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YERAC 1

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1 Introduction

The Young European Radio Astronomers Conference - YERAC 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.

To avoid duplication of work and to increase efficiency – RadioNet has created a manual – a living document- as a starting point for each YERAC organiser. The preservation of YERAC has been identified as one of the long-term perspective goals of the RadioNet community. RadioNet's support ensures continuity whilst maintaining the unique atmosphere in which young researchers are able to give talks and enter discussions in an informal atmosphere. YERAC has also been a showcase for the host institutes to advertise their facilities and their expertise. This initiated sometimes long lasting scientific and technological collaborations.

The Istituto di Radioastronomia (INAF) organized the YERAC in 1972, 1980 and 1996 and the 47th YERAC on September 18-21, 2017 in Bologna. The scientific topics ranged from filaments in the Cosmic Web to the Sun, from theoretical astrophysics to software and technological development. The 34 presentations were divided into seven sessions, as follows:

[1] Galaxy Clusters and Cosmic Web;
[2] QSO's and radio jets;
[3] Radio Galaxies: environment and evolution;
[4] Stellar objects and stellar evolution;
[5] Interstellar medium and star formation;
[6] The Sun;
[7] Technology and development.

The meeting started with a 20-minute presentation from Prof. van der Laan, one of the three founders of YERAC, back in 1967. He provided an overview of the concept of YERAC, and underlined how impressive it is that it has been going on almost without interruption. He drew the attention of the audience to the unforeseeable evolution that radio astronomy has gone through over the past half century. The participants have truly appreciated his overview. The meeting ended with two presentations from host members, i.e. a conference on the facilities of the host Institute, and a presentation on the "co(s)mic" evolution of radio astronomers, whose aim was to show that indeed YERAC is the place where the "leaders-to-be" are found, in a-posteriori process. The last day of the meeting was spent in Medicina, to show the radio astronomical observatory and its facilities, the laboratory and the Visitors' Centre.

All YERAC participants are involved in hot topics and top-level projects, which involve either the current radio facilities or preparatory work for the exploitation of the forthcoming facilities. Therefore the meeting has really been a window on the future of radio astronomy. All presentations have been of outstanding level, which is a major evolution compared to years ago, where participants were on average shy and fairly inexperienced.

The web page of the event is http://indico.ira.inaf.it/event/4/

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2 Agenda of the event

Monday 18/09/2017

09:30 Welcome and introduction T. VENTURI
09:40 Radio Astronomy 50 years ago and the conception of YERAC H. van der LAAN
10:00 Detecting HI emission from the IGM in large scale filaments with current and future radio telescopes Mr. R. KOOISTRA
10:30 Probing diffuse radio emission in galaxy clusters with LOFAR Mr. A. BOTTEON
Coffee break
11:30 BCGs radio analysis from a EGMRT and CLASH sample of galaxy clusters Mrs. B. TERNI DE GREGORY
12:00 An unbiased mass-selected sample of galaxy clusters: new statistical constraints Ms. V. CUCITI
12:30 A combined JVLA and Chandra study of the Abell 2626 galaxy cluster Mr. Alessandro IGNESTI
Lunch break
14:30 Analysis of the rapid variability in the Q2237+0305 gravitationally lensed quasar Dr. L. BERDINA
15:00 Evidence for large scale toroidal magnetic field components in the jets of active galaxies Mr. S. KNUETTEL
15:30 Phase-referencing measurements of positional shifts in ultra-compact AGN cores Dr. R. AZULAY
Coffee break
16:30 Total and linearly polarized synchrotron emission from magnetized overpressured relativistic jets Mr. A. FUENTES
17:00 Time Variability of the Core-Shift Effect in the Blazar 3C454.3 Ms. W. CHAMANI

