

REPORT ON THE RADIONET3 NETWORKING ACTIVITY

TITLE: SEARCH FOR LIFE SIGNATURES SYMPOSIUM

DATE: 20 – 21 MARCH 2014 **TIME:** (WHOLE DAY)

LOCATION: PARIS, FRANCE

MEETING WEBPAGE <http://iaaweb.org/content/view/555/739/>

HOST INSTITUTE: UNESCO

PARTICIPANTS NO: 26

MAIN LEADER: ASTRON

REPORT:

1. Agenda and/or programme of the meeting

UNESCO - Division for Science Policy and Capacity Building (SC/PCB)

Fifth IAA Search for Life Signatures Symposium, March 20th-21st, 2014.

PROGRAM

Thursday, March 20th, 15:30-17:50

15:30 - 17:50 PUBLIC MEETING of the

UNESCO - SETI PERMANENT COMMITTEE OF THE IAA,

OPEN to all interested Persons !

Chair: Claudio Maccone, IAA SETI Permanent Committee Chair, since 2012.

Friday, March 21st, 9:00-17:50

Opening: First Morning Session

Friday, March 21st, 9:00 - 11:00

Chairs: Jean-Michel Contant, IAA, Claudio Maccone, IAA & INAF, and Mike Garrett, ASTRON

		IAA Paper #
9:00 – 9:10	Welcome to Participants, Claudio Maccone, IAA & INAF, Italy	IAA-P14-01
9:10 – 9:20	Welcome to Participants, Lidia Brito, UNESCO – Director of Division of Science Policy & Capacity Building (SC/PCB)	IAA-P14-02
9:20 – 9:30	Welcome to Participants, Mike Garrett, ASTRON, The Netherlands	IAA-P14-03
9:30 – 9:40	IAA and SETI: Fifty Years of Scientific Research, Madhavan Nair, President of the IAA, India	IAA-P14-04
9:40 – 10:10	INVITED TALK: SETI, Big Data and the next generation of Radio Telescopes Michael A. Garrett, General and Scientific Director, ASTRON/Leiden, The Netherlands Andrew P. V. Siemion, University of California at Berkeley, USA & ASTRON, The Netherlands Heino Falcke, IMAPP, Radboud University, Nijmegen, The Netherlands	IAA-P14-05
10:10 – 10:40	INVITED TALK: A Search for Spatially Unresolved Laser Emission Geoffrey W. Marcy, University of California at Berkeley, USA	IAA-P14-06
10:40 – 11:10	INVITED TALK: SETI in the Extragalactic Perspective Peter Fridman, ASTRON - Netherlands Institute for Radio Astronomy, The Netherlands Leonid Gurvits, Joint Institute for VLBI in Europe (JIVE), The Netherlands	IAA-P14-07
11:10 – 11:30	Coffee Break	

Second Morning Session

Friday, March 21st, 11:30-13:30

Chairs: Geoffrey W. Marcy, U.C. Berkeley, and Leonid Gurvits, JIVE, The Netherlands

11:30 – 11:50	Project of a Multibeam UHF Receiver to Improve Survey Capabilities Stelio Montebugnoli, Germano Bianchi, Jader Monari, Claudio Maccone, INAF, Italy	IAA-P14-08
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11:50 – 12:10	A joint analysis of the Drake equation and the Fermi Paradox <i>Nikos Prantzos, Institut d'Astrophysique de Paris, France</i>	IAA-P14-09
12:10 – 12:30	The Matrix Criteria <i>John Elliott, Leeds Metropolitan University, UK</i>	IAA-P14-10
12:30 – 12:50	Where beyond Earth will we find life ? <i>Martin Dominik, University of St. Andrews, UK</i>	IAA-P14-11
12:50 – 13:10	Cogito Ergo Sum <i>Daniela de Paulis, The Netherlands</i>	IAA-P14-12
13:10 – 13:30	Autonomous Agents in Space <i>Spela Petric and Miha Tursic, Slovenia</i>	IAA-P14-13
13:30 – 14:20	Lunch Break	

