

# SKA-France

Monthly bulletin

May 2017

## SKA-France

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## News from the SKA-France coordination

### Call for expressions of interest

In addition to the ongoing writing of the [French SKA White Book](#), which illustrates the areas in which France can make an important contribution to this major radio astronomy project, expressions of interest for the SKA are continuously arriving to the SKA-France coordination from both the academic and the industry sectors. The SKA is increasingly identified as a project with potentially high scientific, technological and industrial impact.

It is essential to show the expected impact of the SKA in France by estimating the number of scientists and engineers convinced of his interest. We know that this is not a small fraction of the community. For this reason, **we invite members of the French community to express their interest in the SKA project by completing the form at the web page [“Le projet SKA m'intéresse”](#)**. The list of signatures will be presented as an annex to the French SKA White Book, which is expected to be published in Fall 2017.



Deadline for participating to the call: August 31, 2017.

### French subtitles for the SKA Trailer “Discovering the Unknown”

As announced in the third issue of the SKA-France bulletin (December 2016), the SKA Trailer “Discovering The Unknown” won the European Excellence Award in Public Relations in the category Corporate Film & Video. We are now happy to announce that, thanks to the collaboration between SKAO, CNRS/INSU and SKA-France, [the film is now available with French subtitles](#). Enjoy!



### News from the SKA precursor ASKAP

Fast Radio Bursts (FRB) are very energetic events whose nature is still debated. They are transient radio sources with a duration of only a few milliseconds and allow to trace the distribution of matter between the emitting source and the observer.

The first 8 operational antennas of ASKAP (out of the 36 antennas of the final array) [have discovered a FRB after less than four days of observations](#). Note that, despite the first FRB discovery dates back to about a decade ago, only a few dozens of FRB have been detected with current radio telescopes. This result is thus a good illustration of the scientific potential of precursor instruments and, in the future, of the SKA.

## LAB officially involved in the SKA DISH Consortium

The Laboratoire d'Astrophysique de Bordeaux (LAB) is now officially involved in the activities of the SKA DISH consortium. Based on its internationally recognised expertise on the ALMA project, LAB is, in particular, actively collaborating in the development of the highest frequencies receiver (Band 5) of SKA1.

As the DISH consortium is currently in the process of renewing its mandate, a letter from Phil Diamond (SKA Director-General) was sent to the SKA-France coordination to formalise the very important role of LAB in this phase of finalisation of the SKA1 design.

## Activities

### Code optimisation work in collaboration with Bull-ATOS

The coordination work of SKA-France to optimise new algorithms for radioastronomy through the collaboration between researchers and HPC companies is producing interesting results. **As first experiments, Bull-ATOS has worked on the calibration and imaging code "DDFacet" by Cyril Tasse (OBSPM) with two different compiler suites: GNU and Intel.** The idea was to dive into the DDFacet software stack in order to understand the different phases of processing and to extract their respective part of the total execution time. These experiments have highlighted potential improvements, which will be investigated through a tighter collaboration with developers.

### SKA Town Hall Meeting

As announced in the previous monthly bulletin (April 2017), the French community is involved in the current cost control project for SKA1. SKAO organised on May 18 and 19, 2017, in Knutsford (UK), a "Town Hall" meeting to brief the scientific community about the current activity directed at constraining the construction and operating costs of the SKA1 deployment. **All presentations by the Science Assessment Teams and the Scientific Working Groups are now available on-line (slides and videos).**

### Solar workshop in Paris

Understanding electron acceleration in the solar atmosphere and propagation in the corona and interplanetary medium is a key element in solar-heliospheric physics as well as an important contribution to space weather studies. A Franco-British partnership research programme on this topic has been financed in 2010 by the British Council and Egide (Alliance: "Acceleration and transport of energetic particles: X-ray and radio signatures").

Following this funding, the two teams continued to meet regularly once or twice a year and to organise informal meetings with extensive discussions between scientists and students. During the last workshop of the team (May 17 and 18, 2017; Paris Observatory), some presentations addressed **the relevance of current and future radio observations of these energetic particles (e.g. with the SKA pathfinder LOFAR)**. Members of the team provided also important feedback during the recent SKA Town Hall meeting.