Tuesday 19/09/2017

09:00 Multi-frequency polarimetry of a complete sample of PACO radio sources Mr. V. GALLUZZI
09:30 Measuring the Core Shift of Sgr A* Mr. I. CHO
10:00 Radio galaxies with LOFAR: relic emission from opposites scales Ms. C ROSKOWINSKI
Coffee break
11:00 The gaseous environment of radio galaxies Ms. L. VAN SON
11:30 The AGN fueling/feedback cycle: a multi-component study of a sample of local Radio Galaxies Mrs. I. RUFFA
12:00 Dying radio galaxies in the Lockman Hole Ms. N. JURLIN
Lunch break
14:00 The flow of baryons through galaxies Mrs. Anne KLITSCH
14:30 Sub-arcsecond LOFAR imaging of the nearby LIRG Arp299 Ms. N. RAMÍREZ-OLIVENCIA
15:00 Galaxy structure and dark matter in the KiDS survey Ms. M. A. RAJ
Coffee break
16:00 The energy distribution of electrons in radio jets Mr. A. TSOUROS
16:30 The SCORPIO project: Stellar Radio emission in the SKA era Dr. F. CAVALLARO

Wednesday 20/09/2017

09:00 Two special GPS pulsars: J1740+1000 and B1800-21 Mrs K. Rozko
09:30 Radio emission in ultracool dwarfs: the nearby planetary system VHS 1256-1257 Mr. J. Bautista CLIMENT OLIVER
10:00 Dust evolution in HD163296: a path to planet formation Ms. G. GUIDI
Coffee break
11:00 Measuring RM variations with LOFAR: ISM vs ionosphere Ms. N PORAYKO
11:30 ALMA survey of astrochemical species around High mass protostars Mrs. N ASABRE FRIMPONG
12:00 On the reservoir of sulphur in dark clouds: chemistry and elemental abundance reconciled Mr. T. VIDAL
Lunch break
14:00 Nitrogen fractionation in high-mass star forming cores and its Galactic trend Ms. L COLZI
14:30 Observations the eruptive filament in the range of 4-8 GHz at the Siberian Radioheliograph Ms. A. FEDOTOVA
15:00 Analysis of an interference affecting the data of the Siberian Radioheliograph Ms. V. KOBETS
15:30 Study of the double plasma resonance instability generating solar radio zebras Mr. J. BENÁČEK
Coffee break

Thursday 21/09/2017

09:00 Bus departs from Bologna 09.45 - Bus arrives in Medicina
Coffee break
10:30 Unleashing the MeerKAT: early continuum L-Band imaging of the southern skies Mr. B. HUGO
11:00 Receiver technology for radio astronomy and deep-space communications Mr. A. POLLAK
11:30 New technologies for the future radio telescope: SKA Mr. S. RUSTICELLI
Lunch break
14:00 An overview of the Radio Astronomical station. Operations and technical developments. (S. Righini)
14:30 Co(s)mic evolution of radio astronomers (D. Dallacasa, UniBo)
15:00 Tour of the radio astronomical station
16:30 Refreshments
17:30 Bus returns to Bologna

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3 Participants

The meeting gathered a total of 34 students coming from about 28 institutes throughout Europe, South Africa and Korea. The gender distribution was almost equally split between men and women, with 19 females and 15 males. The conference picture was taken at the Medicina Radio Observatory. More pictures taken in Medicina can be found at the link:

https://radiowiki.mpifr-bonn.mpg.de/lib/exe/fetch.php?media=na:yerac_2017_pictures.zip

