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First Announcement of the

4th RadioNet3 European Radio Astronomy Technical Forum Workshop

Multi-Frequency mm-wave Radio Telescopes

&

Other Software Controlled Operations

October 5 – 7, 2015

National Institute for Astrophysics,

Arcetri Astrophysical Observatory,

Florence, Italy

Information and registration on this ERATec Workshop can be found on our webpage:

http://www.ira.inaf.it/eratec/florence

General contact: *eratec@ira.inaf.it*

Dear Colleagues,

We are pleased to announce the 4th RadioNet3 European Radio Astronomy Technical Forum Workshop. This event will take place from Monday, October 5, 09:00, until Wednesday October 7, 2015, 17:00, at the INAF - Arcetri Astrophysical Observatory, in Florence, Italy. There will be a workshop dinner on Tuesday 20:00h.

This meeting is a continuation of a series of technical workshops combining several aspects of engineering and operational issues at European radio observatories. It provides the unique opportunity to cross border the different communities and to learn what 'the others' are doing and enhance communication between engineers, scientists and operators.

The Workshop is sponsored and organized by the EU Consortium RadioNet3 within the Seventh Framework Programme of the European Commission. Engineers, scientists, and operators working at, and observing with, our radio telescopes are welcome to present their interesting work in an oral or poster presentation.

For information on past meetings in this series see
http://www.radionet-eu.org/fp7wiki/doku.php?id=na:engineering:ew

TOPICS OF THIS WORKSHOP

The workshop will provide an opportunity for joint discussions between scientists and engineers about the benefits of enabling simultaneous or near-simultaneous high frequency VLBI observations with radio telescopes. This capability results in:

a) more effective use of observing time for monitoring projects which benefit from observations at multiple frequencies;

b) a direct improvement in the sensitivity of observations at high frequencies, through a significant increase in the coherence time, and

c) the enabling of high precision "bona fide" astrometry, in the frequency domain, at mm wavelengths.

This workshop will also provide a platform for new and approved procedures for software controlled operations of radio telescopes. Operating single dish as well as interferometer based radio astronomy observatories requires sophisticated computer control of the entire telescope system. The software hereto was historically written at the various institutes leading to a huge variety of hardware control, operation and data analysis software.

Some topics to address are the following:

For the Implementation of (near) Simultaneous observations at mm-wave bands:

- mm-VLBI Studies and Key Science Case(s):
  - Astronomical Studies using continuum and spectral line observations
  - Analysis Methods and Results from current instruments using multi-frequency observations
- Defining science driven requirements
  - Achievable sensitivity and mapping fidelity
  - Simulation studies of the performance of a multi-frequency mm-VLBI network of European telescopes
- Exploring the engineering possibilities:
  - Existing technical solutions for simultaneous multi-frequency observations;
  - Possibilities of technical solutions for other sites.
- Plan for a realisation of a European network.

For the Software Control of Radio Telescopes section:

- Effective utilisation of radio telescopes:
  - Dynamic scheduling
  - Remote observing
  - Automated observing
- Observing modes:
  - On the Fly Mapping
  - Large surveys
- Software at Radio Observatories:

- Telescope control software
- Data reduction software for single dish data
- Calibration of single dish data
- Archives and accessibility

Confirmed Invited Speakers on these topics are:

Mikael Lerner (OSO) Telescope Control Software
Pablo de Vicente (CDT-IGN) The control system of the Yebes OAN Antenna
Maria J. Rioja (OAN/ICRAR) Analysis Methods for Multi-Frequency observations
Heiko Hafok (MPIfR), APEX Control Software
Hans Ungerechts (IRAM) Control system and observing modes at the IRAM 30m
Paul Harrison (JBO) The e-MERLIN control software
Alexander Neidhardt (FESG/TUM) e-RemoteCtrl for VLBI
Seog-Tae Han (KVN) QO system of KVN for mm-VLBI
Jose Luis Gomez (IAA) Science Drivers from AGN Jets
Thomas Krichbaum (MPIfR) Current mm-VLBI array(s)
Andrei Lobanov, (MPIfR) Characterization of the performance of mm-VLBI arrays
Alessandro Orfei (IRA-INAF) Multi-frequency observations using multifeed systems
Robert Laing (ESO) ALMA for VLBI

REGISTRATION

Registration for the Symposium should be done through the ERATec website before

September 1, 2015.

Please have a look on our workshop site for updated information:
http://www.ira.inaf.it/eratec/florence

ABSTRACT SUBMISSION

The meeting will be informal and should offer lots of time for discussions. Each presentation is limited to a maximum of about 20 minutes with an additional 10 minutes for discussion.

Deadline for abstract submission is

September 1, 2015

By this date we need the title of your talk or poster presentation and a comprehensive abstract to be published in the workshop handout submitted to *eratec@ira.inaf.it*.

PROCEEDINGS

The abstracts will be made available as a workshop worksheet. Speakers will be asked to send a short abstract through the corresponding submission tool of the Workshop website by the abstract submission deadline and to provide an authorized copy of their presentation for publishing on the RadioNet3 Web pages soon after the presentation of their contributions.

