

SKA-France

Monthly bulletin

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SKA-France

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News from Maison SKA-France

Two new members of Maison SKA-France

It is our greatest pleasure to announce that, following unanimous approval of Maison SKA-France (MSF) Board Members on November 15, 2019, two new academic partners have recently joined the MSF: the French research institute for digital sciences (Inria) and the French Agency for Atomic Energy and Alternative Energies (CEA), represented by the Institute for Research on the Fundamental Laws of the Universe (IRFU) on behalf of CEA's Direction of Fundamental Research.

With eight research centres located throughout France, **Inria** is a public science and technology institution that strives to meet the challenges of the digital transformation of science, society and the economy. Inria works with many companies and has assisted in the creation of over 160 startups. Organised into seven departments, **IRFU** brings together three scientific disciplines (astrophysics, nuclear physics and particle physics), as well as the associated technological expertise, with the aim of answering key questions concerning the basic components of matter, the organisation of nuclear matter, the structure and the energy content of the Universe.

The warmest welcome to our new partners, expected to play an important role in preparing the French contribution to key aspects of the SKA project.

Logos of the 14
current members of
Maison SKA-France



SKA Engineering Meeting

With the evocative title “Concluding our Past, Realising our Future”, the 2019 SKA Engineering Meeting has brought together about 250 engineers, scientists and industry representatives from 19 different countries (including France), as well as government officials and members of the press.

The conference, which was held in Shanghai and co-hosted by SKAO and China's Ministry of Science and Technology, was for the first time focusing not on the design of the different SKA elements, but rather on a wide variety of topics related to SKA procurement, construction, commissioning and operation.

Thanks to the impressive work developed in view of the upcoming System Critical Design Review, attendees had the possibility to get the overall engineering picture of the SKA.

Nice hosts the 31st SKA Board Meeting and the 10th CPTF Meeting



The 31st meeting of the SKA Board of Directors was held on November 19 and 20, 2019 in Nice (France). In addition to representatives of SKAO members (from Australia, Canada, China, France, Germany, India, Italy, Netherlands, South Africa, Spain, Sweden and the United Kingdom), it saw the participation of invited guests from EPFL and SERI (Switzerland), NAOJ (Japan), NRC (Canada) and the European Commission. The Board meeting was followed by a two-day face-to-face meeting (November 21st and 22nd) of the SKA Observatory Council Preparatory Task Force (CPTF).

As detailed in the [Notes from Catherine Cesarsky](#), Chair of the Board, different updates allowed all participants to appreciate relevant progresses in several key domains of the project, including in particular **engineering, operations and policy**, all pointing towards very positive perspectives for the future transition from the design to the construction phase of the SKA. Thanks to the intense engineering work of the last months presented by J. McMullin (Programme Director and Deputy Director-General), the plan to conduct the System Critical Design Review (CDR) meeting in early December 2019 is fully respected. The SKA construction is expected to start in January 2021 and end in September 2028. Thanks to the Revision 2 of the Operations Plan, presented by L. Ball (Director of Operations) and A. Chrysostomou (Head of Science Operations Planning), the Board could also appreciate relevant updates on the budget structure, as well as on role descriptions, staffing and budget estimates. Another key aspect of the project operations, related to the organisation of the SKA Regional Centers, was addressed in details by P. Quinn (Chair of the SKA Regional Centres Steering Committee, SRCSC); an SRCSC White Paper is expected to be available in May 2020. Concerning policy developments, thanks to a detailed update of P. Kelly (CPTF Chair), the Board could endorse relevant documents on which the CPTF recently agreed (SKA Observatory Tier 2 policies on Intellectual Property, Procurement, Access and Operations). S. Berry (SKA Director of Strategy) and T. Devaney (Head of Business Development and Change) presented current progresses on a partnership model to deliver the operations of SKA-MID in South Africa and SKA-LOW in Australia, as well as activities to plan the transition between the current SKA Organisation and the future SKA Observatory.

The scientific preparation of the project, illustrated by R. Braun (Science Director) is also progressing along a good path, with a continuously growing community taking part to the SKA Science Working Groups (about 900 members from 40 countries) and on-going activities to develop different flavours of SKA Data Challenges (SDC). Planned SDC concern Science Data Processor Challenges, SKA Regional Centre Challenges and Science/Key Science Project Challenges. Concerning this latter category, the SKA Office is currently working to publish a Science SDC focusing on neutral hydrogen signature, both in emission and in absorption, spanning a wide redshift range ($z=0-6$) and including both SKA1-MID and SKA1-LOW.

Important inputs for planning future activities were provided to the Board by the chairs of the Science and Engineering Committee (A. Ferrara, Italy) and Finance Committee (D. Luchetti, Australia).

Activities

AENEAS All-Hands Meeting



Participants in the fifth All-hands AENEAS meeting in Utrecht.

