

MaNEqui - Mathematical studies on critical non-equilibrium phenomena via mean field theories and theories of nonlinear partial differential equations
REFERENTE prof. Ricciardi Tonia, Dip. Matematica e Applicazioni

The aim of the present project is to unite, in a cooperative and synergetic way, the work of researchers from 5 European institutions, 2 in Italy (Naples Federico II and Naples Second University) and 3 in Greece (FORTH Heraklion, University of Crete and University of the Aegean), in order to consolidate and definitely establish scientific collaborations with a Third Country (Japan). The focus of the research project will be in mathematical analysis, particularly nonlinear elliptic and parabolic partial differential equations, including applications to problems of particular relevance in various fields in Physics, Biology and Medical Sciences, such as material sciences, chemotaxis, tumour growth, all finalized towards results of international relevance. The marked interdisciplinary features of the proposed researches are expected to greatly benefit of the complementary backgrounds and fields of interests of the participants. This project is motivated by an already existing collaboration between some European members of the project with first class scientist Professor T. Suzuki of Osaka University, as well as with other Japanese mathematicians. We emphasize that the availability of direct interaction among the European institutions and the Third Country has already been partly implemented by Professor Suzuki's visiting and lecturing at Naples Federico II University (2007 and 2008) and in Greece (2007) as well as by numerous stages of Italian and Greek participants at Japanese institutions. The collaboration in Japan will mainly take place at Osaka University, where Professor Suzuki will coordinate the activities and supervise the training programme of the European early stage researchers, and at 3 other Japanese universities. The present requested financial support would allow to maintain, reinforce and extend the already existing collaboration, as well as to provide an invaluable training of young European mathematicians at prestigious Japanese research centres.

Coordinator

UNIVERSITA DEGLI STUDI DI NAPOLI FEDERICO II (Italy)

Other Participant

- FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS
- University of the Aegean-Research Unit
- PANEPISTIMIO KRITIS (UNIVERSITY OF CRETE)

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