VENUE

The meeting will take place in Aula A of the Department of Physics and Astronomy "Garbasso building" in Largo Enrico Fermi, 2 - Florence. Please note that the Department is 300 m far from the headquarter of the Arcetri Astrophysical Observatory.

Information on how to get the Arcetri Astrophysical Observatory can be found in the webpage: http://www.arcetri.astro.it/en/about-us/how-to-reach-us.

ACCOMMODATION

Accommodation information (hotel, booking) can be found on the workshop pages http://www.ira.inaf.it/eratec/florence. Approximately 30 rooms have been pre-booked among the following hotels:

A) Classic hotel (***): http://www.classichotel.it/.
   Prices (euro): Single room=70 (78 with breakfast), double room used as a single room=80 (88 with breakfast), double room=105 (121 with breakfast).
   Walking distance to reach the venue: 20 minutes.

B) Betania hotel (***): http://www.villabetania.it/.
   Prices (euro): Double room used as a single room with breakfast=121.55, double room with breakfast=126.65.
   Walking distance to reach the venue: 10 minutes.

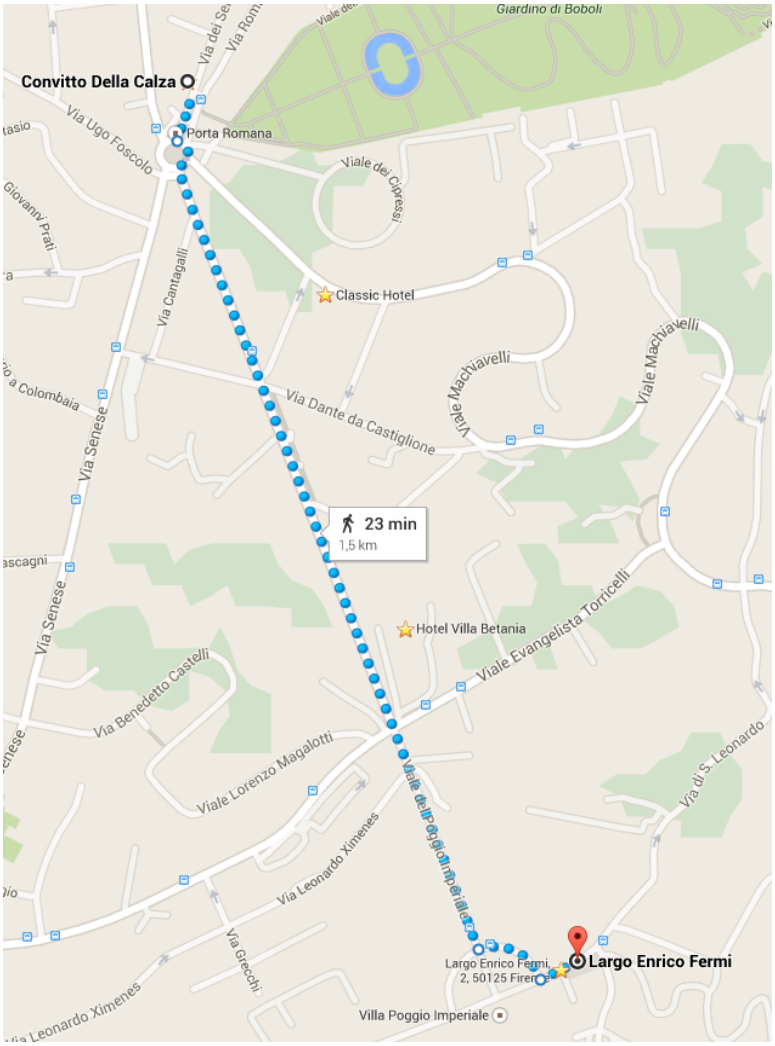
C) Convitto della Calza (***): http://www.calza.it/.
   Prices (euro): Double room used as a single room with breakfast=89, double room with breakfast=104.
   Walking distance to reach the venue: 23 minutes.

In order to get the discounted price use the promotional code “ERATEC”. The block reservation is valid until:

July 31, 2015

Please beware that the hotels do not hold the rooms any longer than this date.

You can find a public bus service (number 38 A) provided by ATAF from Piazza della Calza to Largo E. Fermi (http://www.ataf.net/en/timetables-and-routes/timetables-and-routes/line-38.aspx?idC=180&idO=0&Linea=38&LN=en-US). In the morning, the bus leaves from Piazza della Calza around 8:10, 8:25 and 9:25.



FINANCIAL ASSISTANCE

Limited financial assistance will be provided for speakers and attendees. Please contact us under *eratec@ira.inaf.it* before registration for more information. Please beware that for final budgeting reasons your final travel claims have to be signed by the ERATec chair latest on

October 16, 2015.

ORGANISATION

SOC:

Marco Bartolini (INAF-IRA)

Pietro Bolli (INAF-OAA)

Richard Dodson (ICRAR)

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