



H2020 Grant Agreement No. 730562 – RadioNet

<u>PROJECT TITLE:</u>	Advanced Radio Astronomy in Europe
<u>STARTING DATE</u>	01/01/2017
<u>DURATION:</u>	48 months
<u>CALL IDENTIFIER:</u>	H2020-INFRAIA-2016-1
<u>TOPIC:</u>	INFRAIA-01-2016-2017 Integrating Activities for Advanced Communities



Deliverable 2.5

YERAC 2

Due date of deliverable: 2019-04-20

Actual submission date: 2018-03-05

Leading Partner: CHALMERS TEKNISKA HOEGSKOLA AB (OSO)

Document information

Document name:	YERAC 2
Type	Report
WP	WP2 – Dissemination
Version date:	2018-02-??
Authors (Institutes)	Michael Lindqvist (OSO)

Dissemination Level

Dissemination Level		
PU	Public	X
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

Index

1	INTRODUCTION	3
2	AGENDA OF THE EVENT	4
3	PARTICIPANTS	6
4	IMPACT	6
5	RADIONET CONTRIBUTION	7
6	PUBLICATIONS	7

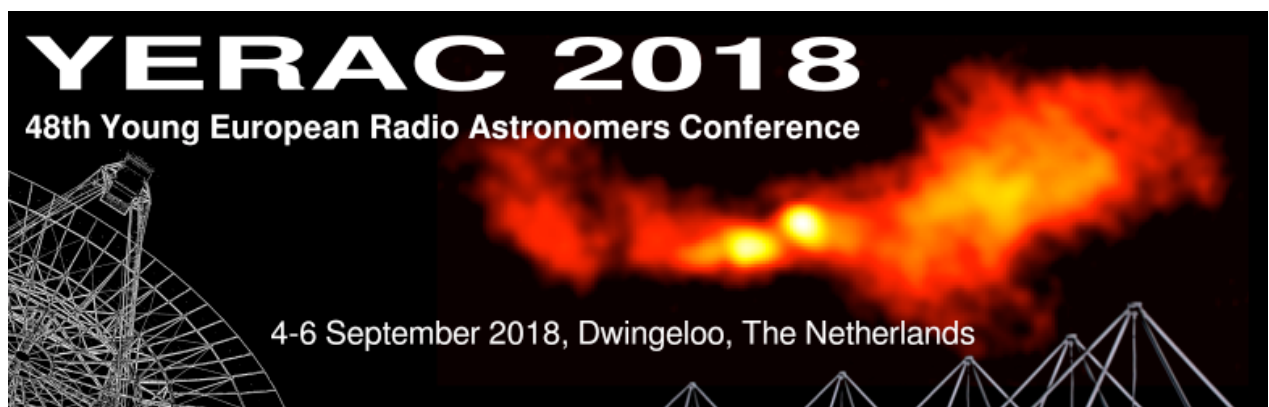
1 Introduction

The Young European Radio Astronomers Conference - YERAC (<http://www.yerac.org/>) is a long-standing tradition in the European radio astronomical community. Originally thought as a meeting, which would give young researchers and doctoral students the chance to present their research to the community and to connect with the generation of young radio astronomers in Europe. YERAC has preserved its scope and format since 1968, when it was first held. For this reason, the YERAC is much more than a regular science meeting, and its scope is not limited to the dissemination of science, but it involves also building up collaborations, and even “friendship” among young researchers. Due to the nature of its infrastructures, the radio community worldwide has its strength in the unprecedented level of collaboration among people and partner institutes, and one of the scopes of YERAC - to ensure this will - continue in the future. As a further signature of the relevance of cooperation and collaboration among the European radio observatories and institutes, each year the YERAC is hosted by a different Institution.

Since 2004, RadioNet – an EU funded collaboration network of radio observatories and other research infrastructures in radio astronomy, has been supporting YERAC financially and logistically, thus securing the tradition of YERAC at least until 2020, when the present RadioNet funding period ends.

RadioNet actively supports the organisation of YERAC by finding a suitable host, an organizing committee, in addition to the financial support covering most of the organisational expenses. RadioNet provides also limited travel support to the participants from less developed countries. In the last 15 years, RadioNet has allowed early-career researchers from Ukraine, South Africa, Nigeria, and Brazil to attend YERAC beside their European colleagues. RadioNet assures also a long-term archive of all documents.

