


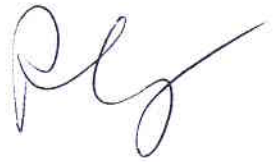
ICRANet

Scientific Committee
Second Meeting
November 27-28, 2007

Report of the Second Meeting of the Scientific Committee

And

Appended Material



Report of the Second Meeting

ICRANet Scientific Committee Meeting
November 27-28, 2007
ICRANet - Pescara

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Those present:

Carlo Luciano Bianco (Representative of ICRA)
Riccardo Giacconi (Representative of Italy)
Matinyan Sergei (Representative of Armenia) substituted by Simonetta Filippi
Fulvio Melia (Representative of University of Arizona, Tucson) substituted by Thibault Damour
John Mester (Representative of Stanford University)
William Stoeger (Representative of the Vatican) substituted by Robert Jantzen
Also in attendance:
Aniello Francesco Izzo (Auditor of ICRANet)
Remo Ruffini (Director of ICRANet)
Federica Di Berardino (Secretary of ICRANet)

See Enclosure 1 for the substitution documents.

The meeting started at 10.00 am on November 27, following the enclosed schedule (Enclosure 2).
The following considerations have resulted from this meeting.

Since the activity of ICRANet began in September 2005, the Scientific Report covers these first two years 2005-2007 of activity. These two years have been very important since they serve to characterize the development of ICRANet.

The Scientific Committee expressed appreciation for the creation of the New Faculty of ICRANet described in the 2005-2007 scientific report (Enclosure 3), a faculty system which associates senior Professors and young faculty members with a series of distinguished adjunct professors, among the leaders in relativistic astrophysics worldwide. The creation of named ICRANet Chairs appears to be very appropriate for this new scientific institution. Particularly important are the lecturers at ICRANet participating in the PhD program sponsored by ICRANet, with its graduate students coming to this program from all over the world. The Committee also considered in a very positive light the intense visitor program with many scientists from North and South America, Asia, South-East Asia, India, Europe, Australia and New Zealand.

The topics of research have been presented by the scientists of ICRANet in the printed 2005-2007 scientific report hereby enclosed and summarized in 15 oral presentations at the meeting of November 27-28. In each of these we recognize the high level of research activity with numerous publications in international scientific journals as well as communications presented in international meetings.

Special mention should be made of the international meetings sponsored and/or organized by ICRANet:

- **The Second Sino-Italian Workshop on Relativistic Astrophysics** held in Pescara June 10-20, 2005;
- **The First Bego Scientific Rencontre** held in Nice-France February 6-17, 2006;

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- **The First Stueckelberg Workshop on Relativistic Field Theories** held in Pescara June 25 to July 1, 2006, proceedings published by Società Italiana di Fisica (SIF);
 - **The Third Sino-Italian Workshop** held in Pescara July 10-20, 2006;
 - **The Eleventh Marcel Grossmann Meeting** held in Berlin July 23-29, 2006 has been by far the largest effort in this sense, proceedings to be published by World Scientific;
 - **The First Cesare Lattes Meeting** held in Rio De Janeiro-Brazil February 25 to March 3, 2007;
 - **The Tenth Italian-Korean¹ Symposium on Relativistic Astrophysics** held in Pescara June 25-30, 2007, proceedings to be published by the Korean Physical Society;
 - **The Fourth Sino-Italian Workshop** held in Pescara July 20-30, 2007, proceedings published by the American Institute of Physics as volume 966 in the AIP Conference Proceedings series;
 - **The Second Stueckelberg Workshop on Relativistic Field Theories** held in Pescara September 3-8, 2007, proceedings to be published by World Scientific;

In addition, ICRANet has sponsored:

- **The Workshop on Active Galactic Nuclei (AGN)** held at Castelgandolfo October 3-6, 2005, proceedings to be published;
- **The XII Brazilian School of Cosmology and Gravitation** held in Mangaratiba (Rio de Janeiro), September 10-23, 2006, proceedings published by the American Institute of Physics as volume 910 in the AIP Conference Proceedings series.
- **The Formation and Evolution of Galaxy Disks Meeting**, held in Rome October 1-5, 2007, proceedings to be published;

Similar activities are expected to be further extended in the forthcoming years:

- **The SNBNCBS-ICRANet Workshop on Black Holes, Neutron Stars and Gamma Ray Bursts**, to be held in Kolkata (Calcutta, India) in February 2008;
- **The Fifth Sino-Italian Workshop on Relativistic Astrophysics** to be held in Taiwan in June 2008;
- **The 12th Marcel Grossmann Meeting** to be held in Paris in 2009. This meeting will occur as one of the high points of the celebration of the 2009 Year of Astronomy, recently announced by UNESCO under the proposal of the Italian government.

