

SKA-France

Monthly bulletin

October 2020

SKA-France

News from Maison SKA-France

Page 1

Activities

New French representatives within SKA Working Groups
French-South African Workshop on hydrogen

Page 2

Announcements

News about LOFAR 2.0 and NenuFAR
LOFAR Data School 2021
SKAO Current Vacancies

Page 2

News from Maison SKA-France

New member of the SKA-France Director's Team

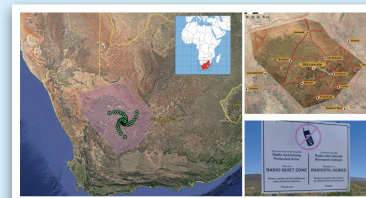
"After a PhD thesis dedicated to Cosmic Microwave Background (CMB) polarisation and its measurement by the ESA satellite Planck, I was a post-doc at the Canadian Institute of Theoretical Astrophysics in Toronto, where I worked on algorithmic design and data processing of several CMB experiments (Boomerang, Archeops and Cosmic Background Imager).

I then returned to France in 2001 as a CNRS researcher at the Institut d'Astrophysique de Paris (IAP), where I joined François Bouchet's Planck team. There, I participated in the development of algorithms that became part of the Planck High Frequency Instrument (HFI) Data Processing Center (DPC) pipeline. I have developed a strong competence in astronomical data and computing needs: I participated in establishing the requirements of the different generations of HFI DPC clusters, co-founded the Horizon "mésocentre" at IAP dedicated to post-processing of numerical simulations, coordinated the specialised team in charge of evaluating CNRS/INSU hardware and software grants for french astrophysics laboratories and observatories. I was also selected as expert reviewer of the French SKA pathfinder NenuFAR for regional grants.

In 2013 I joined the Canada-France-Hawaii Telescope as a resident astronomer, where I was Instrument Scientist of the wide field optical camera Megacam and the Fourier Transform Spectroimager Sitelle. In autumn 2020, I moved back to France, joining the Laboratoire Lagrange at OCA".



Simon Prunet
(Observatoire de la Côte d'Azur - OCA)



Study of the impact of current satellite mega-constellations on SKA

The SKA Organisation has published a preliminary analysis to quantify the impact of current satellite mega-constellations on its telescopes.

The study shows that, without appropriate mitigation techniques implemented by relevant satellite operators, the deployment of the currently planned 6,400 satellites would severely impact the high-frequency receivers (Band 5b) of the SKA-Mid telescope. This would impact key-areas such as studies of molecular and atomic spectral lines, including the detection of complex pre-biotic molecules. For significantly larger constellations and without appropriate mitigations, the effects on the SKA Band 5b would be much worse.

SKAO will continue to work closely with industry on ways to minimise the damage caused by mega-constellation missions and declared to be looking forward to a positive response on the proposed solutions.

Simon has joined the SKA-France Director's Team. He is in charge of working in collaboration with SKA-France national and international partners on Big Data and HPC initiatives, with particular attention to the SKA PLANET Team, whose activities are dedicated to platform (benchmarking, monitoring, profiling) and network needs.

A warm welcome to Simon!

Activities

New French representatives within SKA Organisation Working Groups

In the last few months, two French colleagues have taken responsibility roles within SKAO Working Groups.

L. Lamy (LESIA, Observatoire de Paris and LAM, Pythéas) is co-chair of the SKA Science Working Group "Cradle of Life", while **I. Thomas** (Frequency Manager for radioastronomy in France, Station de Radioastronomie de Nançay) is the French representatives within the **Spectrum Management Group of the SKA Organisation**.

French-South African Workshop on hydrogen

A workshop on hydrogen was organised on October 16, 2020, by the French Embassy in South Africa and the South African Department of Science and Innovation. The objective of this workshop, which was open by A. Lechevallier (Ambassador of France in South Africa) and D. Du Toit (Deputy Director-General, Department of Science and Innovation, South Africa), was to present and discuss the respective hydrogen roadmaps of the two countries, in particular the ongoing R&D and demonstration activities, and discuss possibilities for collaboration.

Among the demonstration projects under preparation, the most advanced are 1) a mobility project "the zero-emission valley", focused on long distance, heavy duty trucking and busses, 2) hydrogen solutions to cool and power SKA antennas and optimise the Observatory energy system and 3) green hydrogen production and transportation using ammonia.

A round table led by South African and French representatives closed the workshop, to discuss subjects of common interest and steps to go forward in the framework of the European green deal call.

This workshop was attended by representatives from North West University, Limpopo connexion, DSI, CNRS, CEA and several manufacturers strongly involved in hydrogen technologies development and deployment including Bambili Energy Group, Anglo American, ENGIE, Air Liquide, Air Products and Naldeo. Participants included several members of Maison SKA-France, with its Industry Liaison Officer, L. Jammes, being one of the hosts of the final round table of the meeting.

Announcements

News about LOFAR 2.0 and NenuFAR

News about the **LOFAR 2.0** and **NenuFAR** radio telescopes were provided to the French community by the French LOFAR consortium (FLOW), together with a call to indicate the fields of exploitation in which LOFAR 2.0 could have an important contribution and in which French researchers would like to get involved.

