

REPORT ON THE RADIONET3 NETWORKING ACTIVITY

TITLE: URSI BEJ SESSION IN AFRICON2013
LARGE SCALE SCIENCE PROJECTS: EUROPE-AFRICA CONNECTS

Date: 10-11 September, 2013

Location: Pointe aux Piments, Mauritius

Meeting webpage: <http://africon2013.org/ursi-bej/>

Host: Africon 2013 at Le Meridien Hotel – Pointe aux Piments

Participants No. : 37

Organizing committee :

Arnold van Ardenne	ASTRON/Chalmers (chair)
Willem Baan	ASTRON/Shanghai Observatory
Mark Bentum	University of Twente
Lex van Deursen	TU Eindhoven
David Giri	University of New Mexico
Justin Jonas	Rhodes University
Giuliano Manara	University of Pisa
Ari Sihvola	Aalto University

Secretariat: Truus van den Brink ASTRON

REPORT :

1. AGENDA

6 sessions :

First and opening session

2nd session : commission B and other

3rd session: commission E and other

4th session: commissions BEJ

5th session: commission J1

6th session: commission J2

The detailed program can be found attached.

2. SCIENTIFIC SUMMARY

Context: IEEE AFRICON is the premier biennial event of the IEEE in Africa. This flagship conference provides a platform for academics and industry professionals to share ideas and present their latest research. Co-sponsored by the IEEE Region 8 and the IEEE South Africa Section, Africon 2013 was hosted in the island of Mauritius.

In order to strengthen the science connections between Europe and Africa and connect URSI and IEEE the URSI commissions B, E and J organize a special 1,5 day session during AFRICON 2013 entitled "LARGE SCALE SCIENCE PROJECTS: EUROPE-AFRICA CONNECTS", emphasizing each of the scientific commissions.

Summary: On behalf of the organizers, I am pleased to note that the event was generally considered extremely useful and as intended, an important step to enlarge Radio science (including Radio Astronomy) collaboration between Europe and Africa. As this mini-URSI event was held in connection to the Africon event excellent contacts were established between the Africon organizers which emphasized the Engineering Sciences associated with IEEE region 8 (which includes Europe and Africa), URSI and the framework of RadioNet.

In fact, one could contemplate an African connect to RadioNet to broaden its base and to the new radio astronomy projects in Africa (e.g. SKA, African VLBI Array etc.).

The program covered an interesting and wide range of talks relevant to EVN and its planned African counterpart AVN, the SKA and, technical and astronomical presentations from other techno-scientific activities in Africa with active participation and discussions. As organizing chair I was pleased with the support of RadioNet and the funds we received to allow a larger contingency of (young)scientists and radio engineers to meet in Mauritius.

Further to that, we organized a visit to the Multi-frequency Interferometry Telescope for Radio Astronomy (MITRA)-site and discussed connections between the project and so-called Aperture Array developments in the context of the African-European Radio-Astronomy Platform (AERAP, see www.aerap.org).

We were pleased that mr. Nemaungani from the Department of Science and Technology of South Africa was so kind to attend and contribute throughout the event.

Overall this opportunity successfully raised RadioNet's visibility in this context.



3. ATTENDANCE LIST

Clarel Catherine (Technical University of Mauritius, LOC Africon 2013)
Arnold van Ardenne (ASTRON, the Netherlands, LOC/SOC URSI BEJ)
Takalani Namaungani (DST, South Africa on behalf of AERAP)
Howard C. Reader (Stellenbosch University, South Africa)
Per-Simon Kildal (Chalmers University of Technology, Sweden)



Girish Kumar Beeharry (University of Mauritius)
Isak Theron (EMSS antennas, South Africa)
Jan Geralt bij de Vaate (ASTRON, the Netherlands)
Jaisridevi Shibchurn (University of Mauritius)
David Giri (University of New Mexico,, USA)
Franz Schlagenhauer (ICRAR, Australia)
Nikola Djuric (SEMONT, Serbia)
Domingos Barbosa (IT, Portugal)
Mark Bentum (University of Twente, the Netherlands)
Rob Millenaar (SKA Office, UK)
Dominique Ingala (Durban University of Technology, South Africa)
Stefan Wijnholds (ASTRON, the Netherlands)
Michael Garrett (ASTRON, the Netherlands)
Oleg Smirnov (SKA South Africa)
Nandiata Roopa (University of Mauritius)
Sagar Pirthee (University of Mauritius)
Arpad Szomoru (JIVE, the Netherlands)
Michael Lindqvist (Chalmers Technical University, Sweden)
Sergio Colafrancesco (WITS University, South Africa)
Nitisha Pirthee (University of Mauritius)
Kamila Jenna Armoogum (University of Mauritius)
Obiseye Oluwaniyi Obiyemi (University of KwaZulu Natal, South Africa)
Akintunde A. Alonge (University of KwaZulu Natal, South Africa)
Truus van den Brink-Havinga (ASTRON, the Netherlands)
John Funso-Adebayo (Secretary, IEEE Nigeria)
Martin Bastiaans (Director IEEE region 8)
Toshio Fukuda (Director IEEE region 10)
Thomas Afullo (University of KwaZulu Natal, South Africa)
Dirk de Villiers (Stellenbosch University, South Africa)
Stuart McPherson (Durban University of Technology, South Africa)
Gary Janse van Vuuren (Durban University of Technology, South Africa)
Isak Delbert Davids (University of Namibia)