Of special importance is the PhD Program. As explained previously, since ICRANet does not grant academic degrees, a special program has been set up with the participation of European universities. ICRANet has sponsored the International Relativistic Astrophysics PhD program, the IRAP-PhD, with the participation of: ETH Zurich, Freie Universität Berlin, Université de Nice Sophia Antipolis, Università di Ferrara, Università di Roma "La Sapienza", and Université de Savoie. The committee particularly recognizes the successful teaching activities of the IRAP-PhD for the years 2005, 2006 and 2007.

The Scientific Committee also welcomes the entrance into ICRANet of new Members. On September 21, 2005 the Director of ICRANet received the Ambassador of Brazil Dante Coelho De Lima, specially appointed by President Luiz Ignácio Lula Da Silva to request the joining of Brazil to ICRANet. After almost two years of discussions, first in the Brazilian Parliament, and finally in the Brazilian Senate, the membership of Brazil in ICRANet has been unanimously ratified by the Brazilian government. In parallel to this, the Director has been pursuing the preliminary steps for New Zealand to join ICRANet, in order to foster the formation of a research group around Prof. Roy Kerr and further establish direct contacts with scientists in the southern hemisphere. This step

¹ This meeting takes place with South Korean scientists.

by ICRANet follows the multi-year activity successfully begun between ICRA and research centers in Chile (CECS in Valdivia) and Western Australia (University of Nedlands in Perth). All these activities are strongly supported by the Committee.

The Committee also has heard with satisfaction the progress in the establishment of the ICRANet center at Villa Ratti in Nice, France in order to maximize contacts with other European countries and more generally with countries all over the world. The existence of a well connected airport and the presence of electronic backbones for internet communication are all important elements which add to the decision of the Nice Municipality to offer the historical Villa Ratti as a seat for ICRANet in Nice. The first stone for the restructuring of the Villa was laid down in the presence of the Minister of State Christian Estrosi, the Mayor of Nice Jacques Peyrat and the ICRANet Director Remo Ruffini in November 23, 2007.

The Committee strongly supports the signature by the Director of the agreements with universities and research institutions. In particular, essential to the development of teaching and research activities has been the signature of the bilateral agreements between ICRANet and the University of Nice Sophia Antipolis, between ICRANet and the University of Rome "La Sapienza". The Committee recognizes that these collaborations are crucial in order to give to ICRANet scientists the opportunity to teach courses and give lectures in the universities and, vice versa, to provide to the faculty of these universities the opportunity to spend research periods at ICRANet institutions. The Committee also recognizes the desirability of agreements with research institutions in member states, e.g. the one already signed with ENEA in Italy.

The Committee visited the new facilities of the seat of Pescara and welcomes the project of dedicating the new basement space to a library and common discussion room. Also welcome is the creation of a small open air amphitheatre dedicated to lectures, including public ones, in the summer, spring and autumn.

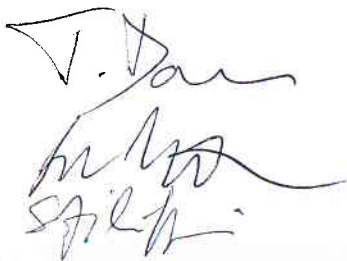
The Scientific Committee especially approves that the ICRANet Staff and its Director focus on the theoretical consequences of Einstein's Theory of General Relativity, which by Statute is the basis for the scientific activities at ICRANet. It also supports giving special attention to graduate students as well as to a vigorous postdoctoral program. It recommends that the Board request an increase of funding especially in view of the very intense program of new ICRANet members and in view of the necessary expansion of the faculty as well as of the above mentioned postdoctoral and visitors programs.

In conclusion the Committee expresses its satisfaction for the high level of scientific activities demonstrated in these first two years. It recommends as well a program of outreach to help explain to the larger community the scientific results it has obtained. Comparison of actual data with the various theoretical investigations should also be encouraged and promoted.

The Meeting ended at 12.00 pm November 28, 2007 after reading and unanimous approval of this report.



