

## FINAL ANNOUNCEMENT

Workshop & "Giornata INDAM"

# Multiscale Analysis for Quantum Systems and Applications

to be held at INdAM, Istituto Nazionale di Alta Matematica, ROMA, October 24-26, 2007.

**Aim and topics:** Separation of scales plays a fundamental role in the understanding of complex systems. In the context of quantum mechanics, recent progresses in multiscale analysis and numerical simulation shed new light on the dynamics in mesoscopic systems and nanostructures. The workshop aims to review the state of the art in the subject and to create deeper contacts between mathematicians and other scientific communities, involving leading experts in solid state physics, nanophysics, numerical modeling and microelectronics.

Among the topics covered:

- multiscale and semiclassical analysis of quantum systems,
- mathematical and numerical modeling of nanodevices,
- electron transport in semiconductors,
- multiscale approaches to quantum decoherence,
- geometric structures in meso- and nanophysics.

### Invited speakers for "Giornata INDAM" (October 25, 2007):

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| ➤ A. Ghetti (STMicroelectronics)         | ➤ S. Pascazio (University of Bari)   |
| ➤ A. Gnudi (DEIS, University of Bologna) | ➤ R. Resta (University of Trieste)   |
| ➤ C. Le Bris (ENPC, Paris)               | ➤ R. Schrader (University of Berlin) |

**Organizing committee:** D. Benedetto (Roma), G. Dell'Antonio (Roma), G. Panati (Roma), M. Pulvirenti (Roma), V. Romano (Catania), A. Sacchetti (Modena), A. Teta (L'Aquila).

**Registration:** please send an e-mail to [maqm@mat.uniroma1.it](mailto:maqm@mat.uniroma1.it) specifying your name and affiliation, possibly **before October 10<sup>th</sup>**. No conference fee is required.

**Location:** INdAM, Istituto Nazionale di Alta Matematica,  
presso Dipartimento di Matematica,  
Università di Roma "La Sapienza",  
piazzale Aldo Moro 2, 00187 ROMA.



**Website:** <http://www.mat.uniroma1.it/ricerca/convegni/MAQM2007/INDAM2007.htm>

**Project:** the workshop is organized in the framework of the INdAM project “Mathematical modeling and numerical analysis of quantum systems with applications to nanosciences”.

**Schedule of the workshop:** The central day (October 25) will be devoted to lectures by leading experts from other scientific communities, with emphasis on the mathematical challenges arising from the recent research trends in meso- and nanophysics. Young participants are encouraged to propose a short communication.

**Financial support:** Some financial support is available for members of the INdAM project “Mathematical modeling and numerical analysis of quantum systems with applications to nanosciences”.