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1. Document information

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1.1 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)	

1.2 Content

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2. Report

YERAC took place in Toruń/PL for the third time. The first one was in 1976 and the second in 1987. The city, where the Nicolaus Copernicus was born, is an excellent place where the main aim of YERAC can be fulfilled: “to bring together young radio astronomers working at European institutes, observatories, laboratories and universities in order to provide them with early opportunities for trans border interactions with peers.” as written in “conception of YERAC” by Harry van der Laan.

During this edition of YERAC, we had three days of scientific talks and discussions. About 80% of all presented talks concerned active galactic nuclei (AGNs). We have heard about multi-frequency studies of different groups of AGNs: narrow-line Seyfert 1 galaxies, broad absorption line (BAL) quasars, young compact steep spectrum (CSS) objects and large FRI and FRII galaxies. There were few talks concerning radio halos and radio relics in clusters of galaxies and a few concentrated on a specific radio sources. On Thursday we had a session dedicated to pulsars.

A total of thirty-eight participants came from Europe, Japan, Nigeria, Russia and South Africa to take part in the 44th meeting of young radio astronomers. Three busy days enabled all participants to present the results of their researches as 'talks'. In addition, seven posters were presented. 37% of all participants were female.

All information including abstracts and presentations can be found at:
<http://yerac2014.astro.uni.torun.pl>



**Toruń Centre for Astronomy at the
Nicolaus Copernicus University
hosted the
44th Young European Radio Astronomers Conference
(YERAC)
between 8 and 12 September, 2014.**



Conference photo

NEWS 2014-09-15: Presentations and contributions have been updated.

2.1 Scientific Summary

During this edition of YERAC, three days of scientific talks and discussions were scheduled. About 80% of all presented talks concerned on active galactic nuclei (AGNs). The participants have heard about multifrequency studies of different groups of AGNs: narrow-line Seyfert 1 galaxies, broad absorption line (BAL) quasars, young compact steep spectrum (CSS) objects and large FRI and FRII galaxies. There were few talks concerning radio halos and radio relics in clusters of galaxies and a few concentrated on a specific radio sources. The last was dedicated to pulsars.

In particular the new statistical multi-frequency study of narrow-line Seyfert 1 galaxies will allow astronomers to test the current active galactic nuclei (AGN) paradigm. They also offer a unique opportunity to study the production of relativistic jets in late-type galaxies. Another interesting group of objects discussed during the conference were broad absorption line (BAL) quasars. The extremely fast outflows of ionised plasma present in some quasars are responsible for BALs. Outflows together with jets are two the most important feedback processes in AGNs. Therefore, understanding physics behind BAL outflows might be a key to comprehend Galaxy Evolution as a whole. Discovery of the existence of radio-loud BAL quasars gave us another opportunity to study the BAL phenomenon, this time on the ground on radio emission (Fig. 1). Finally the observations of neutral hydrogen were shown that also provide the great insights in the study of AGNs. Neutral hydrogen has been detected in the very inner regions of several radio galaxies, suggesting it could interact with the radioactivity. Especially in young radio galaxies, the HI, inflowing or outflowing, can regulate the fuelling of the AGN.



Fig. 1 BAL quasar 1430+412, one of the 26 observed with EVN and VLBA (M. Cegłowski).

The observations of maser polarization in the massive star-forming region IRAS22272+6358A have been also performed using EVN and presented at the meeting. The authors detected twenty-three methanol masers. In three masers, they were able to detect linearly polarized

emission and this in turn allowed them to calculate the strength of the magnetic field and its orientation.

2.4 Meeting Photo



Participants of the 44th YERAC in Torun/PL.

2.2 Meeting Programme

Monday, September 8

18:00 Registration & Welcome Reception at the B&B Hotel

Tuesday, September 9

9:00 Magdalena Kunert-Bajraszewska Welcome & RadioNET Info

9:05 Krzysztof Katarzynski Our Radio Astronomy Observatory

1st session on AGNs (chair: Magdalena Kunert-Bajraszewska)

9:30 Filippo MACCAGNI What triggers a radio AGN? The role of the neutral hydrogen in young radio sources.

