



Astroparticle Physics European Consortium

March 2016

APPEC makes SENSE: low light level sensing selected in Horizon 2020 call

by Katharina Henjes-Kunst and Thomas Berghöfer

The European Commission recently announced the results of last year's Horizon 2020 call in the domain of Future Emerging Technologies (FET-Open). In this highly competitive call the SENSE proposal, submitted by a team of three APPEC related partners (University of Geneva, MPI for Physics in Munich, and DESY as coordinator), was among the 13 selected projects.

The SENSE project will be funded as a Coordination and Support Action with the aim of coordinating the research and development efforts in academia and industry in low light level sensing. This initiative has emerged from the series of Technology Forums organized within the frame of ASPERA and APPEC. SENSE is a three-year project. Starting in September 2016, R&D experts will be invited to prepare an R&D roadmap towards the ultimate low light level sensors. SENSE will then coordinate, monitor, and evaluate the R&D efforts of research groups and industry in advancing low light level

sensors and liaise with strategically important European initiatives and research groups and companies worldwide.

To foster cooperation and knowledge transfer SENSE will build up an internet-based Technology Exchange Platform. Training events and material shall be prepared to especially engage young researchers.

A kick-off event is planned for September 2016. Further information will be distributed by the APPEC newsletter.

[Contact SENSE by email.](#)

[Horizon 2020 announcement of FET-Open selected projects.](#)

ESFRI Roadmap release puts spotlight on neutrino astronomy



The European Strategy Forum on Research Infrastructures – ESFRI – [has presented its new roadmap](#) with six new research infrastructures including KM3NeT 2.0. The roadmap also includes the Cherenkov Telescope Array as a continuing project.

In addition to regular updating of the roadmap, and following through on those projects, ESFRI is tasked with supporting a coherent and strategy-led approach to policy making on research infrastructures in Europe and facilitating multilateral initiatives leading to a better use and development of research infrastructures acting as an incubator for pan-European and global research infrastructures.

To be eligible for the roadmap a research infrastructure should have at least three countries with funding commitment and political support.

“Full steam ahead for KM3NeT 2.0. The ESFRI review was maybe not easy, but certainly beneficial.” said Prof. Dr. Maarten de Jong, spokesperson of the KM3NeT Collaboration, during his talk at the launch event, in which he explained the scientific goals of the research infrastructure and highlighted the recent progress.

Michel Spiro, chairperson of the KM3NeT Scientific and Technical Advisory Committee added: “This is a new step towards neutrino astronomy and further deciphering the Universe and neutrino mysteries.”

Antonio Masiero, the chairperson of the KM3NeT Resources Review Board, chairperson of the APPEC Scientific Advisory Committee and vice-president of INFN notes, “This is excellent news, KM3NeT continues to be considered by EU as an important project and an innovative research infrastructure at the continental level. This vote of confidence will be instrumental as KM3NeT

rapidly moves forward on the realisation of the envisaged research facility.”

APPEC Chair, Frank Linde said: “As APPEC Chair, I am incredibly pleased and proud to see both CTA and KM3NeT 2.0 selected as ESFRI Projects; I quote: ‘... selected for scientific excellence and maturity ...’. Their timely realization is amongst APPEC’s top priorities and will allow us to probe deeper in the mysteries of the extreme Universe. KM3NeT 2.0 has a good chance to resolve the neutrino mass hierarchy and with some luck CTA and/or KM3NeT could pinpoint spots in the Universe where Dark Matter annihilates itself!”

The launch event was webcast and [will be available for view again at ESFRI website](#).

Meanwhile, KM3NeT and Hyper Kamiokande [have signed a memorandum of understanding](#).

India approves construction of the third LIGO observatory

Following the announcement of the direct detection of gravitational waves, LIGO issued a press release announcing approval from the Indian government for the LIGO-India observatory.

LIGO Laboratory Executive Director, David Reitze said: "This is the step that we've been waiting for. It will allow funding for the LIGO-India project to begin, and commence a number of critical path activities toward getting a detector built in India", he said, adding, "coming on the heels of the Discovery announcement, this has truly been an historic week for LIGO and for the field of gravitational wave astronomy."

[Read the full press release on the LIGO website](#).

The Lake Baikal Three Messenger Conference

APPEC and its transnational partner JINR (Joint Institute for Nuclear Research) in Dubna, the Institute for Nuclear Research of the Russian Academy of Sciences together with the Lomonosov State University in Moscow, and the Irkutsk State University are inviting astroparticle physicists and colleagues from neighbouring fields to attend the Lake Baikal Three Messenger Conference.



The conference will provide an opportunity to discuss how to confine nature and underlying physical processes in the non-thermal universe by making use of the three astroparticle messengers along with the multi-discipline and wavelength measurements and the theory. Scientific results achieved with current

astroparticle experiments will be shown and discussed together with upcoming experimental opportunities in Russia, Europe and worldwide. A detailed look shall also be taken on capabilities of existing common analysis frameworks, alert systems, and future requirements. This conference will offer an opportunity for astroparticle physics community in Europe, Russia and worldwide to foster the cooperation on astroparticle infrastructure projects taking data for the three messengers.

Information and registration: <https://indico.desy.de/event/baikal16>

Location: Крестовая падь <http://www.krestovayapad.ru>

APPEC Contact: appec@desy.de

To include a news item, event, or meeting in the APPEC Newsletter, please [email Ruth McAvinia, APPEC Communications and Outreach Coordinator](#).

EVENTS & MEETINGS:

APPEC TOWN MEETING - FINAL DAYS FOR REGISTRATION

- [APPEC Town Meeting](#)
Paris, 6-7 April 2016.

- [Contested Astrophysics](#)
Dublin, 12-14 April 2016.
- [12th Patras Workshop on Axions, WIMPs and WISPs](#)
Jeju Island, 20-24 June 2016.
- [Neutrino 2016](#)
London, 4-9 July 2016.
- [ISAPP Summer Institute on 'Using particle physics to understand and image the Earth'](#)
L'Aquila, 11-21 July 2016.
- [Lake Baikal Three Messenger Conference](#)
Listvyanka, 29 August - 2 September 2016.

RECENTLY IN THE NEWS:

- [DUNE prototype up and running](#)
Symmetry Magazine, 16 February 2016
- [IceCube crew settles in for winter](#)
IceCube website, 24 February 2016
- [CTA construction update](#)
Cherenkov Telescope Array website, 29 February 2016
- [LISA Pathfinder science operations begin](#)
ESA SciTech website, 8 March 2016
- [IceCube masterclass in Belgium, Germany, and US](#)
IceCube website, 14 March 2016
- [H.E.S.S. discovers source accelerating Galactic cosmic rays to unprecedented energy at centre of Milky Way](#)
CNRS website, 16 March 2016, see paper in full in [Nature](#)

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