



Report from the event supported by RadioNet

TITLE *63RD MEETING OF CRAF, THE EXPERT COMMITTEE ON RADIO ASTRONOMY FREQUENCIES OF THE EUROPEAN SCIENCE FOUNDATION*

DATE: *12-14 JUNE 2019*

LOCATION: *UNIVERSITY OF MANCHESTER, JODRELL BANK OBSERVATORY, UK.*

MEETING WEBPAGE: *<https://www.craf.eu/the-63rd-craf-expert-committee-meeting/>*

HOST INSTITUTE: *UNIVERSITY OF MANCHESTER, JODRELL BANK OBSERVATORY & SKAO*

**RADIONET
BENEFICIARY / NO:** *UMAN/6*

Report:

1 SUMMARY

This was not a scientific meeting in the customary sense of the word: it was the 63rd annual face-to-face meeting of CRAF, the Expert Committee on Radio Astronomy Frequencies of the European Science Foundation. At this meeting, experts in the field of protection of radio frequencies used by the European radio astronomical scientific community met to discuss their common strategy in achieving the mission of CRAF, which includes; "to keep the frequency bands for radio astronomical observations free from interference". In fact, CRAF represents all radio telescopes in Europe in matters of radio frequency protection, which is to the obvious benefit of the entire RadioNet community.

As an organisation, CRAF is formally accredited to represent the interests of the Radio Astronomy Service in matters of frequency protection at international fora, specifically at a European level at the CEPT (Conference of European Post and Telecommunication agencies; 48 countries) and at a global level at the ITU (International Telecommunication Union). The individual expert members of CRAF also participate in meetings of their national spectrum agencies. This link between international and national activities is crucial for CRAF's activities. At international meetings national administrations (who have a right to vote whereas CRAF does not) endeavour to support CRAF's activities, and at a national level it is important to show that the international radio astronomy community has a common strategy.

CRAF has representatives from all European countries in which radio telescopes are operated, and also from a few other countries, which have a particular interest. South Africa, being a part of the ITU Region 1, to which Europe is assigned, also has representation. Also represented on CRAF are a number of international organisations most of which have bases in Europe: ESF, ESA, ESO, IRAM, IVS, SKAO. Representatives from a small number of international organisations (e.g. CORF, USA NSF, IUCAF and ITU WP7D) are also usually invited to take part in the open sessions of the meetings.

This meeting, which was held at the University of Manchester's Jodrell Bank Observatory and also the SKAO at Jodrell Bank, was attended by 15 CRAF members, which included Harry Smith, a former CRAF Frequency Manager, who was being employed by CRAF as a consultant until a new frequency manager could be employed and trained. Viktor Tóth (ELTE, Hungary) attended by remote access and Vladislavs Bezrukovs (Latvia) was represented at the meeting by Dr. Indra Dedze, Vice-Rector for Research at Ventspils University.

Six of the CRAF members attending the meeting were in receipt of RadioNet funding, which was recognised as an invaluable contribution to their expenses. (See section RadioNet Financial Contribution)

CRAF also welcomed to the meeting Harvey Liszt (the IUCAF Chairman), Gie Han Tan (ESO / ALMA), Federico DiVruno (SKAO), B. Ashley Zauderer (USA NSF – by remote access), Lisa van Zee (Chairman of CORF – by remote access) and Jean-Claude Worms (Managing Director of the ESF). A full list of participants is provided below.

It was noted that Wim van Driel, one of the French CRAF representatives, had resigned, but there was no requirement for a replacement as Ivan Thomas was already representing France. Of greater concern was that following the withdrawal of the Dutch representative based at ASTRON almost a year ago, no replacement had as yet been found. The affiliation of the Swiss representative will no longer be ETH, Zürich, but will probably be the Istituto Ricerche Solari in Locarno.

The afternoon session of the second day was devoted to a joint meeting between the CRAF members and the Observatory Directors / funding representatives (the Stakeholders forum). In addition to the Latvian director already present for the whole CRAF meeting, eight other directors (see list of participants below) joined the discussions concerning CRAF's work and also, of considerable importance, its proposed budgets and current financial situation. At present CRAF is financed by the annual contributions of ten Institutional Members (observatories, national scientific academies and funding agencies). The need for an increase in the annual contributions was proposed and accepted.