### SKA Swiss Day

Since early 2017, the SKA coordinations of the different European countries are frequently exchanging and discussing about their scientific and technological interests related to the SKA project. In this framework, **the SKA-France coordination has been invited to join the Swiss SKA Days 2017**, which took place on May 22 and 23, at EPFL, Lausanne.

Similarly to France, also the Swiss community is evaluating the expected impact and interest of joining the SKA project. Both countries have a big common interest in the High Performance Computing developments. For this reason, SKA-France was represented by its Project Assistant, Michel Caillat (OBSPM), who is in charge of coordinating the HPC and algorithm optimisation activities in France.

## Towards an extended SKA-France coordination



*Participants to the SKA-France Workshop of May 31, 2017*

SKA-France has organised on May 31, 2017, the first meeting of a working group to discuss about the possible evolution of the SKA-France coordination towards a more extended partnership between public research institutes and private companies.

The list of participants included representatives both from the academic field and from industry (CNRS, OBSPM, OCA, Bordeaux University, ASL, AirLiquide, Bull-ATOS, Callisto, DDN Storage).

All participants highlighted the necessity to develop such a common structure to:

- \* demonstrate the strength of a public-private partnership organised around the SKA in France;
- \* be the recognised interface towards the French Ministry and SKAO;
- \* aggregate French competencies and expertises that will have the greatest impact on the SKA project.

All participants have declared their interest to be part of the future structure. Its nature will be defined in the next few weeks by the participants to this meeting, who constitutes its core team. The partnership is opened to any research institute and company interested to join, which are encouraged to [contact the SKA-France coordination](#) in the closest future.

## Announcements

### SKA AIP meeting

A [meeting](#) to discuss new technologies that can improve the scientific capabilities of the SKA beyond Phase 1 will be held on June 8 and 9, 2017, at ASTRON (Dwingeloo, The Netherlands). During the workshop, which has been organised by SKAO, ASTRON and the MFAA/PAF/WBSPF SKA consortia, the structure and timescales of the SKA Advanced Instrumentation Program (AIP) and its successors will be discussed.

The [deadline for registration](#) is June 5, 2017.

## Prof. Giovanni Bignami - chairman of the SKA Board - passes away



*Prof. Giovanni Bignami (1944 - 2017)*

On May 24, the SKA community received the very sad news of the death in Madrid of Prof. Giovanni Bignami, chairman of the SKA Board.

Prof. Bignami's career started in the group of Giuseppe Occhialini, in Milan University, where he graduated in 1968. Since then, he had been deeply involved in the development of space missions and known world-wide for his twenty-year work on Geminga, the prototype of a very special pulsar class, the so-called radio-quiet pulsars.

Before his important responsibility within the SKA project, Giovanni Bignami fulfilled many other leading roles at national and international level:

- \* PI of the EPIC instrument of the ESA satellite XMM-Newton(1988-1997)
- \* Scientific director of the Italian Space Agency - ASI (1997-2002)
- \* Director of Centre d'Étude Spatiale des Rayonnements de Toulouse (2003-2006). In France, Prof. Bignami received the prestigious French distinctions of *Officier de l'Ordre National du Mérite* and *Officier de la Légion d'Honneur*
- \* President of the ESA Space Science Advisory Committee - SSAC (2004-2007), in charge of the document "Cosmic Vision 2015-2025"
- \* Chairman of ASI (2007-2008)
- \* President of COSPAR (2010-2012)
- \* President of the Italian Institut for Astrophysics - INAF (2011-2015)

Person of palpable and contagious enthusiasm and of great culture, he had also been very intensely involved in the dissemination of knowledge.

The SKA-France coordination presents its deepest condolences to Prof. Bignami's family and friends, as well as to the SKA Organisation and its Board.

*Cher Nanni, Sit tibi terra levis.*

**Chiara Ferrari**  
for the SKA-France coordination