The YERAC 2018 was hosted by JIV-ERIC and NWO-I/ASTRON in Dwingeloo (NL) on September 4-6, 2018, the web page for the event can be found here: <http://www.jive.eu/yerac2018/>



2 Agenda of the event

2018-09-03		
18:00		Welcome reception at Fletcher hotel De Borken
2018-09-04		
08:30		Registration at JIV-ERIC / NWO-I/ASTRON
09:00	Carole Jackson & Zsolt Paragi	Welcome address
09:20	Ihor Kravtsov	The northern sky survey in order to find sporadic radio emission sources in decameter wave range
09:40	Willice Obonyo	A search for non-thermal radio emission from jets of massive young stellar objects
10:00	Thalia Traianou	Resolving the innermost jet region of radio quasars 3C454.3 and TXS 2013+370
10:20	Joe Hanson	Investigating cosmic magnetism with machine learning
10:40		Coffee
11:10	Benito Marcote	Invited: Science with the European VLBI Network (EVN)
11:50	Emanuela Orr	Invited: Science with the Low-Frequency Array (LOFAR)
12:30	Harry van der Laan	1968-2018: European Radio Astronomy Then and Now
12:40		Group Photo
13:00		Lunch
14:10		Parallel tours LOFAR control room, EVN correlator
15:10	Mykola Shevchuk	Comparative analysis of the solar decameter spikes and striae
15:30	Isaac Mutie	Fuelling star-formation and accretion in galaxies - tracing dense, molecular gas
15:50	Tonye Irabor	A radio selected sample of planetary nebulae
16:10		Coffee
16:40	Kelly Gourджи	Low-frequency radio follow-up of gravitational wave merger events with LOFAR
17:00	Charitharth Vyas	Fuel for the Milky Way star formation: Tracing the high Galactic latitude molecular clouds
17:20	Nicola Locatelli	Assessing the magnetic cosmic web nearby galaxy cluster Abell 2744
19:00		Dinner at Bospub
2018-09-05		
09:00	Mukul Mhaskey	Extragalactic radio sources with sharply inverted spectrum at metre wavelengths
09:20	Andrey Kazantsev	Giant radio pulses from pulsars: observation and investigation
09:40	Enrique Sanchis	Modeling circumstellar disk observations for effective radii determination
10:00	Fernando Rico	Witnessing the early stages of the formation of super star clusters in the nucleus of NGC253
10:20		Coffee
11:00	Hyoyin Gan	Exploring subtle artefacts in data calibration of LOFAR
11:20	Katarzyna Dutkowska	Infrared and 22 GHz water emission associated with a Sun-like protostars

11:40	Nasrin Talebpour Sheshvan	Study of the directivity of compact interplanetary radio type IV bursts
12:00	Maria Timirkееva	Radio pulsars with expected gamma-ray radiation and gamma-ray pulsars as pulsating radio emitters
12:20		Lunch
13:30	Gina Maffey / Iris Nijman	Science communication workshop I
14:30		Coffee
15:00	Gina Maffey / Iris Nijman	Science communication workshop II
16:00		Bike or walk to Fletcher hotel De Borken
16:30		From the Hotel: departure by bus for Excursion to the Westerbork Synthesis Radio Telescope
17:15		Tour of the Westerbork Synthesis Radio Telescope
19:00		Conference dinner at restaurant De Warrel in Westerbork
2018-09-06		
09:00	Parichay Mazumdar	LASMA (13CO, J=3D 3-2) survey of the Milky Way
09:20	Henryk Haniewicz	PSR J1829+2456: A double neutron star system with measured masses
09:40	Hongming Tang	Convolutional neural network for giant radio galaxy (GRG) identification
10:00	Suma Murthy	Feedback from low luminosity radio AGNs: A case study of B2 0258+35
10:20		Coffee
11:00	Jordan Molet	Molecular complexity in the star forming region W43-MM1
11:20	Marilyn Cruces	Follow-up of FAST pulsar discoveries
11:40	Aleksandr Popkov	Relation between broad-band radio spectra and parsec-scale structure of extragalactic radio sources
12:00	Janis Steinbergs	First VLBI maser observations in Irbene - Torun baseline
12:20		Lunch
13:30		Tour NOVA Optical InfraRed Instrumentation group
14:50	Raeesa Parker	Categorising protoplanetary disc asymmetries observed with ALMA
15:10	Xiaojin Liu	High-precision pulsar timing and the motion of the pulsar in our Galaxy
15:30		Coffee
16:00	Nhlakanipho, Kwazi Mthembu	Calibrating HERA-19 with a Galactic centre observation
16:20	Valeria Olivares	ALMA observations of cold molecular gas in brightest cluster of galaxies
16:40	Aoife Maria Ryan	Imaging the solar corona during the March 2015 solar eclipse at low frequencies using LOFAR
17:00	LOC	Concluding remarks
17:30	LOC	Pub Quiz
19:00		Dinner at JIV-ERIC / NWO-I/ASTRON