Information are available [on-line](#).



French-South African Workshop on hydrogen
Hydrogen research, technologies deployment status and pathways for future collaboration.
Friday 16 October – 9h00-12h30

09:00-09:10 | Opening

- **H.E. Aurélien LECHEVALLIER**, Ambassador of France in South Africa
- **Mr Daan DU TOIT**, Deputy Director-General, Department of Science and Innovation

09:10-10:00 Status of clean hydrogen research in France and South Africa

- **Prof Dmitri BESSARABOV**, North West University & CSIR HySA infrastructure, *RDI Activities in Hydrogen in South Africa*
- **Dr Olivier JOUBERT**, Director of the French Research Network on Hydrogen & Manager of the Electrochemical Energy storage and Conversion, CNRS
- **Dr Laurent TRUCHE**, CNRS - ISTERRE, *Native Hydrogen, a carbon-free primary energy*
- **Dr Thierry PRIEM**, Storage and Flexibility Solution Programme Manager, CEA
- **Mr Baldwin RAMASOBANE**, CEO, Limpopo Connexion, *Limpopo Science and Technology Park - Linkages between Hydrogen and Fourth Industrial Revolution*

10:00-11:00 Status of clean hydrogen technology deployment and strategy in France and South Africa

- **Dr Rebecca MASERUMULE**, Chief Director: Hydrogen and Energy, Department of Science and Innovation, *Hydrogen Society Roadmap & South African Renewable Energy Masterplan*
- **Dr Abdou SLAOUI**, Deputy Scientific Director for Energy, CNRS, *Hydrogen Roadmap in France*
- *Hydrogen Industrial developments in France and South Africa:*
 - **Ms Zanele MBATHA**, Chairperson, Bambili Energy Group, *Hydrogen Freight Corridor (Limpopo, Gauteng, Kwa Zulu Natal)*; **Ms Fahmida SMITH**, Principal Market Development Anglo American; **Mr Franck LE BARON**, Senior Vice President, Hydrogen Business Unit, ENGIE
 - **Mr Rob RICHARDSON**, Managing Director; **Ms Arthi GOVENDER**, Marketing and Communication Executive, Air Products, *Hydrogen Economy Activities*
 - **Mr Neil WOOLCOCK**, Business Development Director for Africa, Air Liquide

11:00-11:30 Hydrogen uses for SKA

- **Mr Julien DURST**, Chief of project, Air Liquide Advanced Technologies, *SKA Hydrogen antennas: an innovative solution for cooling and powering*
- **Mr Alexandre THIERY**, Chief of project, Naldeo Technologies & Industries, *Hydrogen uses to optimize SKA energy system*

11:30-12:30 Discussion on subjects of common interest and steps to go forward in the framework of the European green deal call, led by:

- **Dr Minnesh BIPATH**, South African National Energy Development Institute
- **Dr Laurent JAMMES**, Deputy Director, Industrial Relations, CNRS-INSU
- **Ms Katrin DUMOLIN**, Direction of International Relations, CEA

Moderator: **Mr Moncef MEDDEB**, Attaché for Science and Technology, Embassy of France to South Africa

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LOFAR Data School 2021

22-26 March 2021, on-line event

The [6th LOFAR Data School](#) will take place between **March 22 and March 26, 2021**.

Because of the current Covid-19 pandemic, the event will be virtual. The school will offer lectures and demos. Online material will also be provided for offline hands-on data processing sessions. Interaction and networking between participants and lecturers will be promoted via Q&A sessions as well as team building activities. An announcement with further details will be distributed in due course.

The aim of this School is to introduce the LOFAR system to new members of the LOFAR community who will analyse both interferometric and high time resolution beamformed LOFAR data. Students, postdocs, and staff are all encouraged to attend. The School will cover the many aspects of the LOFAR system from the capabilities of the basic station hardware to the software pipelines and their science products. Lectures and tutorials will be presented by members of the LOFAR project team as well as staff from the many institutions involved in the collaboration. Hands-on sessions will play a crucial role during the School giving attendees an opportunity to gain experience with real LOFAR data. Participants will have the choice of following tutorials on beamformed, interferometric or long baseline data reduction.

Presentations will be given at a level appropriate for someone new to LOFAR. Familiarity with the concepts of radio interferometry and standard data processing software such as CASA will be useful, but not required. Minimum requirements should include some familiarity with scripting languages and in particular Python. Parallel sessions for more expert students are also planned.

Registration is expected to open mid-December.

SKAO Current Vacancies

The following SKAO positions are currently open:

- * [Verification Systems Engineer](#) - **Contract Type:** Permanent (closing date: November 23, 2020)
- * [Operations Scientist - Telescope Controls And Commissioning/SAFE® Product Manager](#) - **Contract Type:** Permanent (closing date: December 4, 2020)

Interested readers can [register](#) to automatically receive an e-mail as soon as a relevant job is published. More information can be found at the [SKAO webpage](#).



Chiara Ferrari
for the [Maison SKA-France](#)