

ICRANet Scientific Committee  
Twelfth Meeting  
November 27<sup>th</sup> - 28<sup>th</sup>, 2014

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The meeting starts at 10:30 am of the 27<sup>th</sup> of November 2014 in the ICRANet Headquarters in Pescara (Italy). The following members are present:

Felix Aharonian (Representative of Armenia)  
Carlo Luciano Bianco (Representative of ICRA)  
Massimo Della Valle (Representative of Italy, Co-Chairman)  
Gabriele Gionti (Representative of the Vatican State)  
Luca Izzo with proxy of John Mester (Representative of Stanford University)  
Débora Peres Menezes (Temporary Representative of Brazil)\*  
Jorge Rueda with proxy by David Arnett (Representative of Arizona University)  
Remo Ruffini (Director of ICRANet)

Also in attendance:

Federica Di Berardino (Head of ICRANet Secretariat)  
Cinzia di Niccolo (Pescara ICRANet secretariat)

The meeting is chaired by Prof. Felix Aharonian and the minutes are taken by the Director.

The Director is given the word and starts by presenting the three volumes of his report to the Committee.

The presentation of the report by the Director starts at 10:30am. The Director specifically illustrates:

- On November 19<sup>th</sup> the approval by the Government of Armenia of the Seat Agreement of ICRANet in Armenia;
- The status of the Staff, visiting scientists and graduate students at the Pescara Center;
- On August 14<sup>th</sup> the nomination by Itamaraty of the official representative of Brazil in the Board of ICRANet: Dr. Ademair Seabra da Cruz Junior, Head of the Science and Technology Division (DCTEC) of the Ministry of External Relations;
- The collaboration with Brazil has been characterized by a successful program with graduate students, researchers, post-docs, and senior visitor scientists both in Europe and in Brazil. It includes the initiative to establish the ICRANet Brazilian Science Data Center (BSDC). Agreements have been signed between ICRANet and ten Universities and Research Centers in Brazil;
- The first PhD Students, Senior European scientists, Senior Brazilian scientists and Post-doctoral fellows recruited in the CAPES – ICRANet program have started their activities;
- Attention has been given to coordinate the scientific activities with all the partner Institutions in Brazil, promoting joint meetings, satellites to the MG XIV Meeting, as well as the development of the Brazilian Science Data Center (BSDC) in additional Universities and Research Centers, e.g. UFRGS;
- The project for the ICRANet Center at the Cassino da Urca in Rio de Janeiro (Brazil) has further developed.

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\* Requested by the Executive Secretary of the Brazilian Ministry of Science, Technology and Innovation, Prof. Álvaro Toubes Prata.

*[Handwritten signatures and initials]*  
R. Ruffini  
J. M. Mester  
D. Peres  
F. Aharonian  
C. Bianco  
M. Della Valle  
G. Gionti  
L. Izzo  
J. Rueda  
D. Arnett  
F. Di Berardino  
C. di Niccolo  
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G. G.

Despite these positive results:

- On May 26<sup>th</sup> Prof. João Braga has resigned from the Scientific Committee and from the CAPES – ICRANet Standing Committee;
- On September 17<sup>th</sup> the Director of CBPF, Prof. Fernando Lázaro Freire Junior, has proposed a revision of the previous agreement. The Director has asked to convene a meeting of the bilateral Standing Committee in order to define the new terms of the agreement;
- On September 18<sup>th</sup> the President of CAPES sent a termination letter concerning the CAPES-ICRANet Agreement. The ongoing programs with CAPES continue uninterrupted. The Director, also on the ground of the current positive scientific results, has asked the President of CAPES to implement the calls concluded prior to September 18<sup>th</sup>.

The Director also recalls:

