

ICRANet.

Scientific Committee
First Meeting
Washington, December 19th 2006

Report of the First Meeting of the Scientific Committee

And

Appended material

Report of the First Meeting

ICRANet Scientific Committee Meeting December 19, 2006 Cosmos Club Washington DC

Those present:

Carlo Luciano Bianco (representative of ICRA), substituted by Robert Jantzen, who also acted as meeting secretary.

Riccardo Giacconi (representative of Italy)

Sergei Matinyan (representative of Armenia)

Fulvio Melia (representative of the University of Arizona, Tucson)

John Mester (representative of Stanford University)

William Stoeger (representative of the Vatican) unable to attend will be contacted by phone during the meeting

Also in attendance:

Aniello Izzo (Auditor of ICRANet)

Remo Ruffini (Director of ICRANet)

The meeting opened at 9:30am with the approval of the Agenda (see Appendix 1).

The Committee then passed to the first point on the Agenda: Presentation of the Statute of ICRANet, the Internal Regulations of the Steering Committee of ICRANet, the Financial Regulations of ICRANet, the Staff Rules and presentation of the IRAPPhD Program by the Director.

The Director recalled that this first meeting has been done in Washington in order to overcome some contingent logistic difficulties but it will be important to hold the next meetings in Pescara and in other seats of ICRANet so as to allow the Members of the Committee and the resident scientists operating in ICRANet to meet and discuss. The Director recalled some historical background of ICRA and ICRANet. ICRA is an Italian research organization, recognized by Italian law, dedicated to international collaboration in the field of Relativistic Astrophysics [see Gazzetta Ufficiale n° 204, 31.08.1992]. ICRANet is itself an international organization, necessary for truly international collaborations.

The Statute, Internal Regulations of the Steering Committee, and financial rules were presented by the Director and appended to this report (see enclosure 2). Regarding staff rules the Director recalled that they were adapted from the corresponding ones of the ICTP/ICGEB in Trieste. The local administrative hiring follows national law with the discretion of the Director, while international hiring would follow international norms including international advertising of the positions.

The Director also recalled how the Government of Brazil requested to join ICRANet. The request by the President of Brazil (see enclosure 3) was accepted by the Board of ICRANet and the entrance of Brazil was in the process of being ratified by the Brazilian Government. There were also ongoing discussions to open an ICRANet Center in New Zealand around the scientific activities of Prof. Roy Kerr. There was the request by the Minister Christian Estrosi to have the University of Nice Sophia Antipolis join ICRANet as a Member in view of the very substantial contributions by the Conseil General des Alpes Maritimes and the City of Nice. There are ongoing discussions with the French Foreign Ministry. The Director also emphasized how ICRANet is cooperating with universities and other science institutions to find positions and joint appointments for people who work within them, rather than function independently. As an example a number of Chinese and Korean colleagues collaborating with ICRANet are now in key positions in Chinese and Korean science, leaving open the future to more collaboration both with China and Korea.

The Director finally presents the IRAP PhD program, sustained by ICRANet in collaboration with the University of Rome "la Sapienza", the University of Nice-Sophia Antipolis, the University of Savoie, the ETH of Zurich, and the Freie Universitat of Berlin.

The Director also recalled how support for activities of ICRANet has been given by the triennial series of Marcel Grossmann Meetings and by local meetings. Some general remarks were made about the ICRANet rules and regulations presented in book form to the members.

The Committee unanimously approved.

The Committee then passed to the second point on the Agenda: Discussion of the Draft of the Internal Regulations of the Scientific Committee of ICRANet.

The provisional Internal Regulations of the Scientific Committee were read point by point by John Mester and discussed by all members and amended.

The Committee then passed to the third point on the Agenda: adoption of the internal regulations of the scientific committee of ICRANet and consequent actions.

The final form of the text was finally drafted and unanimously approved (see enclosure 4) on the consequent actions. The Committee passed to the election of the Chairperson.

