

## Newsletter April 2014

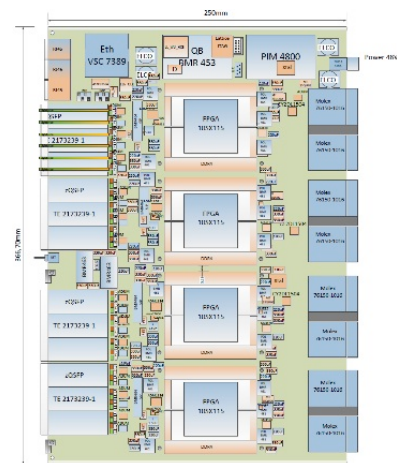
### RadioNet3 Newsletter

#### April 2014

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### Recent progress by the Join Research Activity UniBoard2

The RadioNet3 Join Research Activity UniBoard2 aims at to create an FPGA-based, generic, scalable, high-performance computing platform for radio-astronomical applications. The goal is to create a completely re-designed platform with several innovative features, that will be ready for the next generation of astronomical instruments (notably the SKA), at the end of 2015. Power efficiency is going to be a crucial issue for future instrumentation. For this platform the newest technology available on the timescale of the project is used. With the final choices of devices and high-level design made, the UniBoard2 project entered a new phase in 2014. Four Altera Arria10 FPGAs were ordered, and the hardware design is now in full swing.



With the final choices of devices and high-level design made, the UniBoard2 project entered a new phase in 2014. Four Altera Arria10 FPGAs were ordered, and the hardware design is now in full swing. More than 80% of the schematic is complete, and ASTRON and JIVE engineers are busy with pin checking. This will be followed by the creation of a suite of test firmware, which will have to be in place before the prototype board is delivered (3rd quarter of 2014).

Meanwhile, the other project partners have put in a considerable amount of effort to deliver a number of firmware design documents, and the first implementations of various board personalities are beginning to take shape

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### RadioNet3 Science Working Group: an impressive coordination for the dissemination of knowledge and scientific results

The RadioNet3 Networking Activities aim at to transform the way science is conducted in Europe. They are a forum for discussion, collaboration, and organization of specialized events, and training. NAs provide financial support for the organization of events and provide travel grants to join the meetings.

The Science Working Group is the NA in charge for the central coordination of the dissemination of knowledge and scientific results. Below the report on the events supported in 2014.

Six important events in the 2014 NA3-Science Working Group calendar have already taken place. The conferences on "Transformational Science with SKA" (held in Stellenbosch) and "Gas and Stars in Galaxies, a multi-wavelength 3D perspective" (held in Garching) brought together more than 150 people from all over the world, to address frontier astrophysics, now performed with new generation telescopes and interferometers, including exciting early results from the SKA precursors. LOFAR and

e-MERLIN played a crucial role, and first results from both radio interferometers were delivered to the community during the LOFAR Science meeting and the e-MERLIN science meeting. The "small" BOlogna High Energy MEeting (BOHEME) turned out to be not so small, with almost 90 participants. It was clear from the meeting that the synergy between the radio Very Long Baseline Interferometry (VLBI) and high energy observatories is stronger than ever in the AGN science, and it is proving to be crucial in our understanding of the origin of the radio and gamma-ray emission in nearby and distant AGNs. The scientific activity of the first months in 2014 clearly shows that "the future" in radio astronomy we talked about only a couple of years ago, is now bright and exciting "present".

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## The Third International VLBI Technology Workshop

The first announcement of "The Third International VLBI Technology Workshop" was recently released.

The workshop will be hosted by the Joint Institute for VLBI in Europe and take place from November 10 to 13, 2014, in Groningen, the Netherlands; the venue of the second day will be Dwingeloo, where the headquarters of JIVE and its host insitute ASTRON are located.