- the ICRANet seat in Nice (Villa Ratti), the starting of the activities of the ICRANet Seats in Armenia (Yerevan) at the National Academy of Sciences and in Brazil (Rio de Janeiro) at CBPF;
- the meetings and PhD schools organized: "IRAP-PhD Nice Winter School", Nice, France, February 23 – March 2; "100<sup>th</sup> Anniversary of the Birth of Zel'dovich", Minsk, Belarus, March 10 – 14; "Search for Life beyond the Solar System", Tucson, Arizona (USA), March 16 – 21; "IRAP-PhD Les Houches School", Les Houches, France, May 11 – 16; "1<sup>st</sup> Scientific ICRANet Meeting in Armenia", Yerevan, Armenia, June 30 – July 4; "3<sup>rd</sup> Bego Rencontres", Nice, France, September 8 – 19;
- the new and already existing Agreements with Universities and Research Centers, including ASI (Italian Space Agency, Italy), BSU (Belarusian State University, Belarus), CAPES (Brazilian Fed. Agency for Support and Evaluation of Grad. Education), CBPF (Brazil), State Government of Ceará (Brazil), CNR (National Research Council, Italy), ENEA (National Agency for new technologies, energy and the economic sustainable development, Italy), FAPERJ (Fundação Carlos Chagas Filho de Amparo à Pesquisa do Estado do Rio de Janeiro, Brazil), GARR (Italy), ICTP (The Abdus Salam International Center for Theoretical Physics, Italy), IHEP (Institute of High Energy Physics, Chinese Academy of Sciences, China), IHES (Institut des Hautes Études Scientifiques, France), INFN (National Institute for Nuclear Physics, Italy), INPE (Instituto Nacional de Pesquisas Espaciais, Brasil), ITA (Instituto Tecnológico de Aeronáutica, Brazil), LeCosPa (Leung Center for Cosmology and Particle Astrophysics, Taiwan), NASB (National Academy of Sciences, Belarus), NAS RA (National Academy of Science, Armenia), Nice University Sophia Antipolis (France), Pescara University "D'Annunzio" (Italy), SCSA (State Committee of Science of Armenia), UAM (Universidad Autónoma Metropolitana, México), UERJ (Rio de Janeiro State University, Brazil), UFF (Universidade Federal Fluminense, Brazil), UFPB (Universidade Federal da Paraíba, Brazil), UFPE (Universidade Federal de Pernambuco, Brazil), UFRGS (Universidade Federal do Rio Grande do Sul, Brazil), UFSC (Universidade Federal de Santa Catarina, Brazil), UIS (Universidad Industrial de Santander, Colombia), UNAM (Universidad Nacional Autónoma De México), UNIFEI (Universidade Federal de Itajubá, Brazil), University of Rome "Sapienza" (Italy), UNS (Universidad Nacional del Sur, Argentina);
- the large number of Students and the growth of the International Relativistic Astrophysics PhD Program (IRAP PhD), promoted by ICRANet with the academic

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support of AEI – Albert Einstein Institute – Potsdam (Germany), Bremen University (Germany), Carl von Ossietzky University of Oldenburg (Germany), CBPF – Brazilian Centre for Physics Research (Brazil), Ferrara University (Italy), IHES (France), Indian centre for space physics (India), INPE (Instituto Nacional de Pesquisas Espaciais, Brasil), Nice University Sophia Antipolis (France), Observatory of the Côte d'Azur (France), Rome University – “Sapienza” (Italy), University of Savoy (France), Shanghai Astronomical Observatory (China), Stockholm University (Sweden), Tartu Observatory (Estonia);

- that the IRAP PhD has grown through the official recognition of the Erasmus Mundus program of the European Commission and has seen until today the registration of 103 Ph.D. students from all over the world (1 from Albania, 2 from Argentina, 5 from Armenia, 1 from Austria, 2 from Belarus, 11 from Brazil, 5 from China, 6 from Colombia, 1 from Croatia, 5 from France, 4 from Germany, 8 from India, 4 from Iran, 34 from Italy, 2 from Kazakhstan, 1 from Mexico, 1 from Pakistan, 3 from Russia, 1 from Serbia, 1 from Sweden, 1 from Switzerland, 1 from Taiwan, 2 from Turkey, 1 from Ukraine); in this new extended activity it has been involved also with the Indian Center for Space Physics (India) and the Shanghai Astronomical Observatory (China);
- that took place the first contacts to start the procedures for the adhesion of France, Germany, Kazakhstan, and South Korea to ICRANet.

The Director also notes:

- the contributions obtained in kind for the ICRANet Centers by the Municipalities of Pescara and Nice, and by the CBPF in Rio de Janeiro, as well as by the Academy of Science of Armenia in Yerevan;
- The support given by the Erasmus Mundus program of the European Commission to the IRAP PhD program has been up to this year of 1,300,000.00 Euros for student fellowship per year;
- The contribution of five positions (three researchers, one technician, and one secretary) of the State Committee of Science of Armenia.

He further notes:

- That the contribution of the Italian Government has been kept constant since the beginning of the ICRANet activities started in 2005, not taking into account any effect of inflation;
- That the increase in the voluntary contribution of Brazil for Euro 485.000, unanimously voted by the Board for 2014, has not yet been adopted by MCTI. This contribution should be in any way inserted in the 2015 budget request, bringing the annual contribution for 2015 to Euro 785.000,00;
- As of today the nominations of the representatives of the MCTI of Brazil in the ICRANet Board and Scientific Committee are still pending.

The Committee:

- thanks the Director for his presentation and appreciates the scientific achievements of ICRANet;
- recognizes the ample expansion of topics of Scientific Research at the highest international level and the many results obtained. Particularly important are the developments in the traditional fields of research, such as the Physics and Astrophysics of white dwarfs, neutron stars, and black holes;