The Director proposed the candidature of Riccardo Giacconi as Chairperson of the Scientific Committee in view of his outstanding scientific accomplishments and his contributions to the founding of ICRA. The Committee unanimously approved the candidacy. Riccardo Giacconi requested John Mester as Vice-Chairman in support of his activities. The Committee unanimously approved.

Prof. Giacconi thanked all the members for his election and expressed the hope that ICRANet will make good progress in the first three years and appealed to all members and the Director for their help in dealing with connected issues.

Before passing to the next point in the Agenda the Director called Professor Bill Stoeger to inform him of the work of the Committee.

The Committee then passed to the fourth point on the Agenda.

The Director recalled the logistic development of ICRANet in Rome, Pescara, Castel Gandolfo and now in Nice as well as the planned developments in Rio (Brazil) and in Stanford (California). He invited the Committee to hold the next meetings at ICRANet Centers in order to have direct contact with the ICRANet scientists and graduate students in the IRAP PhD program.

He then reviewed the major ongoing activities:

D. Arnett Professor at the University of Arizona (Tucson) will be delivering lectures at ICRANet Pescara in September-October 2006 on Supernovae Theories.

A. Ashtekhar Professor at the University of Pennsylvania, has been the 2006 " Stuckelberg Lecturer " in Pescara and he still collaborates with ICRANet Students and Researchers.

Vladimir Belinski works in Pescara. He is currently affiliated as senior scientist to INFN and there is a special agreement between ICRANet and INFN to have him working in Pescara. Belinski is considered to be one of the leading cosmologists worldwide. His legendary work with Lifshitz (both Elia and Yevgeny) and Khalatnikov, the famous BLK work, is considered to be one of the most scientifically sophisticated models in the history of science. He has been developing a group of younger scientists in Rome and is currently working on exact solitonic solutions of two body solutions to the Einstein-Maxwell equations, a natural development of his classic work with Sergei Novikov. He has been very prolific in promoting relations with MEPHI in Moscow and other scientific institutions in Russia. Currently ICRANet is financing an exchange visitor program in Pescara with Belinski and Russian scientists.

Carlo Luciano Bianco, a postdoctoral fellow at the University of Rome financed by ICRANet, has been very active with Remo Ruffini developing fundamental work on the physics and astrophysics of Gamma Ray Bursts (GRBs). He is the author of many scientific contributions, he has been giving lectures in the IRAP PhD program and has been following theses at the undergraduate as well as doctoral levels. Dr Bianco also follows the development of the computer center of ICRANet and helps in organizing the biennial Italo-Korean Meetings on Relativistic Astrophysics.

Dino Boccaletti, Associate Professor in the department of mathematics at "la Sapienza", is associated with ICRANet. As a member of the Faculty of the IRAP PhD, he is currently coordinating the participation in the call for opportunity in the European Community with the Max Planck Institute for the History of Physics in Berlin in translating old European astronomy documents from Latin to English for web publication.

Thibault Damour formerly postdoctoral fellow at Princeton University working with Remo Ruffini, he has become since Professor at the Institut des Hautes Etudes Scientifiques a Bures sur Yvette and Members of the French Academy. He collaborates with ICRANet in many scientific and teaching activities, including the IRAP PhD program. Thibault is also a Member of the International Organizing Committee of the Marcell Grossmann meetings.

Juergen Ehlers Founder of the Albert Einstein Institute of Potsdam, he has been collaborating with ICRANet giving courses for the IRAP PhD students and visiting regularly Pescara and giving Lectures on classical aspects of General Relativity. Juergen is also a Member of the International Organizing Committee of the Marcell Grossmann meetings.

C. Isham Professor and Dean of Sciences at the Imperial College London will be the 2007 "Stuckelberg" lecturer

Fang Li Zhi. Co author of many books in Chinese and English with Remo Ruffini he has been cofounder of ICRA and ICRANet. Fang is also a Member of the International Organizing Committee of the Marcell Grossmann meetings. He is the founder as well of the Italian Chinese meetings organized every year in Pescara..