Prof. Riccardo Giacconi
Chairperson of the Scientific Committee of ICRANet



Vittorio

ENCLOSURE 1a

Da: smatinian@nc.rr.com
Inviato: mercoledì 14 novembre 2007 4.26
A: ruffini@ICRA.it
Cc: gurzadya@ICRA.it
Oggetto: replacement

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Dear Remo,

Due to my impossibility to participate the Meeting of SC ICRANet this time,

I would like to ask Prof. Simonetta Filippi to replace me as representative of Armenia at the forthcoming ICRANet SC meeting on November 28. And I am grateful to Professor Filippi for that replacement in advance.

Thank you and best wishes of successful work of the SC.
Regards, Sergei Matinyan

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Version: 7.5.503 / Virus Database: 269.15.30/1127 - Release Date: 12/11/2007 21.19

Vittorio

ENCLOSURE 1b

Da: Professor Fulvio Melia [melia@physics.arizona.edu]
Inviato: lunedì 19 novembre 2007 2.37
A: damour@ihes.fr
Cc: ruffini@ICRA.it
Oggetto: Meeting 26-29 November Pescara

Dear Thibault:

as you know, I will not be able to come to the meeting in Pescara next week, since that is right in the middle of our final week/examination period for the course I am teaching this semester. As such, I would be grateful if you could represent me (with full voting privileges) at the meeting of the scientific committee during this gathering.

Thank you and best wishes,
Fulvio Melia

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Newly Released: "The Galactic Supermassive Black Hole"
<http://press.princeton.edu/titles/8453.html>

Fulvio Melia
The University of Arizona
Department of Physics & Steward Observatory
Rm 447, PAS #81 (520) 621-9651
<http://www.physics.arizona.edu/~melia>
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Jantzen as Specola Vaticana representative for November ICRANet meeting

wstoeger@as.arizona.edu [wstoeger@as.arizona.edu]

Sent: Tuesday, November 20, 2007 6:23 PM

To: ruffini@ICRA.it; giacconi@pha.jhu.edu

Cc: Robert Jantzen; jfunes@as.arizonal.edu

Dear Remo and Ricardo,

Rev. Dr. Jose' Funes, S. J., Director of the Vatican Observatory and ICRANet Board Member, and Prof. William Stoeger, S. J., Staff Scientist at the Vatican Observatory Research Group and Member of the ICRANet Scientific Committee, hereby officially appoint Prof. Robert Jantzen, of Villanova University, as their representative -- and therefore representative of the Vatican Observatory -- for the ICRANet Scientific Committee Meeting to be held in Pescara, Italy 27 and 28 November 2007.

Rev. Dr. Funes and I ask that you accept Prof. Jantzen in this capacity at the above-mentioned meeting.

With thanks and best wishes,
William R. Stoeger, S. J.

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Scientific Program

November 27

10:00 - 11:00 Introduction of scientists and meeting with local Authorities.
Unveiling of underground ICRA Net facilities

Chairperson: Prof. Robert Jantzen

11:00 - 11:30 Report by ICRA Net Director

11.30-12.10 Gamma-Ray Bursts

12.10-12.50 Relativistic Effects in Physics and Astrophysics:
Binary Systems and Gravitational Radiation

12.50-13.00 Discussion of the Scientific Committee

13:00 - 15:00 Lunch break

Chairperson: Prof. Thibault Damour

15:00 - 15:30 Theoretical astroparticle physics

15.30-16.10 Critical Field in Physics and Astrophysics of Neutron stars and black holes

16.10-16.40 Exact Solutions of Einstein-Maxwell Equations

16.40-17.00 Coffee break

Chairperson: Prof. Pascal Chardonnet

17.00-17.40 Spirals and vorticity: from the galaxies to the heart

17.40-18.10 Early Cosmology and Unified Field Theories

18.10-18.40 Relativistic Field Theories

18.40-19.10 Discussion of the Scientific Committee

November 28

Chairperson: Prof. Mario Novello

09:00 - 09:30 Symmetries in General Relativity

09:30 - 10:00 Perspectives on precision tests of general relativity

10:00 - 10:30 Supernovae

10:30 - 10:35 Magnetohydrodynamics of Black Holes

10:35 - 10:40 Edition of books

10:40 - 11:10 Coffee break

11:10 - 12:00 Discussion of the Scientific Committee

12.30 Departure for Rome

17:00 - 18:00 Meeting at the Ministry of Foreign Affairs in Rome

