REPORT ON THE RADIONET3 NETWORKING ACTIVITY

TITLE: THE THIRD LOFAR DATA PROCESSING SCHOOL

DATE: 17-21 NOVEMBER 2014   **TIME:** (WHOLE DAY)

LOCATION: *DWINGELOO (THE NETHERLANDS)*

MEETING WEBPAGE   *http://www.astron.nl/lofarschool2014/*

HOST INSTITUTE: *ASTRON*

PARTICIPANTS NO: *48*

MAIN LEADER: *ASTRON*

REPORT:

1. Programme of the meeting

The meeting programme is attached. The speakers and tutors are all affiliated with ASTRON, with the exception of S. Buitink, who is affiliated with Radboud University Nijmegen.

Sunday 16/11

17:00 – 19:00	Registration at Hotel de Borken	
18:00 – 19:00	Welcome Reception at Hotel de Borken	

Monday 17/11

08:30 – 09:00	Registration	
09:00 - 09:15	Welcome	R. C. Vermeulen & R. F. Pizzo
09:15 -10:00	Introduction to Low Frequency Radio Astronomy	G. H. Heald
10:00 -10:45	LOFAR Overview	M. A. Brentjens
10:45-11:15	Coffee Break	
11:15 -12:00	LOFAR Station Processing	M. J. Norden
12:00 -12:45	LOFAR observing: interaction user - Radio Observatory	R. F. Pizzo
12:45 -14:00 Lunch		
14:00 -14:45	RFI flagging, Demixing and Visibilities Compression	T. J. Dijkema
14:45 -15:30	Correlator and Online Processing	J. David Mol
15:30 -16:00	Coffee Break	
16:00 -16:15	Introduction to hands-on sessions	J. McKean
16:15 -18:15	Tutorial T1: Data inspection, flagging & Demixing	T. J. Dijkema
18:15 -18:45	Preparations Tutorial T5: Obtaining a personal GRID certificate	H. Holties
18:30 -21:00 dinner		

Tuesday 18/11

09:00 - 09:45	Introduction to Calibration	A. G. de Bruyn
09:45 - 10:30	Error Analysis in LOFAR Data	E. Mahony
10:30 - 11:00	Coffee Break	
11:00 - 11:45	Calibrating LOFAR Data	J. McKean
11:45 - 12:30	Ionospheric Effects	M. Mevius
12:30 – 13:45	Lunch	
13:45 – 15:15	Tutorial T2: Calibration	E. Mahony
15:30 - 16:15	Colloquium followed by a borrel until 17:30	
21:00 - 21:45	Evening lecture (@ the Hotel de Borken): 'LOFAR science'	M. Wise

Wednesday 19/11

09:00 - 12:30	Visit to LOFAR core	
13:00 - 14:00	*Lunch*	
14:00 - 14:45	Wide Field Imaging	S. van der Tol
14:45 - 15:30	The Standard Imaging Pipeline	G. H. Heald
15:30 - 16:00 Coffee Break		
16:00 - 17:30	Tutorial T3: Imaging and Source Extraction	E. Orru'

Thursday 20/11

09:00 - 09:45	Polarization Imaging with LOFAR	M. A. Brentjens
09:45 - 10:30	Long Baseline Imaging with LOFAR	J. Moldon
10:30 - 11:00 Coffee Break		
11:00 - 12:45	Tutorial T4: Long Baseline Imaging	J. Moldon

12:45 - 14:15 Lunch
14:15 - 15:45   Tutorial T5: Data retrieval from the Long Term Archive   H. Holties
15:45 - 16:15 Coffee Break
16:15 - 17:00   Spectral Line Data Analysis   J. B. R. Oonk
21:00 - 21:45   Evening lecture (@ the Hotel de Borken): 'MSSS: the Multifrequency
                 Snapshot Sky Survey'   G. H. Heald

Friday 21/11
09:00 - 09:45   High Time Resolution with LOFAR   J. Hessels
09:45 - 10:30   Particle Physics with LOFAR   S. Buitink
10:30 - 11:00 Coffee Break
11:00 - 11:45   Beam-formed Data with LOFAR   R. A. Fallows
11:45 - 12:30   Writing a LOFAR proposal   W. Frieswijk
12:30 - 14:00 Lunch
14:00 - 14:30   Concluding remarks   R. F. Pizzo


2.   Scientific Summary

The Third LOFAR Data Processing School was organized and hosted by ASTRON between 17-21 November 2014. The event was sponsored by RadioNet3, the host institute and the International LOFAR Telescope (ILT).