Following welcomes by the Director-General of the SKAO and also the Director of Jodrell Bank Observatory, both of whom gave brief overviews of the work being undertaken in their establishments, the expert members gave reports on the RFI situation in their observatories and their interactions with their national spectrum



authorities. Also presented for discussion and policy determination were the 20 CEPT / ITU meetings that had been / were to be attended by CRAF members during this year of 2019. Of particular note for discussion were the preliminary CRAF positions on some of the contentious Agenda Items for the 2019 World Radiocommunication Conference (WRC-19) of the ITU to be held in Sharm el Sheik in Egypt, a four-week meeting which is to take place during October / November this year, and at which CRAF representation was discussed and provisionally decided.

The afternoon session on the first day concluded with a presentation on the 'Work Items' process by Pietro Bolli, which was initiated at the two previous CRAF plenary meetings by Benjamin Winkel in order to encourage a more even distribution of the spectrum management work amongst CRAF members. This was followed by a discussion of the 'Work Items' successes to date; (e.g. input documents submitted to CEPT Spectrum Engineering (SE) working groups; e.g. SE24) and the need for an even greater work distribution in this area (i.e. the introduction of further 'Work Items').

CRAF normally employs a full-time Frequency Manager, but was advertising for a new Manager at the time of the meeting following the resignation of Talayeh Hezareh at the end of February. Interviews of selected candidates from a total of nine applicants were already in progress.

On the CRAF website, there is information under 'Recent Posts' giving the Web address for the meeting <https://www.craf.eu/the-63rd-craf-expert-committee>, but, apart from the Agenda, the input and output documents are not publicly accessible, as they concern internal CRAF strategies for the protection of radio astronomy frequencies.

2 AGENDA OF THE EVENT

Presenters:

Thomasson - CRAF acting Chairman (University of Manchester, Jodrell Bank, UK)

Lindqvist – CRAF expert member (Chalmers, Sweden)

Bolli - CRAF expert member (INAF, Italy)

Vermeulen – Stakeholders Forum Chairman

Tornatore – CRAF Secretary

12 May 2019:

- 1 Welcome & Introduction – Director General SKAO & Thomasson
- 2 Opening of the meeting - Thomasson
 - 2.1 Adoption of the agenda
 - 2.2 Correspondence – Tornatore
 - 2.3 Expert Committee Member Changes? - Thomasson
- 3 Evaluation of Meeting Minutes of the October 2018 CRAF web-meeting - Thomasson
- 4 Review of action items - Thomasson
- 5 Communications concerning CRAF - Tornatore
 - 5.1 CRAF budget introduction - Thomasson
 - 5.2 RadioNet H2020 - Bolli
 - 5.3 Preparation for the Stakeholder Council meeting - Thomasson
- 6 FM & Consultant Situation - Thomasson
 - 6.1 Report by previous FM – Thomasson (Hezareh)
- 7 Lunch + Tour of JBO + Photo – Thomasson
- 8 Welcome of Guests + Introduction to JBO – Director JBO
- 9 Overview of SKA / interference problems - DiVruno
- 10 Reports from CEPT /ITU Meetings – Thomasson
 - 10.1 Report from CPG Meeting in Stockholm - Lindqvist
 - 10.2 Upcoming CEPT/ITU meetings of interest to CRAF - Thomasson
- 11 Status of WRC-19 Agenda Items and position of CRAF – Thomasson (Hezareh)
 - 11.1 Other CEPT/ITU issues of concern to CRAF
 - 11.2 Report from WP7D Meeting – Thomasson, Smith

- 12 Report on the CRAF Studies working group – Bolli
- 13 SE24 work issues and results – Bolli, Pietu
- 14 Possible new Studies working groups – Bolli, (Winkel)