First Afternoon Session

Friday, March 21st, 14:20-15:20

Chairs: Adam Korbitz, USA, and Stelio Montebugnoli, INAF, Italy

14:20 – 14:40	What do you do if you find ET – SETI and the Discovery of Pulsars, <i>Alan Penny, University of St. Andrews, UK</i>	IAA-P14-14
14:40 – 15:00	What does it mean to say ET has “advanced” Intelligence, Civilization or Technology ? <i>William Edmondson, University of Birmingham, UK</i>	IAA-P14-15
15:00 – 15:20	Hitching a Ride: Using Hypervelocity Stars for Intergalactic Travel <i>Joseph L. Breiden, Prescient Models, USA</i>	IAA-P14-16

15:20-15:30 GROUP PHOTOGRAPH OF ALL PARTICIPANTS TAKEN

15:30 – 15:50 *Coffee Break*

Second Afternoon Session

Friday, March 21st, 15:50-17:50

Chairs: John Elliott, University of Leeds, UK, and Daniela De Paulis, The Netherlands

15:50 – 16:10	Identifying and Managing Potential Political Risks to SETI <i>Adam Korbitz, CeleJure Consulting, USA</i>	IAA-P14-17
16:10 – 16:30	Culturally Determined Contact and Post-Contact Scenarios <i>Klara Anna Capova, UK</i>	IAA-P14-18
16:30 – 16:50	Convergent Evolution and the Search for Biosignatures within the Solar System and Beyond <i>Claudio Flores Martinez, University of Heidelberg, Germany</i>	IAA-P14-19
16:50 – 17:10	Calcium as a Signature Element of Life: A Possibility of Origin of Life on Moon and Mars <i>Ved Pal Singh, University of Delhi, India</i>	IAA-P14-20
17:10 – 17:30	The Karhunen-Loève Transform: Digital Signal Analysis and Information Theory <i>Stephane Dumas, SETI League, Canada</i>	IAA-P14-21
17:30 – 17:50	SETI and Evolution on Earth and Exoplanets <i>Claudio Maccone, IAA & INAF, Italy</i>	IAA-P14-22

Friday, March 21st, EVENING 19:00 – 22:00: Symposium DINNER, Restaurant of Hotel IBIS Cambronne Tour Eiffel, Rue Cambronne 1, Paris. COST: 20 EUROS per person.

2. Scientific Summary

The 5th IAA (Int. Academy of Astronautics) "Search for Life Signatures Symposium" was held at UNESCO, Paris on the 20-21 March 2014 (see <http://iaaweb.org/content/view/555/739/>). The meeting was attended by around 40 participants and 22 oral presentations were made. The meeting was organised by profs. C. Maccone and M.A. Garrett - the full programme and some images of the meeting are attached. Although the event focused on SETI (the Search for Extra-terrestrial Intelligence), the presentations were wide-ranging, providing a broad review of the current state-of-the-art, including various technical, judicial and cultural themes. Celebrated exoplanet hunter, Prof. Geoff Marcy was one of a distinguished set of invited speakers. The meeting was opened by Lidia Brito, Director of Division of Science Policy & Capacity Building of UNESCO.

The first day included a meeting of the SETI Permanent Committee of the IAA (agenda of this open meeting is also included). Several issues arising from that meeting are of interest to both the scientific community and general public at large. In particular, the SETI PC agreed to update the post-detection SETI protocols (guidelines on how the detection of a SETI signal should be verified and later disseminated). In addition, with a marked increase in METI (Messaging ETI also known as "active SETI"), a subgroup of the SETI PC has been tasked to review whether guidelines regulating this activity are appropriate. On the latter topic, it was clear from the discussions in the PC itself that there are a wide range of different professional opinions on this matter.

The next meeting of the SETI PC will take place at the IAC in Toronto, in October 2014.

The two pictures below were taken during the Symposium.