9:50 Emilia JÄRVELÄ Statistical multifrequency study of Narrow-Line Seyfert 1 galaxies

10:10 Emma KUN Spinning supermassive black hole binaries at the base of extragalactic jets

10:30 – 11:00 Coffee break

2nd session on AGNs (chair: Krzysztof Katarzyński)

11:00 Maciej CEGŁOWSKI BALQSO phenomenon as a hybrid scenario of orientation and

		evolutionary schemes
11:20	Alessandro MAINI	AGN component in Deep Radio Fields
11:40	Timur MUFAKHAROV	Investigation of the BL Lac objects with the RATAN-600 radio telescope. Introducing the RATAN-600 multi-frequency catalogue.
12:00	Brenda NAMUMBA	Evolution of cold gas in active galaxies
12:30 – 14:00 Lunch break		
1st session on radio spectroscopy (chair: Anna Bartkiewicz)		
14:00	Sara CUADRADO	Millimeter molecular line survey of the Orion Bar PDR: Small hydrocarbon molecules.
14:20	Hoai DO THI	The multi-scale environment of RS Cnc from CO and HI observations
14:40	Antonio DÍAZ-PULIDO	Observations of ‘thermal’ SiO emission at $\lambda=7\text{mm}$ ($v=0$, $J=1-0$) from AGB stars
15:00	Enrique GARCIA	Thermal CO, ^{13}CO and H_2O emission in “Water Fountain” stars from Herschel/HIFI observations

15:30 – 16:00 Coffee break**2nd session on radio spectroscopy (chair: Pawel Wolak)**

16:00	Elisabeth KUENZL	Molecular line spectroscopy and extinction mapping of dense cores in a nearby molecular cloud
16:20	Alicia LÓPEZ JIMÉNEZ	Detection of organic molecules towards a massive star forming region
16:40	Luis Henry QUIROGA-NÚÑEZ	EVN observations of maser polarization in the massive star-forming region IRAS22272+6358A
17:00	Aleksandra WOŁOWSKA	Variability of the methanol maser 94.602-1.796

Wednesday, September 10**Joint session on radio spectroscopy and galaxy clusters (chair: Bartosz Lew)**

9:00	Karina SKIRMANTE	The first results of OH spectrum lines detection from the dwarf planet Ceres with Irbene RT32
9:20	Volker WEISS	The radio show of proto-stellar outflows
9:40	Jakob GELSINNIS	Radio Halos and Radio Relics as Tracers of Merging Galaxy Clusters
10:00	Christopher RISELEY	The Diffuse Radio Emission of Galaxy Cluster Abell 3667

10:30 – 11:00 Coffee break**Joint session on AGNs and galaxies (chair: Marcin Gawronski)**

11:00	Quentin SALOME	3C 285: a nearby galaxy with jet-induced star formation
11:20	OLUWASOGO OGUNGBENRO	Rotation Measure Distribution in Compact Steep-Spectrum Sources

11:40	Flor ALLAERT	The relation between gas, dust and total mass in edge-on spiral galaxies
12:00	Sho NAKAMURA	A new HLL approximate Riemann solver for magnetohydrodynamics including Cosmic-Ray effects
12:30 – 14:00 Lunch break		
14:00		'Bus from B&B hotel to the Torun Centre for Astronomy in Piwnice
14:30		Cake and coffee
15:00	Andrzej Kus	<u>History of the Radio Astronomy in Toruń</u>
16:00		Award ceremony for the winners of our Quiz
16:05		Excursion to the TCfA Observatory
17:30		BBQ party
21:00		Return to the hotel

Thursday, September 11

Session on pulsars (chair: Anna Bartkiewicz)

9:00	Elena NIKITINA	The structure of the magnetosphere of radio pulsars with interpulses
9:20	Natalia LEWANDOWSKA	Radio Giant Pulses
9:40	Anastasiia SKORYK	Detection of a Fine Structure of the Pulsar J0953+0755 decametric radio emission
10:00	Karolina ROŻKO	The effects of thermal absorption on the observed pulsar radio spectra

10:30 – 11:00 Coffee break

Session on various radio techniques (chair: Paweł Wolak)

11:00	Khan Muhammad Bin ASAD	Systematic effects in the polarimetric observations of radio interferometers
11:20	Sayan BASU	VLBI imaging of Deep South ICRF sources
11:40	Michael TARR	Detecting the signal of shear by weak lensing in the radio UV plane
12:00	Luke JEW	C-BASS: The C-Band All Sky Survey

12:30 – 14:00 Lunch break

Session on individual radio sources (chair: Krzysztof Katarzyński)

14:00	Christoph RAUCH	NIR triggered phase referencing of the Galactic Center radio source SgrA* at 43 GHz
14:20	Pfesesani Victoria VAN ZYL	Radio & Gamma-ray correlation of the blazar PKS1424-418 during its flaring state
14:40	Frederic JARON	Radio characteristics of LS I +61°303

15:00 Grzegorz RYCYK Trigonometric parallax of AM Herculis

15:30 – 16:00 Coffee break

The last session (chair: Magdalena Kunert-Bajraszewska)

15:40 Anatoly GLYANTSEV Velocities of interplanetary coronal mass ejections from interplanetary scintillation observations

16:00 Victor M. RIVILLA Short- and long-term radio variability of young stars in the orion nebula cluster and molecular cloud