Simonetta Filippi is a former student who has been collaborating with ICRA since the beginning and is now associated with ICRANet. She is currently associate Professor at the Campus Biomedico in Rome. She has been working for many years with Remo Ruffini on galactic structures and has developed a very active collaboration with the University of Antioquia in Medellin, with Professor Alonso Sepulveda and his group. She is currently preparing a book on self-gravitating rotating fluids with Ruffini and Sepulveda. In addition she has developed a very lively group at the Campus Biomedico applying the numerical techniques developed in the field of astrophysics to the study of selected topics in biomedical research. Particularly relevant the work on heart function wave modelling with younger group member Christian Cherubini.

Robert Jantzen has been one of the oldest collaborators of Remo Ruffini since his undergraduate years at Princeton University. Currently full professor at Villanova University he is an internationally known expert on the group theoretical and mathematical aspects of general relativity. He has been working with Donato Bini on understanding how spacetime splitting techniques can illuminate and help interpret properties of stationary solutions of the Einstein equations, including a better theoretical understanding of the gravitomagnetic field. One of the crucial activities of ICRANet promoted by Jantzen has been the chairing of the International Coordinating Committee of the Marcel Grossmann Meetings for over a decade.

Donato Bini is currently a research scientist at CNR in Rome. Bini and Jantzen together have cultivated a series of young students acquiring research experience working on theoretical gravitational issues. Currently their student Andrea Geralico is supported by a postdoctoral fellowship from ICRANet and with Bini is exploring fundamental new results in the analysis of stationary configurations of point charges near black holes.

Roy Kerr one of the most quoted scientists , inventor of the Kerr Solution. Hre has been spending one month every year with ICRANet. He is currently planning to have New Zealand enter ICRANet and open an ICRANet Center in Christchurch.

Hagen Kleinert Professor of Theoretical Physics at the Freie Universitat in Berlin he has been the local organizer of MGXI in Berlin . He has partecipate in many teaching activities in the IRAP PhD program both in Pescara and having students follow his courses at the University of Berlin.

Vahe Gurzadyan he has been essential in bringing Armenia into ICRANet. He spends half time in Italy and half time in Yerevan. He is working on chaotic behavior in astrophysics and in particular as reflected in the CMB.

Giovanni Montani has been collaborating with Remo Ruffini before within ICRA and now as an associate of ICRANet. He is currently a research scientist at ENEA. Giovanni has been extremely prolific carrying out a vast amount of research in the field of foundations of general relativity and singularities and quantum fields. He has been following more then twenty PhD theses and giving lectures in the IRAP PhD. Around him there is an extremely active community of very young and motivated students. Among his many activities Prof. Montani directs the annual "Stuckelberg meetings" at ICRANet

V. Popov author of many scientific papers on vacuum polarization he has become a regular visitor of ICRANet in Pescara. He is collaborating on issue related to the study of vacuum polarization process around heavy nuclei and Black Holes.

Brian Punsly Actively working on Black holes magnetohydradynamics. Author of a classic book on the subject published by Sprinige Verlag. He is collaborating with ICRANet and has been visiting Pescara.

G. t'Ooft , Professor at the University of Utrecht, he will be the 2008 " Stuckelberg" Lecturer

Kjell Rosquist Professor of Theoretical Physics at the University of Stockolm. He has been giving lectures to IRAP PhD students and collaborating on applications of the Christodoulou mass formula of Black Holes.

Remo Ruffini, in addition to being Director of ICRANet, holds a Chair of Theoretical Physics at the University of Rome "la Sapienza" and direct the IRAP PhD program. He also chairs the Organizing Committee of the Marcel Grossmann Meetings and continues his research on relativistic astrophysics, with special attention to the physics and astrophysics of black holes.

