



Interuniversity National Consortium
"Chemistry for Environment"

International Scientific Collaborations of INCA

Other Projects

1. USA - National Science Foundation (NSF). INCA has been designated by the Italian Embassy in Washington as the Italian counterpart for the NSF in a program on the study and recovery of Contaminated Sediments from Port Areas. INCA coordinates the Italian institutions that take part in the project: the Universities of Venice, Messina, Genova, Bologna, the ENEA in Casaccia, the CNR of Bologna, ENI Ambiente, the Consorzio Venezia Nuova, and ICRAM. A workshop was held in Washington on 9-10 December 2002, where INCA and NSF agreed on common scientific research to address the issues related with port dredging, the development of innovative methods for the analytical monitoring of the sediments, and their decontamination. (see "Publications" section of the CD-rom)

2. Australia. INCA has a Memorandum of Understanding with the Green Chemistry Center of Monash University. The Memorandum aims to promote collaborative research on the use of renewable resources, on the production of clean chemical products, and on the development of alternative fuels. Training and Masters courses are also foreseen. The memorandum was underwritten, in the presence of the scientific attaché of the Italian Embassy in Canberra, during the First Italian-Australian Meeting on Technological Innovation in Melbourne in March 2002.

3. RISEt. Since October 2002, INCA is part of the RISEt (Science and Technology Information Network) network established by the MAE through its Direzione Generale per la Promozione e la Cooperazione Culturale¹. RISEt gathers and distributes the information collected by the scientific attachés of Italian Embassies, Consulates and Cultural Institutes. INCA addresses the following key issues within RISEt: chemistry (general topics, inorganic and organic chemistry, applications), biology (general topics, biochemistry, applications), ecology and the environment (atmosphere, earth, waters).

Scientific collaboration with Egypt

A bilateral agreement for scientific collaboration on sustainable development was signed between Prof. Pietro TUNDO, President of INCA, and Prof. Farouk Abdel Kadir, the President of Suez Canal University (Ismailia, Egypt) in October 2003. At present days three scientific projects are in progress and a fourth is about to kickstart.

¹ Italian Ministry for Foreign Affairs – Directorate General for Promotion and Cultural Cooperation.

TEMPUS Programme Project

Tempus is a programme by the European Commission designed to facilitate social and economical changes in partner countries, upgrading their superior educational systems via a collaboration with member States of the European Community. The programme is based on the concept that superior educational systems are fundamental for economical and social transition processes and cultural progress. Tempus was the perfect financial tool for satisfying the urgent need of know-how in the field of environment protection and sustainable development at a university level in Egypt. The Tempus Joint European Project "Sustainable Environmental Development, A Curriculum Development Project (SEDC) was selected in early Summer 2003 and activities started on September 2003.

Partners are the InterUniversity National Consortium "Chemistry for Environment" (INCA, project contractor; Venice, Italy), the Environmental Impact Assessment Unit at Suez Canal University (SCU, project coordinator; Ismailia, Egypt), the Centre of Environmental Sciences (Leiden University; The Netherlands), and the Green Chemistry Section at Institut Univ Ciencia i Tecnologia (Barcelona, Spain).

The main goal of the project is to design and run upgraded courses at SCU, introducing topics such as environment protection, green chemistry, and sustainable development for students of scientific disciplines. The second goal of the project is the start-up of a "Centre of Excellence" for consultation and analytical services to private companies and regulatory bodies in the field of environment protection.

Project on Biodiversity in Sinai

A new project named "Characterization and Identification of Single Active Components in Sinai Endemic Plants - Structure-action Relationship" is at its kick-start in the framework of the Italy-Egypt scientific collaboration. It is co-financed by the Italian Ministry for Foreign Affairs and INCA. Its aim is to study biodiversity of endemic peculiar plants of the Sinai peninsula (Egypt) and investigate on biologically active vegetal molecules. Focusing on the ones possibly useful to preserve human health.

Scientific partners of the project are INCA (Rome) and the Suez Canal University (Ismailia, Egypt). Besides its scientific aspects, this project is expected to strengthen the collaboration between the two countries and to rediscover respective secular traditions. In fact, especially in Middle East and East, natural medicine and vegetal drugs have a main social and cultural role.

Project on POPs at Ismailia

A new project named "Analysis, Training and Establishing Laboratory Facilities for Persistent Organic Pollutants (POPs) - Determination at Suez Canal University, Ismailia, Egypt" was approved by MAE in Fall 2003 for collaboration of INCA and Suez Canal University (Ismailia, Egypt) for analysis of Persistent Organic Pollutants (POPs) such as dioxins, chlorinated hydrocarbons, and polycyclic aromatic hydrocarbons. All these are among severe hazardous pollutants.

In Ismailia, sources of POPs generation are many including incinerators of medical waste, solid and agricultural waste burning, shipping and maritime activities along the Suez Canal, the dry dock and the various industrial facilities. Lake Tamsah and the Bitter Lakes in the vicinity of Ismailia City are the end point of municipal, agricultural and industrial waste effluent. Massive volumes are discharged in these. The main objective of the project is to lay the foundation of analytical capabilities in the field of persistent organic pollutants in Suez Canal University.

A main component of the project would be to map out the local inventory of particular contaminants of Ismailia and Canal Governorates. Dioxins and dioxins-like polychlorinated biphenyl would be one of the first priorities of this program. The high priority of this group of compounds is based on their highly toxic nature, coupled with the extreme shortage of any national records of their national records.

The final objective is to assess the relationship between pesticide application in some export crops and the residue level of these crops. Advice would be given to regulatory bodies in Egypt on how to combine proper control of pests while maintaining residue level within ranges recommended by international bodies (Codex Alimentarius of FAO / WHO).