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- notices as well a promising opening of scientific interests in the field of high redshift cosmology and the large scale structure of the Universe. Equally important is the progress toward field theories in extreme relativistic conditions made possible by the confrontation with data from X and Gamma ray satellites and Earth-based observatories in all wavelengths from the optical to the UHE gamma rays;
- witnesses the broadening of scientific activities in Armenia, Brazil, France, Germany, Italy, Kazakhstan, Mexico; it welcomes the action by the Director to obtain funding, local premises and support of the local Authorities, which adds a substantial increase to the assets of ICRANet;
- recognizes the strategic value of the activities in Brazil with the development in the ICRANet Center in Rio of the BSDC (Brazilian Science Data Center), promoting its ramification in all other ten Partner Institutions, after they are consulted;
- welcomes as well the signature of the agreement with Al Farabi Kazakh National University (Kazakhstan), CNR (Italy), UAM (Mexico), UFF (Brazil), UFPE (Brazil), UFRGS (Brazil), UFSC (Brazil);
- expresses gratitude for the preliminary project of the Brazilian ICRANet Center at the Cassino da Urca;
- asks the Director to address the attention of the Foreign Ministers of the ICRANet Members States on obtaining the Seat agreement for the Center in Villa Ratti in Nice; the entrance of France and Germany in ICRANet should be also considered with priority in view of the many common scientific interests with ICRANet;
- underlines the activities in the organization of international meetings: especially the publication of the XIII Marcel Grossmann Meeting in Stockholm (Sweden) and the program of biannual meetings between Italy and Korea and the effort, as well as the many PhD schools organized in Italy and in France;
- recognizes the strong commitment of teaching at graduate-student level, promoted by ICRANet in establishing the IRAP PhD in connection with some of the leading Astrophysical and Physical research Institutions of Europe, directly related to the activities encouraged by ICRANet in Brazil, China, India and Mexico;
- recognizes that, in order to keep pace with these scientific developments and with its scientific goals, as well as with the teaching to a vast number of IRAP PhD students all over the world, an expansion of the Faculty, visitors and research Members, both in Europe and in Brazil, is necessary and recommends the Director to open new appointments.

In conclusion given the strength of the Organization, the Committee is pleased to comment on their results with the intent of driving for excellence:

- takes note of the scientific achievements of ICRANet, led by its Director, in advancing in all the planned research topics and goals;
- acknowledges the contributions by the Minister of Foreign Affairs of Italy and the Minister of Science, Technology and Innovation of Brazil, and welcomes the new participation of Science State Committee of Armenia, for their continuous support of ICRANet;
- recognizes the significance of the action of the Ministry of Foreign Affairs of Brazil and of Armenia for submitting the Seat Agreements to their Presidents and succeeding in their final approval;

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- looks forward to reaching full operation of the ICRANet Centers in Brazil and in Yerevan;
- supports the Director on the establishment of a stronger and wider link with the ten Universities in Brazil, with the planned opening of the Seat in Armenia in January 2015, with the newly signed Agreement with the Al-Farabi Kazakh National University in Kazakhstan;
- supports the development of the BSDC, which will become a cornerstone for the activities of ICRANet in Brazil possibly to be extended to other South and Latin American Countries;
- supports further contacts with Belarus, China, India, Singapore, South Korea;
- supports the ICRANet activities within the IRAP-PhD and supports the possibility to extend the IRAP-PhD to some Brazilian and Mexican Universities;
- Recalls how the presence of students from Albania, Argentina, Armenia, Belarus, Brazil, China, Colombia, France, Germany, India, Italy, Russia, Serbia, Sweden, and Turkey has fostered the scientific atmosphere in the Pescara Center and their participation in many of the scientific reports has been very positive;
- urgently requests the designation of the Brazilian MCTI representatives in the ICRANet Board and in the Scientific Committee;
- considers appropriate a meeting of the standing committee between ICRANet and CBPF, with the participation of Members of the ICRANet Board and of the Scientific Committee, in order to clarify the apparent misunderstanding;
- in view of the existing expectations of students and scientists in Europe and Brazil, is equally requesting a meeting of the updated standing committee between CAPES and ICRANet, which by norm includes the Brazilian representatives in the Board and in the Scientific Committee, also with the participation of other Members of the ICRANet Board and of the Scientific Committee, in order to clarify the apparent misunderstanding and present the support and needs of all the participating Centers in Brazil with their agreement on the identified goals;
- supports the decisions of the ICRANet Board regarding the unanimously voted financial commitments and expect that they will be duly fulfilled;
- finally, recognizes the continuously improving tone and content of the scientific discussions and it must credit the Director, Prof. Remo Ruffini, and his staff, with the follow up to its recommendations of last year.

The meeting ends at 8:00 pm on the November 28<sup>th</sup> 2014 after the reading and unanimous approval of this report.

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SIGNATURES:

Felix Aharonian (Representative of Armenia)

*F. Aharonian*

Carlo Luciano Bianco (Representative of ICRA)

*Cl. Bianco*

Massimo Della Valle (Representative of Italy, Co-Chairman)

*Massimo Della Valle*

Gabriele Gionti (Representative of the Vatican State)

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Jorge Rueda with proxy by David Arnett (Representative of Arizona University)

*Jorge R. Rueda*

Remo Ruffini (Director of ICRANet)

*R. Ruffini*

— \* Requested by the Executive Secretary of the Brazilian Ministry of Science, Technology and Innovation, Prof. Álvaro Toubes Prata.