IAA SETI Permanent Committee

**At UNESCO, Rue Miollis 1, Paris, France.
Metro: Sèvres-Lecourbe (line 6) or Ségur (line 10).**

***Agenda for IAA SETI Permanent Committee meeting to be held on
Thursday, March 20, 2014, 15:30 to 17:45 hours,***

1. Welcome to all Attendees by the Chair, Claudio Maccone, and Historic Excursus about the IAA SETI Permanent Committee's HISTORY: 1971-2014 (43 years!).
 2. Report by Claudio about his first and a half year of activity as Chair:
 - a) Prospects on the SETI Conference to be held in Paris at UNESCO, March 20-21, 2014.
 - b) Prospects on the brand-new SETI Session in Moscow as a part of COSPAR 40th Scientific Assembly, 2-10 August 2014 (hopefully to be held on Tuesday, August 5.
 - c) "Conflicting" Conference of our Paris SETI Conference to be held in Tucson, March 17-21, 2014.
 - d) Other expected Conferences that to involve SETI experts worldwide (SKA Conferences, Astrobiology Conferences, Big History Conferences).
 3. Approval of minutes from the 2013 Beijing Meeting, by Mike Garrett.
 4. Review of the two SETI Sessions to be held in Toronto (SETI I on September 29 and SETI II on October 1, 2014), mainly by Claudio.
 5. 2015: Two SETI Sessions at the IAC in Jerusalem: mainly by Claudio.
Coordinators: Claudio Maccone (clmaccon@libero.it) and H. Paul Shuch (drseti@verizon.net).
- SETI I**
Co-Chairs: Mike Garrett (garrett@astron.nl) and Doug Vakoch (dvakoch@seti.org)
Rapporteur: Andrew Siemion (?) (siemion@berkeley.edu)
(the Rapporteur MUST be an English-speaking person).
- SETI II**
Co-Chairs: Lori Walton (LWalton@firestoneventures.com) and Paolo Musso (musso.pl@libero.it)
Rapporteur: Adam Korbitz (a.korbitz@att.net)
(the Rapporteur MUST be an English-speaking person).
6. Funding for BCEL, mainly by Mike Garrett.
 7. Revised protocols: disappointing news in a field that used to be mainly looked after by Seth Shostak and Doug Vakoch
 8. Publications, mainly by Claudio Maccone.
 9. Status of subgroups: Reports as appropriate, by All, with special reference to Jon Lomberg's new activity as Chair of the revived SETI Media/Education/Outreach Subcommittee.
 10. Discussion on activities of SETI PC members with respect to other research fields like: Astrobiology, Big History, Interstellar Flight Prospects, and so on: Introduction by Claudio and then discussion by All.
 11. New membership requests.
 12. Expired membership.
 13. New business.
 14. Adjournment by 17:40 max, since UNESCO shuts down at 18:00.

See you again in Toronto, probably on Thursday, October 2nd, 2014.

3. Attendance list (incl. participant names, affiliation and country) signed by

Participants list Fifth IAA Search for Life Signatures Symposium Paris, 20-21 March 2014

	Name	Affiliation	Country	Gender
1	Bianchi, Germano	INAF	Italy	M
2	Breeden, Joseph	Prescient Models	USA	M
3	Brito, Lidia	UNESCO	France/Italy	F
4	Capova, Klara Anna	Durham University	UK	F
5	Contant, Jean-Michel	IAA	France	M
6	De Paulis, Daniela	Leiden Univ.	NL	F
7	Dominik, Martin	Univ. of St. Andrews	UK	M
8	Dumas, Stephane	SETI league	Canada	M
9	Edmondson, William	Univ. Of Birmingham	UK	M
10	Garrett, Michael	ASTRON/Leiden Univ.	NL	M
11	Gurvits, Leonid	JIVE/Delft Univ.	NL	M
12	Korbitz, Adam	CeleJure Consulting	USA	M
13	Larabi, Ines	IAA	France	F
14	Lemarchand, Guillermo	UNESCO	France/Argentina	M
15	Maccone, Claudio	IAA & INAF	France/Italy	M
16	Marcy, Geoffrey W.	UC Berkeley	USA	M
17	Martinez, Claudio Flores	Univ. of Heidelberg	Germany	M
18	Monari, Jader	INAF	Italy	M
19	Montebugnoli, Stelio	INAF	Italy	M
20	Nair, Madhavan	IAA	India	M
21	Penny, Alan	Univ. of St. Andrews	UK	M
22	Petric, Spela	Univ. of Ljubljana	Slovenia	F
23	Prantzios, Nikos	Ins d'Astrophysique de Paris	France	M
24	Raulin-Carceau, Floence	CNES/L'Ecole Hautes etudes	France	F
25	Regel, Lia	IAA	France	F
26	Tursic, Miha	KSEVT	Slovenia	M

27 March 2014
Prof. Michael Garrett



the participants and confirmed by the organizer

4. Financial Report / RadioNet3 contribution

The RadioNet3 contribution amounted to Euros 3,300, which were used to support the logistics of the meeting and the coffee breaks.

5. Conference Proceedings and Web page

Further information on the meeting can be found at the meeting webpage is <http://iaaweb.org/content/view/555/739/>.