in Rome?

ome is in a unique position as far as basic scientific interdisciplinary research between Mathematics and Theoretical Physics goes, not only because of the high quality of research but also for the very ample spectrum of subjects studied. This puts Rome in a particularly favorable position, especially compared with other foreign centers where very high quality research is done, but usually focussed on a specific area of study. The Center for Mathematics and Theoretical Physics (CMTP) has been recently founded, following the example of the major foreign centers, both in Europe and elsewhere. Its Scientific Board is governed by the three roman universities. From an administrative point of view, the CMTP is an Interdisciplinary Center of the University of Rome Tor Vergata.







Director Roberto Longo Mathematics Department University of Rome Tor Vergata



Organization of the Center

Scientific Secretaries Alberto De Sole Mathematics Department Sapienza University of Rome



Roma Tre University

Scientific Council Massimo Bianchi **Physics Department** University of Rome Tor Vergata



Corrado De Concini Mathematics Department Sapienza University of Rome **PHYSICS**

AND THEORETICAL

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FOR

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Why a Center for Mathematics and Theoretical Physics



Institute des Hautes Etudes Scientifiques (IHES), France (NIMS), UK

Newton Institute for Mathematical Sciences

Il major industrialized countries

host prestigious centers for basic research in Mathematics and Theoretical Physics:

Institut Mittag-Leffler (IML), Sweden Fields Institute, Toronto, Canada Erwin Schrödinger Institut (ESI), Austria Max Planck Institut (MPI), Germany

Mathematical Sciences Research Institute (MSRI) in Berkeley, USA Institute for Advanced Studies (IAS)

in Princeton, USA







international recognition

he scientific interaction between Mathematics and Physics in Rome flourishes in such fields as Statistical Mechanics, Low Temperature Physics, Quantum Field Theory, Infinite Dimensional Algebra, Geometry and Analysis, Complex Systems, Theory of Chaos, ...

The high level of the roman scientific community is testified by the numerous international recognitions:

5 Grants of the European Research Council in the last two years (for a total of about 7 million euro, more than half of the entire annual budget for mathematics provided by the Italian government) to A. Giuliani, C. Liverani, R. Longo, F. Martinelli, G. Parisi







Feltrinelli Prizes to G. Jona-Lasinio and C. Procesi **Boltzmann Medals** to G. Gallavotti and G. Parisi

Planck Medal to G. Parisi

Dirac Medal to a G. Parisi

National Prices by the President of the Italian Republic to G. Gallavotti and S. Doplicher

Vice President of the International Mathematical Union (C. Procesi)

the Scientific Board of the CMTP includes several invited speakers at the International Mathematics Congress, and members of the Italian National Academy (Accademia dei Lincei), ...

Statistical Mechanics

Low Temperature Physics

Quantum Field Theory Algebra, Geometry, Analysis

Complex Systems

Theory of Chaos



for great international visibility for Italy and for Rome





he main objective of the Center is to promote scientific research. The CMTP represents a natural place for advanced scientific education and constitutes a cultural basis for exchanges with other foreign centers. To this end, organizes congresses, workshops, research projects on specific subjects, offers permanent and temporary positions both to foreign scientists of great international prestige and to emerging young researchers. The Center, a member of the International Association of Mathematical Physics, has the scientific and administrative potential to enlarge its activities and to become a leader at the international level.

The CMTP promotes fundamental scientific research and aims to awaken the interest of the new generations in Science, by organizing conferences for the general public and activities addressed to high school students, to young people, and to everybody interested in scientific culture.

A natural place for advanced scientific education and a basis for cultural exchange he creation of the Research Center for Mathematics and Theoretical Physics (CMTP) in Rome is not only natural, but a key step to provide Italy and the city of Rome with an instrument of great impact and international visibility. The strategic role of the CMTP is pointed out in the Report of the Commission for the Future of Roma Capitale, where it is mentioned that the Centre could be a possible driving force for a renewed cultural rise of the city of Rome.





he CMTP has already organized, and it continues to propose, numerous scientific activities in Theoretical Physics and Mathematics, with an ample spectrum of interdisciplinary problems:

Inaugural Workshop "Seminal Interactions between Mathematics and Physics", Rome, Accademia del Lincei, September 22-25, 2010, under the High Patronage of the President of the Italian Republic. The conference attracted some of the most prominent figures in contemporary Mathematics and Physics, including the Field medalists Alain Connes, Andrei Okounkov, Stanislav Smirnov and Cedric Villani, and the Abel prize winner Isadore Singer Workshop on "Conformal Field Theory", Frascati, National Laboratories of Nuclear Physics, January 10-11, 2011.

Colloquia Levi-Civita and various Seminars in the three roman universities

Postdoctoral fellowships for young researchers

Lectures for the general audience "Dialoghi di Scienza e Matematica"



the scientific initiatives