4. FINANCIAL REPORT / RadioNet3 CONTRIBUTION

Flight tickets	€ 2807,00
Ground transportation	€ 221,00
Hotel	€ 422,00
Registration	€ 380,00
Production of CD	€ 151,00



PRELIMINARY PROGRAM AFRICON 2013 URSI SESSION "LARGE SCALE SCIENCE PROJECTS: EUROPE-AFRICA CONNECTS"
September 10-11, 2013 - Hotel Le Victoria - Pointe aux Piments - Mauritius

September 9-12, 2013

Hotel Le Meridien - Pointe aux Piments

1ST DAY	Tuesday 10 September 2013			
		Venue: Le Meridien hotel, Village Hall Lane · Pointe Aux Piments, Mauritius		
08:00 - 09:00	Registration Africon 2013/URSI BEJ session	Corridor Chamarel Ballroom		
09:00-10:00	Launching Ceremony	Chamarel 1 & Chamarel 2		
10:00-10:20	Tea break	Bois Cheri Lobby		
10:20-11:20	Key note 2 - Vinton Cerf	Chamarel 1		
11:20-12:40	Africon programme			
12:40	Lunch	180' Restaurant		
13:40-14:40	Key note 3 - Katie Hall	Chamarel 1		
	Walk to Le Victoria hotel			
15:00	First and opening session	Venue URSI BEJ session: Le Victoria hotel	Chair: Justin Jonas	Co-authors
15:00	Sunjiv Soyjaudah (Chair Africon 2013)	Welcome address on behalf of IEEE Africon 2013	generalchair@aficon2013.org	
15:10	Arnold van Ardenne (Chair organizing committee)	Introduction URSI	ardenne@astron.nl	
15:20	Takalani Nemaungani (Director: Global Projects Department of Science & Technology)	African-European Radio Astronomy Platform	Takalani.Nemaungani@dst.gov.za	
15:30	Howard C. Reader (Stellenbosch University)	Key note com.E: New robust approaches to designing large radio research instruments	hcreader@sun.ac.za	
16:00	Per Simon Kildal (Chalmers University of Technology)	Key note com.B: Some Reflector and Feed Antenna Inventions that Made a Difference	per-simon.kildal@chalmers.se	
16:30	Girish Kumar Beeharry (University of Mauritius)	Key note com.J: The Multifrequency Interferometry Telescope for Radio Astronomy (MITRA)	gkb@uom.ac.mu	Stuart David MacPherson, Gary Peter Janse van Vuuren (Durban University of Technology)
17:00	Tea break			
17:30	Second session (commission B and other)	Fields and waves	Chair: Per-Simon Kildal	
17:32	Isak Theron (EMSS Antennas)	Towards an optics design for the SKA	iptheron@emss.co.za	Dirk I.L. de Villiers (Stellenbosch University), Robert Lehmsiek (EMSS Antennas (Pty) Ltd)
17:54	Jan Geralt bij de Vaate (ASTRON)	Aperture Arrays for the Square Kilometre Array	vaate@astron.nl	
18:16	Jaisridevi Shibchurn (University of Mauritius)	A prototype dual polarised log periodic antenna array for the MITRA	jaisridevi.shibchurn@umail.uom.ac.mu	Girish Kumar Beeharry
18:38	Ayantunji B.G. and Umeh M.C. (NASRDA)	Statistical Study of the Dependence of Topospheric Refractive Index on Different Weather Vagaries	ayantunji@cbsonline.com	
19:00	End first day			
20:00-21:00	Welcome Ceremony/Cocktail	Le Meridien hotel Bois Cheri Lobby		