Image courtesy: AENEAS

The three-year H2020 project AENEAS “Advanced European Network of E-infrastructures for Astronomy with the SKA” will reach its end in December 2019. After the kick-off and four previous All-hands meetings (February 2017, Den Haag, the Netherlands; October 2017, Granada, Spain; March 2018, Nice, France; October 2018, Bologna, Italy; March 2019, Manchester, United Kingdom), the **fifth and last All-hands AENEAS meeting** was held in Utrecht (the Netherlands) from November 11 to November 14, 2019.

A committee of experts named by the European Commission will evaluate the AENEAS outcomes during the final review that will take place in Luxembourg in early March 2020. A first main aim of the last AENEAS meeting was thus to present and discuss the conclusions of the project, with a combination of talks providing both a general overview of the different Work Packages and some highlights on achieved results.

The All-Hands meeting offered the opportunity to review the AENEAS activities in the general context of the overall SKA developments, with a particular focus on the organisation of SKA Regional Centers (SRC) at worldwide level. For this, several presentations illustrated on-going activities within the SRC Steering Committee and SKA member countries. After the General Assembly meeting, the final part of the workshop was dedicated to discussions about the optimised planning for European SKA Regional Centres, greatly helped by presentations about lessons learnt from the Worldwide LHC Computing Grid of CERN and the ALMA Network of Regional Centers.

Presentations are available online at the [meeting webpage](#). We recall that, more generally, a wider variety of project outputs (key project findings, deliverable and milestones, presentations from previous meetings) can be found at the [AENEAS site](#). SKA-France warmly congratulates the Principal Investigator and the main governance entities (General Assembly, Management and Management Support Teams, External Advisory Board) of AENEAS, as well as all participants to the project, for the impressive amount of work and results achieved over the last three years.

LOFAR/MeerKAT/NenuFAR Workshop at Observatoire de Paris

A **workshop on the new generation of low-frequency radiotelescopes** took place from November 18 to 20 at Observatoire de Paris, organised by C. Tasse and F. Casoli, with about 40 participants.

The first day has been devoted to the presentation of new and exciting scientific results on LOFAR and MeerKAT, the prospects for NenuFAR, and the possible synergies with other instruments such as SVOM, MOONS or CTA.

On the two following days, hands-on sessions were organised using the computing facilities of the Nançay radioastronomy station (Centre de Données de Nançay, CDN); the participants, wisely guided by their three tutors, M. Coriat (IRAP), J. Girard (CEA/IRFU), and E. Tremou (Paris Observatory), were introduced to the basics of interferometric data imaging and calibration using LOFAR and MeerKAT data. On the last day the session made a focus on direction-dependant effects for calibration and the use of state-of-the-art algorithms (DDFacet and killMS).

Based on the very positive outcome of the workshop and appreciations of the participants, a full week workshop will probably be organized in 2020.



Participants in one of the Hands-on sessions of the LOFAR/MeerKAT/NenuFAR Workshop

Image courtesy: Paris Observatory

Announcements

Cosmological Analyses Featuring galactic Foreground Emission

11-15 May 2020, Lattes, France

The registration and abstract submission are now open for the conference CAFFE LATTES, for “Cosmological Analyses Featuring galactic Foreground Emission”.

The magnetised Galactic ISM has become a main hindrance in the analysis of cosmological data. Galactic foregrounds are an issue in different observational contexts for the CMB, the HI 21cm signal from the EoR, line intensity mapping and lensing surveys. Galactic magnetic fields also upset the identification of sources of ultra-high energy cosmic rays and the measurement of extragalactic magnetic fields. In each context, cosmology is tied to Galactic astrophysics, and from a methodological point of view, to mathematics, because novel methods are required to model and reproduce the statistical properties of Galactic foregrounds and account for their complexity in the statistical inference of cosmological parameters.

The meeting aims at bringing together a hundred scientists from Cosmology, Galactic Astrophysics and Mathematics for cross-fertilisation. These three themes will be developed in parallel along the week in the context of CMB, large scale structure, EoR, cosmic magnetism and cosmic-ray science and experiments.

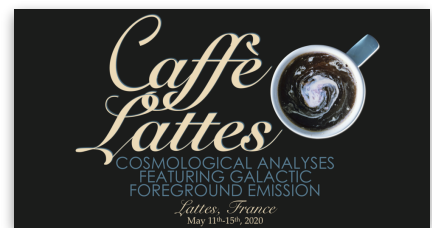
Abstract (oral or poster) can be proposed for the five different topics of the conference:

- * Primordial universe: CMB primordial B-modes & spectral-distortions
- * Cosmic Dawn & Reionization: EoR HI surveys
- * Large Scale Structure of the Universe: weak lensing & line intensity mapping
- * The origin of Cosmic magnetism
- * The physics of cosmic-rays and the origin of Ultra High Energy Cosmic Rays

Workshop website: <https://caffelattes.sciencesconf.org>

Important dates before the meeting:

- * Abstract Submission Deadline: February 11, 2020
- * Feedback on abstracts: end of March, 2020



Next SKA Science & KSP Meetings

The 2020 SKA Science Meeting and KSP Workshop (“The Precursor View of the SKA Sky”) is expected to be held at Stellenbosch University (South Africa) from September 7 to September 11, 2020.



Chiara Ferrari
for the Maison SKA-France