13 May 2019

- 1 Interference problems in individual countries.
- 2 Opening of Stakeholders Forum No. 3 & Introductions – Vermeulen
 - 2.1 Adoption of Agenda - Vermeulen
 - 2.2 Institution Membership Changes; Expert Committee Membership Changes
- 3 Minutes of Stakeholders Forum No. 2 – Tornatore
- 4 Status of search for new CRAF FM – Vermeulen
- 5 Discussion of CRAF activities during last year – Thomasson, Vermeulen
 - 5.1 Summary + discussion of CRAF activities during last year - Thomasson
 - 5.2 Presentation + discussion of CRAF priorities – Thomasson & Vermeulen
 - 5.3 Modus operandi of CRAF
- 6 Review of Financial Status of CRAF – Thomasson
- 7 Proposed 2019-2020 budget – Thomasson
- 8 Further matters tabled in advance – Vermeulen
- 9 Stakeholders Forum new Chairman appointment –
- 10 Further discussion & A.O.B.
- 11 End of Stakeholders Forum No. 3 & refreshment break
- 12 CRAF Newsletters – Thomasson
 - 12.1 Requirements in preparation of Newsletter contributions - Thomasson
 - 12.2 Latest & next Newsletters - Thomasson
- 13 Attendance at CRAF Meetings – Thomasson
- 14 Feedback from Funders' Circle Meeting – Vermeulen
- 15 Common Meeting Dinner - Thomasson

14 May:

- 1 Interference problems in Europe - Thomasson
 - 1.1 Reports on developments since last CRAF meeting
 - 1.2 Member activities and interactions with national administrations
 - 1.3 Status of national WRC-19 preparations
- 2 Attendance at CPM & WRC-19 - Thomasson
- 3 Interference problems in Europe (cont.) - Thomasson
- 4 Conclusion of the meeting – Thomasson
 - 4.1 Review of action items - Thomasson
 - 4.2 Date & location of next face-to-face CRAF Meeting - Thomasson
 - 4.3 A.O.B

3 PARTICIPANTS

The 15 CRAF expert members came from 12 different countries, two of them are young researchers, two are female, and six of them received RadioNet support (see under "RadioNet financial contribution").

The following 15 CRAF expert members / representatives took part in the meeting: Pietro Bolli (Italy), Indra Dedze (Latvia), Hayo Hase (IVS), Karel Jirička (Czech Republic), Juha Kallunki (Finland), Michael Lindqvist (Sweden), Christophe Marqué (Belgium), Joe McCauley (Ireland), Christian Monstein (Switzerland), Vincent Piétu (IRAM), Harry Smith (SKAO), Ivan Thomas (France), Peter Thomasson (UK), Vincenza Tornatore (Italy) and Viktor Tóth (Hungary).

In addition to Indra Dedze, the Latvian representative, who received RadioNet support, the eight directors, or their representatives, who participated on 13 May came from seven different countries, two were female, and none received RadioNet support.

These were: Stéphane Corbel (INSU, France); Simon Garrington (STFC, UK); John Conway [by remote access] (Onsala Space Observatory, Sweden); Indra Dedze (Ventspils University, Latvia); Tiziana Venturi [by remote access] (INAF, Italy); René Vermeulen (ASTRON, Netherlands); Michael Kramer (MPIfR, Germany); Francisco Colomer (JIVE, Netherlands) and Ritva Taurio [by remote access] Academy of Finland, Finland).

Also participating were the Executive Director of the ESF, Jean-Claude Worms; Harvey Liszt (the IUCAF Chairman); Gie Han Tan (ESO / ALMA); Federico DiVruno (SKAO); B. Ashley Zauderer (USA NSF – by remote access); Lisa van Zee (Chairman of CORF – by remote access).



Conference picture: the CRAF expert members standing in front of the SKAO building, with the 76-m Lovell radio telescope in the background - one of the telescopes they strive to protect from harmful radio interference. Also present are the IUCAF chairman, the ESF executive director and the ESO/ALMA and SKAO representatives.

4 RADIO NET FINANCIAL CONTRIBUTION

For the present meeting a total of €4500 of RadioNet support was requested under WP 4.2 for the travel expenses of six participants. A sum of €2000 was requested for the organisation of the meeting, which actually cost £1254.56 (at today's exchange rate = €1413.93), which is €1086.07 less than the allotted budget.

5 PUBLICATIONS

In the Minutes of the meeting RadioNet support is duly acknowledged. The Minutes will not be made publicly available, as they contain information on the CRAF strategy for the protection of radio astronomy frequency bands, which should not be shared with other spectrum users such as operators of satellite communication systems and mobile phone systems.