The International VLBI Technology Workshops have evolved from the highly successful 10-year series of International e-VLBI workshops. The expanded scope of the technology workshops aims to encompass all areas of hardware or software development relevant to VLBI. In particular, though, development of global e-VLBI still features prominently and with it the close collaboration VLBI has developed over the years with national and international research network providers.

The third workshop in this series will feature two days of "traditional" VLBI topics, such as receivers, digital backends, recording equipment, and e-transport. This will be followed by one day focused on frequency and clock transfers over public networks and current and future data transport challenges. Because the interest in these topics is by no means limited to VLBI, a number of speakers from related fields will also be invited. The final day of the workshop will consist of a half-day NREN - radio astronomy session, organized by DANTE, the operator of the pan-European GEANT network.

Important dates:

June 15: Second announcement

September 1: Abstract deadline

October 1: Registration deadline

More information will be available on [www.jive.nl/ivtw2014](http://www.jive.nl/ivtw2014)

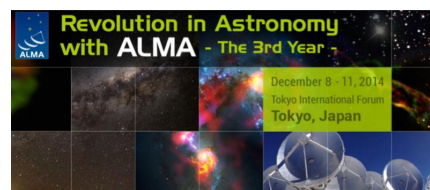
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## Revolution in Astronomy with ALMA - The Third Year

The Atacama Large Millimeter/submillimeter Array (ALMA) has been producing a growing number of impressive and transformational science results as the most powerful mm/submm interferometer in the world. Tokyo International Forum, Tokyo, Japan, will host the conference "Revolution in Astronomy with ALMA - The Third Year" on December 8 - 11, 2014.

This four-day conference is to highlight the science results from ALMA obtained during the first three



years of science operations.

The science topics include all fields of astronomy: cosmology and galaxies in the distant Universe, nearby galaxies and the Galactic Center, ISM and star formation in our own galaxy, astrochemistry, circumstellar disks, exoplanets, solar system, stellar evolution, solar physics, and fundamental physics.

This conference will feature invited/contributed talks, poster sessions, and an optional full day excursion. Young researchers and students are particularly encouraged to attend the meeting.

Please visit the preliminary conference website: <http://www.almasc2014.jp>

More information will be added as the conference dates approach.

Conference Timeline:

2nd circular (registration begins): Early-mid May

Registration deadline for oral contributions: Late August

Registration deadline for poster contribution/attendance only, and payment: Late October

Public Talk: December 7

Conference: December 8-11

Excursion: December 12

Questions and comments should be sent to [info\\_at\\_almasc2014.jp](mailto:info_at_almasc2014.jp) (replace `_at_` with `@`)

SOC Chair: Ken Tatematsu (NAOJ)

LOC Chair: Daisuke Iono (NAOJ)

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### NA ERATec: EVN Technical Operation Group

The European VLBI Network (EVN), Technical & Operations Group (TOG) meetings represent the main basis on which engineering collaborations are built, and they form the foundation for the successful operation of the EVN. The next TOG meeting of the EVN has been announced to be held in Cagliari, Italy on 5-6 October 2014. The meeting is organized in connection to the 12th European VLBI Network Symposium.



The next EVN-TOG Meeting will be held in Cagliari, Italy, on October 6. In addition, there will be a visit to the Sardinia Radio Telescope on October 5. Note that the TOG dinner will also take place on October 5. A limited travel support for this meeting can be given by RadioNet3 on special request to Michael Lindqvist before July 1.

More details concerning logistics, registration and program etc can be found here:

<http://evn-tog-sardinia-2014.oa-cagliari.inaf.it/>

The agenda etc for the TOG-meeting will/can be found here:

<http://www.radionet-eu.org/radionet3wiki/doku.php?id=na:eratec:tog:tog-meeting-04>

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### NA Spectrum: CRAF

The next Committee on Radio Astronomy Frequencies (CRAF) meeting will take place May 21-23 at ASTRON, The Netherlands. More information will follow. CRAF coordinates activities to keep the frequency bands used by radio astronomy and space sciences free from interference.

More information at <http://www.craf.eu/>