The aim of this School was to introduce the LOFAR system to users and new members of the collaboration who will analyze Cycle data. Students, postdocs, and staff were all encouraged to attend. The school will cover the many aspects of the LOFAR system from the capabilities of the basic station hardware to the software pipelines and science products they produce. The specific topics covered by the School can be read in the programme reported in the previous section.

Members of the LOFAR project presented lectures and tutorials. Hands-on sessions have also been provided to give attendees an opportunity to gain experience with real LOFAR data.

In total, we hosted 48 participants from 13 countries. 24 of the participants were women.

The geographical distribution of the participants is presented in the Figure below.
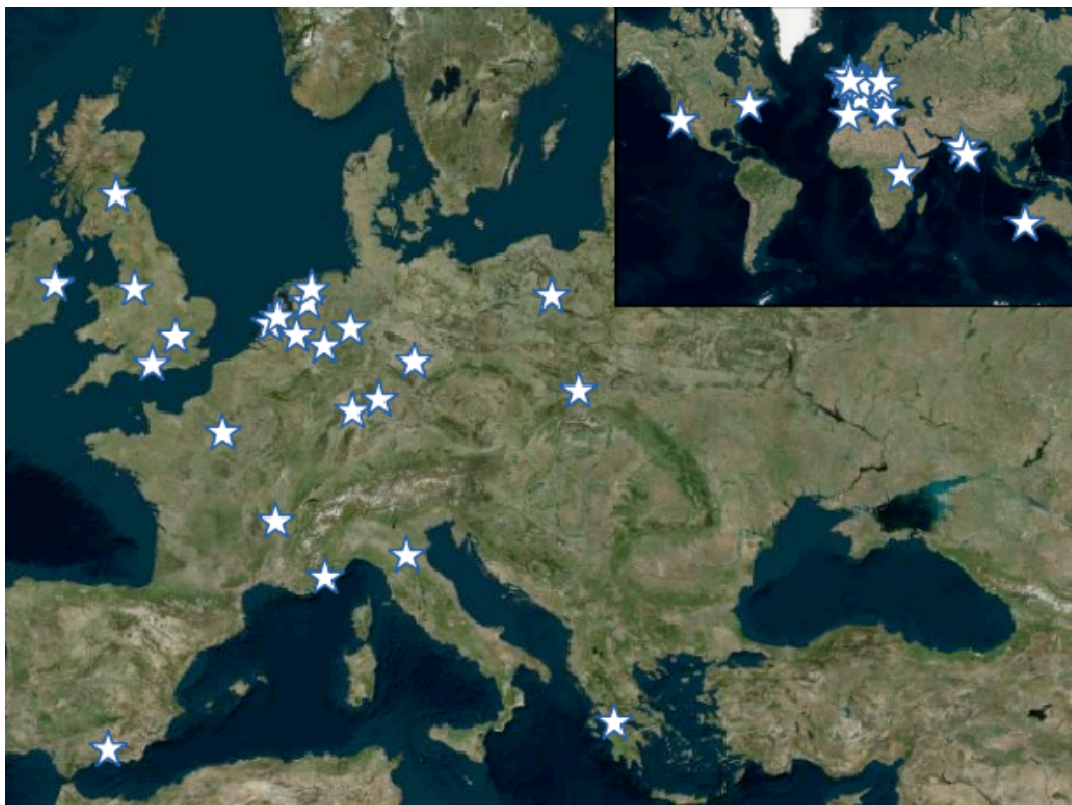
The table below summarizes the number of participants per country.

Netherlands	16
Germany	8
United Kingdom	4
France	4
Poland	4
India	3
Ireland	2
Spain	2
United States	2
Australia	1
Greece	1
Italy	1
Total	48

The School picture (shown below) was taken on Wednesday 19 November, during the visit to the LOFAR core.

3. Attendance list (incl. participant names, affiliation and country) signed by the participants and confirmed by the organizer

The list of participants is in attachment.

