

# SKA-France

Monthly bulletin

March 2017

## SKA-France

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## News from the SKA-France coordination

### French SKA White Book Organisation

A general meeting between the coordinators of the different chapters of the French SKA White Book was held on March 21-22, 2017, in Orsay. The main aim of the workshop was to finalise the preparatory work for the White Book.



*Participants to the French SKA White Book Meeting*

All the drafts about the content of chapters proposed by the French community have been examined and homogenised. Detailed editorial instructions have been immediately communicated to the co-authors (more than 125) who have already manifested their interest in participating to the White Book.

Instructions - which include the maximum number of pages per contribution (typically from 1 to 2 pages), the latex macro to be used, the proposed author list of each section - are reported at the [SKA-France web page](#), together with the current plan of the White Book.

Potentially interested new co-authors of existing or new sections of the white book are invited to [contact the SKA-France coordination](#) by April 15, 2017.



### SKA Board and AADC Consortium Meeting

The last week of March has seen an intense SKA-related activity in Perth (Australia).

The 23<sup>rd</sup> Board Meeting was convened and included the visit of the MWA and ASKAP site (see image above). France participated as Observer Country and was represented by Michel Perault (CNRS/INSU).

During the same week, the AADC (Aperture Array Design and Construction) Consortium organised its annual meeting, which, on the French side, was attended by staff of Station de Radioastronomie de Nançay and Observatoire de la Côte d'Azur.

## Activities

### AENEAS kick-off meeting



The kick-off meeting of the H2020 project AENEAS (Advanced European Network of E-infrastructures for Astronomy with the SKA), coordinated by the Dutch institute ASTRON, was held on February 28 and March 1<sup>st</sup>, 2017 in Den Haag (The Netherlands). The project will setup up the regional data centres to be distributed amongst the participating European countries, in collaboration with the SKA Organisation and its international partners.

On March 1<sup>st</sup>, 2017, during the first meeting of the AENEAS General Assembly (AGA), Chiara Ferrari (SKA-France coordinator) has been elected chairwoman of the AGA.

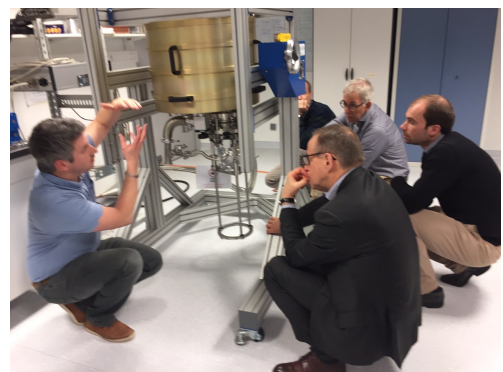
### Low energy cryogenic solutions for the SKA Meeting organised by Callisto



The company Callisto has launched, with the support of the SKA- France coordination, an action on cryogenic technology and low energy consumption for the SKA.

A meeting (**Low-energy cryogenic solutions for SKA**) was hosted at Callisto headquarters in Villefranche de Lauragais (Toulouse) on March 7, 2017. Invited participants (from Air Liquide, Thales Cryogenics BV and FR, CEA/INAC/Service des Basses Températures, ENGIE CRIGEN, Callisto, LAB and SKA-France) included French research institutions and industry which have expertise in cryogenic technology.

The cryogenic systems used to cool front-end RF receivers will be a significant consumer of energy for the dish array. As SKA France is heavily involved in finding sustainable and economic power supply solutions for the SKA, there is an obvious synergy between cryogenics and energy supply. The meeting focused on assessing the feasibility of developing low energy consumption cryogenic refrigerators which would meet the requirements for the dish receivers to cool low noise amplifiers below 30K.



## Announcements

### Françoise Combes nominated co-chair of the Extragalactic spectral line SKA Science Working Group

Françoise Combes (Observatoire de Paris and Collège de France) has recently been nominated co-chair of the [Extragalactic spectral line SKA Science Working Group \(SWG\)](#).

The SWG, co-chaired by Robert Beswick (Manchester University), was created after the 2014/2015 SKA re-baselining related activities in order to address the SKA capability for galaxy evolution studies through (non-HI) extragalactic spectral lines.



*Prof. Françoise Combes*

### HyperStars: an SKA related project financed within the CNRS MASTODONS programme

The “HyperStars” project (“Extracting the skeleton of star formation from massive hyper-spectral data”), lead by Marc-Antoine Miville-Deschênes (Institut d’Astrophysique Spatiale), has been recently funded within the 2017 call of the [MASTODONS Programme](#) promoted by the CNRS “[Mission Interdisciplinarité](#)”.

HyperStars aims at developing optimal methods to extract coherent structures from hyper-spectral observations (i.e., data cubes of line emission) of the interstellar medium. The project will explore original segmentation and clustering methods to identify coherent structures in three dimensions (position, position and velocity), conceive methods to evaluate the quality of the reconstructed information using numerical simulations as benchmark tests, and develop implementations on multi-GPU architecture foreseeing the analysis of massive datasets of future observatories like the Square Kilometre Array.



*Dr. Marc-Antoine Miville-Deschênes*

### Transient Sky (TS2020) Workshop

In the framework of the French National Programme for High Energies (PNHE) the **Transient Sky (TS2020) workshop** will be held from June 20<sup>th</sup> afternoon to June 22<sup>th</sup> 2017 at LAL in Orsay, France.

Many instruments (SST, SKA, CTA, SVOM, LIGO-Virgo, IceCube, KM3NET ...) will be in operation during the next decade and beyond. They will cover the whole electromagnetic spectrum and additional messengers like neutrinos and gravitational waves. In this context scientists have to be ready to face the additional challenges of time-domain astronomy.

This workshop will give an overview of the instruments and of the expected scientific return. Transversally, it will focus on the different topics of time-domain astronomy: origin of the alerts (gamma-ray, x-ray, optical, multi-messengers), alert selection, alert monitoring, data management (virtual observatory, ...), publication of the results. Some sessions will be dedicated to open discussion on the different topics.

With the support of PNHE and the University Paris-Sud, this workshop aims to federate the time-domain astronomy community.

It is an open workshop, without any registration fee. More information at the [TS2020 web-page](#) or by contacting the organisers by [email](#).

### SKA-France Integrated Energy Management Workshop

The SKA-France coordination is currently considering the issue of **integrated management of the whole energy chain**, from the detector to the output of the data center. SKA-France has launched a specific workshop on this issue. Invited participants, both from industry and research institutes, will convene on April 12, 2017 at CNRS/INSU

*Chiara Ferrari*  
for the SKA-France coordination