16:20 Rafał SARNIAK Software correlator in VLBI and general idea of Baltic Interferometer

16:40 Yaroslav NAIDEN Correlation Properties of the CMB and SDSS at Different Redshifts

Summary & Conclusions – LOC

18:00 Visit to the Gingerbread Museum: www.muzeumpiernika.pl

Friday, September 12, Departure Day

2.3 Participants List

YERAC 2014














PARTICIPANTS

List of participants

#	Name	Country	Affiliation	SIGNATURE:
1	Mr. Flor ALLAERT	Belgium	Ghent University	
2	Mr. Khan Muhammad Bin ASAD	Netherlands the	Kapteyn Astronomical Institute, University of Groningen	
3	Mr. Sayan BASU	South Africa	Hartebeesthoek Radio Astronomy Observatory, University of South Africa	
4	Mr. Maciej CEGŁOWSKI	Poland	CA UMK	
5	Ms. Sara CUADRADO	Spain	Astrobiology Centre (INTA-CSIC)	
6	Ms. Hoai DO THI	France, French Republic	LERMA/Observatoire de Paris	
7	Mr. Antonio DÍAZ-PULIDO	Spain	National Astronomical Observatory (OAN)	
8	Mr. Enrique GARCIA	Spain	CAB/INTA-CSIC	
9	Mr. Jakob GELSINNIS	Germany	Thueringer Landessternwarte Tautenburg, Germany	

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11	Mr. Frederic JARON	Germany	Max-Planck-Institut for Radioastronomy	
12	Mr. Luke JEW	United Kingdom	University of Oxford	
13	Ms. Emilia JÄRVELÄ	Finland	Aalto University Metsähovi Radio Observatory	
14	Ms. Elisabeth KUENZL	Austria	University of Vienna, Department of Astronomy	
15	Ms. Emma KUN	Hungary	University of Szeged	
16	Ms. Natalia LEWANDOWSKA	Germany	University of Würzburg	
17	Ms. Alicia LÓPEZ JIMÉNEZ	Spain	CAB/INTA-CSIC	
18	Mr. Filippo MACCAGNI	Netherlands the	ASTRON-Kapteyn Institute	
19	Mr. Alessandro MAINI	Italy	IRA - INAF	
20	Mr. Timur MUFAKHAROV	Russian Federation	Special Astrophysical Observatory of the Russian Academy of Sciences	
21	Mr. Yaroslav NAIDEN	Russian Federation	Special Astrophysical Observatory	
22	Mr. Sho NAKAMURA	Japan	Tohoku University Astronomical Institute	
23	Ms. Brenda NAMUMBA	South Africa	University Of Kwazulu-Natal	







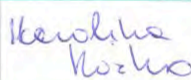


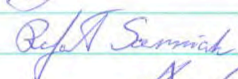


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25	Mr. OLUWASOGO OGUNGBENRO	Nigeria	DEPARTMENT OF PHYSICS, FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI	
26	Mr. Luis Henry QUIROGA-NUNEZ	Netherlands	Leiden Observatory	
27	Mr. Christoph RAUCH	Germany	Max Planck Institut für Radioastronomie	
28	Mr. Christopher RISELEY	United Kingdom	University of Southampton	
29	Mr. Victor M. RIVILLA	Spain	Centro de Astrobiologia	
30	Ms. Karolina ROŻKO	Poland	Instytut Astronomii Uniwersytetu Zielonogórskiego	
31	Mr. Grzegorz RYCYK	Poland	Centre for Astronomy, UMK	
32	Mr. Quentin SALOME	France, French Republic	LERMA/Observatoire de Paris	
33	Mr. Rafał SARNIAK	Poland	CA UMK	
34	Ms. Karina SKIRMANTE	Latvia	Engineering Research Institute "Ventspils International Radio Astronomy Centre" of Ventspils University College	
35	Ms. Anastasiia SKORYK	Ukraine	Institute of Radio Astronomy of National	

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			Academy of Sciences of Ukraine	
36	Mr. Michael TARR	United Kingdom	ICG, University of Portsmouth	
37	Ms. Pfesani victoria VAN ZYL	South Africa	HartRAO	
38	Mr. Volker WEISS	Germany	Thüringer Landessternwarte Tautenburg	
39	Ms. Aleksandra WOŁOWSKA	Poland	CA UMK	

Kierownik
Katedry Radioastronomii

dr hab. Krzysztof Katarzyński

2.5 Information of the EC financial contribution

The RadioNet3 contribution (5600€) was allocated to pay for the local accommodation and catering.

Additionally RadioNet3 (1700€) supported the expenses (conference fee and the transport) of the following participants:

- Elisabeth Künzl (Austria)
- Anastasia Skoryk (Ukraine)
- Brenda Namumba (South Africa)
- Enrique García (Spain)

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