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02 October 2017, 08:04

Young European Radioastronomers Conference

List of registrants

Name	Email	Institution	Country	Accommodation	Arrival Date	Departure Date	Would you like to receive the RadioNet newsletter?
Mrs. ASABRE FRIMPONG, Naomi	naomi.asabrefrimpong@postgrad.manchester.ac.uk	University of Manchester	United Kingdom	We_Bologna Hostel	16-September-2017	22-September-2017	Yes
Dr. AZULAY, Rebecca	azulay@mpifr-bonn.mpg.de	Max Planck Institute for Radio Astronomy	Germany	We_Bologna Hostel	18-September-2017	22-September-2017	Yes
Mr. BENÁČEK, Jan	jbenacek@physics.muni.cz	Masaryk University	Czech Republic	We_Bologna Hostel	16-September-2017	22-September-2017	Yes
Dr. BERDINA, Liudmyla	laberdina@gmail.com	Institute of Radio Astronomy NAS of Ukraine	Ukraine	We_Bologna Hostel	17-September-2017	22-September-2017	No
Mr. BOTTEON, Andrea	botteon@ira.inaf.it	INAF-IRA	Italy	I will arrange my own accommodation	18-September-2017	22-September-2017	No
Dr. CAVALLARO, Francesco	francesco.cavallaro@oact.inaf.it	INAF-OACt	Italy	We_Bologna Hostel	17-September-2017	22-September-2017	No
Ms. CHAMANI, Wara	wara.chamani@aalto.fi	Metsähovi Radio Observatory, Aalto University	Finland	We_Bologna Hostel	18-September-2017	22-September-2017	Yes
Mr. CHO, Ilje	ijcho@kasi.re.kr	Korea Astronomy and Space Science Institute	Korea, Republic of	We_Bologna Hostel	17-September-2017	22-September-2017	Yes
Mr. CLIMENT OLIVER, Juan Bautista	j.bautista.climent@uv.es	Universidad de Valencia	Spain	We_Bologna Hostel	18-September-2017	22-September-2017	Yes
Ms. COLZI, Laura	colzi@arcetri.astro.it	University of Florence	Italy	We_Bologna Hostel	17-September-2017	22-September-2017	Yes
Ms. CUCITI, Virginia	vcuciti@ira.inaf.it	INAF-IRA	Italy	I will arrange my own accommodation	18-September-2017	22-September-2017	No
Ms. FEDOTOVA, Anastasiia	fedotovanastya@iszf.irk.ru	Institute of Solar-Terrestrial Physics SB RAS	Russian Federation	We_Bologna Hostel	18-September-2017	22-September-2017	Yes
Mr. FUENTES, Antonio	afuentes@iaa.es	Instituto de Astrofísica de Andalucía - CSIC	Spain	I will arrange my own accommodation	18-September-2017	22-September-2017	No
Mr. GALLUZZI, Vincenzo	vgalluzzi@ira.inaf.it	IRA - INAF/ DiFA Unibo	Italy	I will arrange my own accommodation	16-September-2017	22-September-2017	No
Ms. GUIDI, Greta	guidi@arcetri.inaf.it	INAF Osservatorio Astrofisico di Arcetri/Università degli Studi di Firenze	Italy	I will arrange my own accommodation	18-September-2017	20-September-2017	Yes
Mr. HUGO, Benjamin	bhugo@ska.ac.za	Rhodes University, South Africa	South Africa	We_Bologna Hostel	18-September-2017	22-September-2017	Yes
Mr. IGNESTI, Alessandro	ignesti.alessandro@gmail.com	Università di Bologna	Italy	I will arrange my own accommodation	18-September-2017	22-September-2017	Yes
Ms. JURLIN, Nika	nika@miltonia.com	Kapteyn Institute/ASTRON	Netherlands	We_Bologna Hostel	18-September-2017	22-September-2017	No
Mrs. KLITSCH, Anne	aklitsch@eso.org	European Southern Observatory (Garching), CEA Durham University	Germany	We_Bologna Hostel	18-September-2017	22-September-2017	Yes
Mr. KNUETTEL, Sebastian	s.knuettel@mars.ucc.ie	University College Cork	Ireland	We_Bologna Hostel	16-September-2017	22-September-2017	Yes

