

The annual take-home salary is approximately 25 800 €, which includes health insurance and other benefits, corresponding to a gross salary of 48 000 €.

Application

Applications should include a detailed resume and the names and contact details of two referees. Applications and informal enquiries can be sent to Prof. André Ferrari at `ferrari@unice.fr`
Review of applications will begin July 20, 2016, and continue until the position is filled.