3 Participants

The total number of participants in the conference was 30 (the details on participants are given on the following webpage <http://www.jive.eu/yerac2018/participants.php>). Selection was done using a letter of reference (no letter implied no participation), and suitability of the candidates (early career and radio astronomical research).

In addition, specific attention was given to diversity and accessibility of the meeting. The final group of early researches contained over 1/3 women and several native African astronomers. The nationalities are widely spanned; their current institutes being well distributed within Europe. The LOC ensured that a diverse group of local early career researchers was involved in chairing the sessions and guiding the tours. The LOC consisted of Ilse van Bemmel (JIV-ERIC, chair), Katharina Immer (JIV-ERIC, vice-chair), Gina Maffey (JIV-ERIC), Yvonne Kool (JIV-ERIC), Marjan Tibbe (NWO-I/ASTRON) and Robert Schulz (NWO-I/ASTRON).

The group photo is given in Fig. 1.



Figure 1. YERAC2018 group photo

4 Impact

YERAC 2018 had a significant impact on the community of young radio astronomers. Harry van der Laan, one of the YERAC initiators, contributed a presentation on YERAC history. This made the participants aware of the fact that the YERAC is not just a conference, but also a milestone in the initial career of any radio astronomer. In fact, the meeting provides a major contribution to build up a “community awareness”.

Naturally, there was a large spread in science topics. It became clear that machine learning and advanced computing technologies are a growing big part of radio astronomy, especially for big-data instruments such as LOFAR. Another potential high impact of YERAC is the link to African astronomy, which ties in with projects such as Development in Africa with Radio Astronomy (DARA), JUMPING JIVE, Square Kilometre Array and the African VLBI Network.

Examples of scientific highlights presented by the students include:

- Strategies for follow-up of gravitational wave merger events with LOFAR.
- A case study using VLBI of the gamma-ray flaring events which occurred in the compact blazar TXS 2013+370 during the period 2003-2017.
- A study of the effective radii of dusty planet forming disks in the star forming region Lupus.
- Determination of fundamental parameters in PSR J1829+2456, double neutron star system.
- How to categorise protoplanetary disc asymmetries observed with ALMA.
- Early science from LASMA survey of the inner Milky Way in 12/13CO (J=3-2) performed with the APEX.
- How to find and use a radio-selected sample of PNe from the Co-Ordinated Radio 'N' Infrared Survey for High-mass star formation (CORNISH) survey.

During the entire event, there was active involvement on social media. The tag #YERAC2018 leads to the majority of posts on Twitter and Facebook. The event resulted in a dedicated Facebook group for all the participants to keep in touch.

Finally, the participants became aware of the relevance of RadioNet and its infrastructures.

5 RadioNet contribution

The RadioNet contribution of € 8.015,73 was used to provide shared accommodation (two persons per room) and local organization cost such e.g. transportation to and from the nearby train station in Hoogeveen, local transportation in the form of rental bikes, transportation for the tour to the Westerbork Synthesis Radio Telescope.

6 Publications

There will be no publications from the meeting. The abstracts for the YERAC2018 can be found here: <http://jive.eu/yerac2018/abstracts.php#10>

The guide for YERAC organisers has been updated accordingly to the new experiences: https://radiowiki.mpifr-bonn.mpg.de/lib/exe/fetch.php?media=na:dissemination:yerac-guide-for-organisers_181217.pdf

Copyright

© Copyright 2019 RadioNet

This document has been produced within the scope of the RadioNet Project.

The utilization and release of this document is subject to the conditions of the contract within the Horizon2020 programme, contract no. 730562