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Ms. KOBETS, Veronika	nikakobets@gmail.com	Institute of Solar-Terrestrial Physics (ISTP SB RAS)	Russian Federation	We_Bologna Hostel	18-September-2017	22-September-2017	Yes
Mr. KOOISTRA, Robin	kooistra@astro.rug.nl	Kapteyn Astronomical Institute, University of Groningen	Netherlands	We_Bologna Hostel	17-September-2017	22-September-2017	No
Mr. POLLAK, Alexander	alexander.pollak@physics.ox.ac.uk	University of Oxford	United Kingdom	I will arrange my own accommodation	17-September-2017	22-September-2017	No
Ms. PORAYKO, Nataliya	nporayko@mpifr-bonn.mpg.de	Max PLanck Institute for RadioAstronomy	Germany	We_Bologna Hostel	17-September-2017	22-September-2017	Yes
Ms. RAJ, Maria Angela	mariaangela.raj@oacn.inaf.it	University of Naples, Federico II (INAF Astronomical Observatory of Capodimonte)	Italy	We_Bologna Hostel	17-September-2017	22-September-2017	Yes
Ms. RAMÍREZ-OLIVENCIA Naim	naimro@iaa.es	Instituto de Astrofísica de Andalucía (IAA-CSIC)	Spain	We_Bologna Hostel	18-September-2017	22-September-2017	Yes
Ms. ROSKOWINSKI, Carole	carosko@gmail.com	Torun Center for Astronomy	Poland	We_Bologna Hostel	17-September-2017	22-September-2017	Yes
Ms. ROZKO, Karolina	krozko@gmail.com	Janusz Gil Institute of Astronomy, University of Zielona Gora	Poland	We_Bologna Hostel	18-September-2017	22-September-2017	
Ms. RUFFA, Ilaria	i.ruffa@ira.inaf.it	University of Bologna/ IRA-INAF	Italy	I will arrange my own accommodation	18-September-2017	22-September-2017	Yes
Mr. RUSTICELLI, Simone	s.rusticelli@ira.inaf.it	IRA-INAF	Italy	I will arrange my own accommodation	16-September-2017	22-September-2017	Yes
Mrs. TERNI DE' GREGORY, Beatrice	beatrice.tdg@gmail.com	IRA-INAF Bologna	Italy	I will arrange my own accommodation	18-September-2017	22-September-2017	Yes
Mr. TSOUROS, Alexandros	ph4602@edu.physics.uoc.gr	University of Crete	Greece	We_Bologna Hostel	18-September-2017	22-September-2017	
Ms. VAN SON, Lieke	aac.van.son@gmail.com	aac	Netherlands	We_Bologna Hostel	16-September-2017	22-September-2017	No
Mr. VIDAL, Thomas	thomas.vidal@u-bordeaux.fr	Laboratoire d'Astrophysique de Bordeaux (LAB)	France	We_Bologna Hostel	17-September-2017	22-September-2017	No

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4 RadioNet contribution

The 47th YERAC event received a RadioNet financial support of 9000 Euros. The support was used to provide lodging and breakfast to all participants outside Bologna (28 participants outside Bologna in total) and additionally to provide lunch and coffee to all participants. A support was given to Prof. H. van der Laan, to cover the hotel costs for two nights in Bologna. The remaining costs (bus to and from Medicina) were supported by INAF.

5 Impact

The 47th YERAC had a significant impact on the community of young radio astronomers. Thanks to the introductory presentation given by Prof. van der Laan, participants immediately became aware of the fact that the YERAC is not just a conference, but also a milestone in the initial career of any radio astronomer. It is an event, which provides a major contribution to build up a “community awareness”.

The participants have also become aware of the relevance of RadioNet, which is ensuring continuity in the organization, thanks to the generous financial contribution and to the overall coordination effort of the Science Dissemination working group (WP2.1).

The EC support to the research infrastructures as RadioNet is essential in order to preserve the unique YERAC mission and to address community needs from Europe and beyond.

6 Publications

The book of abstracts can be downloaded under material from the meeting webpage, or using the following direct link: https://indico.ira.inaf.it/event/4/material/1/0.pdf

All presentations are available for download from the event webpage’s timetable (the download icons are located by the name of a speaker) https://indico.ira.inaf.it/event/4/timetable/#20170918

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