2ND DAY	Wednesday 11 September 2013	Venue URSI BEJ session: Le Victoria hotel		
07:30-08:30	Registration	Le Meridien hotel		
9:00	Third session (commission E and other)	Electromagnetic Environment and Interference	Chair: Howard Reader	
9:02	David Giri (University of New Mexico)	Electromagnetic (EM) Effects Control Using Topological Concepts	Giri@DVGiri.com	
9:24	Franz Schlagenhauser (ICRAR)	RFI assessment of Photovoltaic Modules for Radio Astronomy Applications	F.Schlagenhauser@curtin.edu.au	Budi Juswardy, Peter Hall (ICRAR/Curtin University)
9:46	Nikola Djuric (SEMONT)	The concept of the SEMONT monitoring system and its influence on the EM pollution protection	ndjuric@uns.ac.rs	
10:08	Domingos Barbosa (IT)	Design, Sustainability and Environmental considerations for new African observatories: the MRAO example	dbarbosa@av.it.pt	Claudio Paulo (University Eduardo Mondlane)
10:30	Tea break			
11:00	Fourth session (BEJ)	Fields and waves/Electromagnetic Environment and Interference/Radio Astronomy	Chair: Michael Garrett	
11:02	Mark Bentum (University of Twente)	A Large Ultra-long Wavelength Radio Astronomy instrument in Space	m.j.bentum@utwente.nl	
11:24	Rob Millenaar (SKA Office)	Considerations for the optimal Radio Astronomy site	millenaar@skatelescope.org	
11:46	Dominique Ingala (Durban University of Technology)	An Overview of the MITRA Radio Telescope Signal Chain	dominiquel@dut.ac.za	Stuart David Macpherson (Durban University of Technology)
12:08	Stefan Wijnholds (ASTRON)	Computing Cost of Sensitivity and Survey Speed for Aperture Array and Phased Array Feed Systems	wijnholds@astron.nl	Rik Jongerius (IBM Netherlands)
12:30	Return to Le Meridien hotel for lunch	180' Restaurant		
13:50-14:50	Key note 5 - Gordon W. Day	Chamarel 1		
	Walk to Le Victoria hotel			
15:00	Fifth session (commission J1)	Radio Astronomy	Chair: Girish Kumar Beeharry	
15:02	Michael Garrett (ASTRON)	Radio Astronomy transformed: Wide-field antenna developments past, present and future	garrett@astron.nl	
15:24	Justin Jonas (SKA South Africa)	The SKA Africa Project: MeerKAT and More	j.jonas@ru.ac.za	
15:46	Nandita Roopa/Sagar Pirthee (University of Mauritius)	Solar flares in linear and circular polarisation	nandita.roopa@umail.uom.ac.mu	Girish Kumar Beeharry
16:08	Oleg Smirnov (SKA South Africa)	Performance limits of future instruments and surveys: ghosts, surprises and simulations	o.smirnov@ru.ac.za	
16:30	Tea break and poster session			
17:30	Sixth session (commission J2)	Radio Astronomy - VLBI	Chair: Arnold van Ardenne	
17:32	Arpad Szomoru (JIVE)	From tape reel to intercontinental lightpaths: technical developments in the EVN	szomoru@jive.nl	
17:54	Roy Booth (SKA South Africa)	An African VLBI Network (AVN) and its challenges: engineering and its scientific	roy@hartrao.ac.za	
18:16	Michael Lindqvist (Chalmers Technical University)	VLBI science in the EVN, now and in the future	Michael.Lindqvist@chalmers.se	Arpad Szomoru (JIVE)
18:38	Sergio Colafrancesco (WITS University)	An high-frequency radio polarization look at the sky: from Africa to deep space	Sergio.Colafrancesco@wits.ac.za	
19:00	Wrapping up			
20:00-23:30	Gala Dinner			

	Posters			
1.	Nitisha Pirthee (University of Mauritius)	Digital back end schemes for the MITRA	nitisha.pirthee@umail.uom.ac.mu	
2.	Kamila Jenna Armoogum (University of Mauritius)	A prototype data transport system for the MITRA	jenna.armoogum@umail.uom.ac.mu	
3.	Geoffrey Okeng'o (University of the Western Cape)	Cosmology with the SKA and MeerKAT: Probing Cosmic Structure formation via Interacting fluids	geffok@gmail.com	
4.	Okonkwo Perpetua Chinelo (University of Nigeria Nsukka)	TEC Variations over Ilorin	peepyyy@yahoo.com	
5.	Obiseye Oluwaniyi Obiyemi (University of KwaZulu-Natal)	Rain Attenuation Model for Digital Satellite Television over Sub-Saharan Africa: Initial Results for Nigeria	obiseye.obiyemi@unosun.edu.ng	
6.	Akintunde A. Alonge (University of KwaZulu-Natal)	Rainfall Attenuation Effects at Millimeter Frequencies for Tropical and Subtropical Microwave and Areas using Rain Regimes	210546050@stu.ukzn.ac.za	

All activities in orange are IEEE Africon 2013 programme items, included in registration rate

For more Africon 2013 programme details, as well as workshops and tutorials please check out the programme at http://africon2013.org/Program_Summary.pdf



Consortium for Very Long Baseline Interferometry in Europe