4. Financial Report / RadioNet3 contribution

The total cost was of 12380,74 EUR. RadioNet contributed to the School with 3000 euros, used for local organization. The overview is shown in the table:

Category	COST (EUROS)
Accommodation	573,25
Bikes	607,50
Reception	450,00
Taxi	636,00
Bus	525,00
Presentation	27,21
Catering & dinner	4647,56
Travel support	1284,22
Publication costs (LOFAR BOOK)	3630,00

5. Conference Proceedings and Web page

The School will deliver very important documentation to future radio astronomers. The proceedings of the lectures will contribute to the first LOFAR Data Book, which will be published by Springer within 2015. We believe that this book will be an important reference for the scientists who will use LOFAR and will work on low frequency radio astronomy in general.

Participants 3rd Lofar School 2014

There are 48 participants (Female: 24, Male: 24)

Name	Institute	Country
Ainsworth, Rachael	Dublin Institute for Advanced Studies	Ireland
Blex, Stefan	Astronomisches Institut RUB	Germany
Brienza, Marisa	ASTRON - Kapteyn Institute	Netherlands
Calistro Rivera, Gabriela	Leiden Observatory	Germany
Cantwell, Therese	University of Southampton	United Kingdom
Cerrigone, Luciano	ASTRON	Netherlands
Chen, Song	Bielefeld University	Germany
Clarke, Alex	University of Southampton	United Kingdom
Cochrane, Rachel	Institute for Astronomy, University of Edinburgh	United Kingdom
Coughlan, Colm	Dublin Institute of Advanced Studies	Ireland
Cuciti, Virginia	INAF-Istituto di Radioastronomia	Italy
Ferrari, Chiara	Lagrange, OCA	France
Gelszinnis, Jakob	Thueringer Landesternwarte Tautenburg	Germany
Ghosh, Abhik	Kapteyn Astronomical Institute	Netherlands
Gizani, Nectaria	Hellenic Open University	Greece
Gurkan Uygun, Gulay	University of Hertfordshire	United Kingdom
Hoang, Duy	Leiden University	Netherlands
Jaodand, Amruta	ASTRON and UvA	Netherlands
Jurusik, Wojtek	Astronomical Observatory UJ	Poland
Kale, Ruta Prabhakar	National Centre for Radio Astrophysics, TIFR	India
Knapp, Mary	Massachusetts Institute of Technology (MIT)	United States
Kokotanekov, Georgi	University of Amsterdam	Netherlands
Krishnan, Hariharan	Indian Institute of Astrophysics	India
Kumar Gehlot, Bharat	Kapteyn Astronomical Institute	Netherlands
Loh, Alan	Sap/CEA-Saclay	France
Martinez Aviles, Gerardo	Lagrange, OCA	France
Müller, Cornelia	University of Wuerzburg	Germany
Michilli, Daniele	ASTRON	Netherlands
Mikhailov, Klim	UvA/ASTRON	Netherlands
Munoz, Pedro Salas	Leiden University	NL

Nikiel-Wroczyński, Błażej	OA UJ	Poland
Nowak, Natalia	Astronomical Observatory UJ	Poland
Nyland, Kristina	ASTRON	Netherlands
Palaniswamy , Divya (sent invitation letter 18 sep)	Curtin Univeristy/ ICRAR	Australia
Pandey-Pommier, Mamta	CRAL-l'Observatoire de Lyon	France
Polderman, Irene	Astrophysics Department RU Nijmegen	Netherlands
Poolapalli, Kishore	Indian Institute of Astrophysics	India
Rajpurohit, Kamlesh	Thüringer Landessternwarte (TLS)	Germany
Retana-Montenegro, Edwin	Leiden Observatory	Netherlands
Roskowinski, Carole	Torun Centre for Astronomy	Poland
Sanchez, Susana	Instituto de Astrofisica de Andalucia - CSIC	Spain
Sendlinger, Katharina	Ruhr-Universität Bochum	Germany
Sridhar, Sarrvesh	Kapteyn Institute	Netherlands
Straal, Samayra	UvA/ASTRON	Netherlands
ter Veen, Sander	ASTRON	Netherlands
Trüstedt, Jonas	University of Wuerzburg	Germany
Verdes-Montenegro Atalaya, Lourdes	Instituto de Astrofisica de Andalucia (CSIC)	Spain
Winterhalter, Daniel	Jet Propulsion Lab, California Institute of Techno	United States