She-Sheng Xue, after working for years with Remo Ruffini and Giuliano Preparata, has been the coauthor of the concept of dyadosphere. After graduating in the special selected group of graduate students at the University of Beijing chosen by the program of T.D. Lee, he has been a postdoctoral fellow with the INFN in Milano and later for some ten years a senior researcher at ICRA in the Physics Department in Rome. He is currently a Director of Research at ICRANet appointed on an Italian national contract equivalent to full professor status. He has been following many graduate and undergraduate students and Ph.D. theses. Currently he is collaborating with Prof. Popov in Moscow and Prof. Kleinert of the Freie Universitat Berlin. He is preparing a very broad review of the vacuum polarization process in physics and astrophysics with Remo Ruffini and Luca Vitagliano (a former Ph.D. student in Rome), now research associate at the University of Salerno. Prof. Xue also organizes annually the Italo-Chinese Meetings in Relativistic Astrophysics held in Pescara.

C. Sigismondi follows measures of solar eclipse to determine secular variations of the solar surface. He is collaborating with Prof. S. Sofia at Yale University. He has been coeditor of the Book "on relativistic gravitodynamics" with R. Ruffini .

The Director recalled that the website of ICRANet is currently being developed and special attention will be given to the presentation of the publications.

Referring to the Italian contribution in the previous financial years, the Director points out that the present finances allow the increasing of the scientific activities in the year 2007. Before closing the Director also briefly illustrated the collaboration agreements signed with ENEA, the University of Nice-Sophia Antipolis and the University of Rome "la Sapienza".

At the end of the review the Director recalled that the main strategy for ICRANet is for each Center to stay small, have the best people, promote a very dynamic and extended network of Centers, collaborate with other institutions to leverage its influence, and invest in development of young people. The IRAP Ph.D. plays a role in this.

Giacconi remarked about possibly trying to influence program decisions which direct the future of astrophysics. There is a clear and present danger for data acquisition in high energy astrophysics with the lack of planned observational missions for the foreseeable future.

The Committee took note of the documents and expresses its appreciation for the work performed by the Director for the very high quality of research and its direction entirely appropriate to the institutional Statute of the ICRANet, the Committee commented very favourably on this first scientific presentation of the ICRANet Director. It fully shared the views on the impressive scientific qualities of the research achieved and the activities implemented by the Center in just two years of activity.

The Committee decided to hold its second session in Pescara in June 2007.

With no further issues to discuss, the Committee closed its session at 13.00 hours.

ANNEX A.

PARTICIPANTS

1. Giacconi Riccardo (the President)
2. Izzo Francesco Aniello (auditor)
3. Jantzen Robert, with the proxy of Carlo Bianco
4. Matinyan Sergei
5. Melia Fulvio
6. Mester John
7. Ruffini Remo

ANNEX B.

LIST OF DOCUMENTS

1. The Statute of ICRA Net.
2. The Internal Regulations of the Steering Committee of ICRA Net.
3. Financial Regulations of the International Center for Relativistic Astrophysics Network.
4. Staff Rules and Regulations.

ANNEX C.

AGENDA

The 1st Meeting of the Scientific Committee of ICRANet will take place on Tuesday December 19th, starting at 9.30 a.m., at Cosmos Club in Washington (2121 Massachusetts Avenue, NW - Washington, DC 20008 <http://www.cosmos-club.org/>), on the premises of the Club.

1. Presentation of The Statute of ICRANet, The Internal Regulations of the Steering Committee of ICRANet, The Financial Regulations of ICRANet, The Staff Rules and presentation of the IRAP PhD Program by the Director.
2. Discussion of the Draft of The Internal Regulations of the Scientific Committee of ICRANet.
3. Adoption of The Internal Regulations of the Scientific Committee of ICRANet and consequent actions.
4. Presentation of ongoing scientific programs by the Director.
5. Discussion of ongoing and future programs.
6. Conclusions.