

Brussels, 5 October 2007

European Commission promotes research partnerships between universities and businesses

€38.5 million of new funding is being made available for projects to encourage innovative partnerships between academia and industry. This MEMO outlines some examples of the 41 projects selected for funding. The final budget figures and project details are subject to negotiation which will start in October 2007. For details of the success of a previous innovative partnership, see IP/07/239.

Economics: CEI-EGE China's Electricity Industry: Efficiency, Growth And The Environment

The electricity industry in China has to meet three challenges: to supply the fast growing economy with sufficient power, to make power plants more efficient, and to reduce the health-damaging impact of its coal-fired power plants. Understanding the extent and the nature of these challenges is of major concern for decision-makers both in the public and private sectors in China and Europe. The proposed research will aim at providing policy makers and industrialists with a comprehensive and detailed economic and technical assessment of the capability of China's electricity industry to meet environmental demand for its sustainable development and growth.

Duration: 4 years

Estimated EU contribution: € 0.67 million

Co-ordinator: Prof. Eric Girardin, Université de la Méditerranée, France,
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Partners from: UK (Brunel University); Switzerland (SwissElectricity)

Social and Human Sciences: Hyghtra - A Hybrid High Quality Translation System

The general aim of machine translation (MT) is to make communication in a globalized world easier, more efficient and more affordable. Different systems are currently used in machine translation, based on statistics, examples, or rules. HyghTra proposes a hybrid, optimized architecture, integrating the advantages of each of these systems. Methods for dictionary generation are suggested that have never been applied on the context of a commercial machine translation system before. The proposed project will strengthen not only European MT research, but also the competitiveness of the European MT industry.

Duration: 4 years

Estimated EU contribution: € 0.69 million

Co-ordinator: Dr Reinhard Rapp, University of Tarragona, Spain,
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Partners from: Germany (Lingenio GmbH)

Life Sciences: FIGHTMAL - Correlating protection against malaria with serum profiles against Plasmodium falciparum antigen repertoires

People living in endemic malaria areas develop, with time, a form of immunity to infection and clinical disease. Currently there are no assays or clinical parameters that predict whether an exposed person is protected against malaria. This represents a major obstacle for vaccine development. Here research institutions and industrial partners, combining cutting edge expertise join their efforts with the aim to unravel correlates of protection against human malaria.

Duration : 48 months

Estimated EU contribution: € 1.95 million

Co-ordinator: Prof. Andrea Crisanti, University of Perugia, Italy,
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Partners from: UK (Microtest Matrices Ltd and London School of Hygiene and Tropical Medicine), France (Protein'eXpert), Uganda (Med Biotech Laboratories)

Life Sciences: CancerGene - Identification and functional characterization of genetic cancer risk Variants

This project aims at uniting 2 groups which have hitherto focused on different aspects of cancer genetics. The major focus of deCODE genetics is to identify genetic causes of common diseases, including all forms of cancer. The company has discovered several genetic risk variants for prostate and breast cancer. However, although these variants have been firmly validated as risk factors for cancer, their functional role has not yet been characterized. The University of Torino group has developed an innovative technology for knock-in of genetic variants in order to reconstruct genetic events in tumour progression.

Duration : 48 months

Estimated EU contribution: € 0.9 million

Co-ordinator: Dr. Thorunn Rafnar, deCODE Genetics, Iceland,
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Partners from: Italy (University of Torino School of Medicine)

Mathematics: CCII - Climate Change and the Insurance Industry

Climate and weather forecasting hosts a wide range of scientific and mathematical methods with a heavy computational base. This project will bring statisticians, insurance and climate experts together to build a methodological basis for the emerging field of climate change insurance risk so that the insurance industry can adapt in response to weather and climate risks. CCII will access insurance data from partners and agencies as well as the huge amount of actual and simulated weather and climate data to build models and methods of real relevance to decision making in the insurance industry and inform government and regulators.

Duration: 48 months

Estimated EU contribution: €1.16 million

Co-ordinator: Dr. Lars Holden of Norsk Regnesentral, Norway, Lars.Holden@nr.no

Partners from: UK (London School of Economics and Political Sciences; Lloyd's), Norway (Gjensidige Forsikring)

Engineering and Information Sciences: DHRS-CIM - Distributed Human-Robot System for Chemical Incident Management

A chemical incident is an example of an event that can hit a densely populated region and can easily result in a sizeable disaster and crisis. Emergency responders and contingency planners need systems that allow swift and effective reaction and they need access to complete and detailed information and all emergency services. The project will deal with human and artificial sensing to support human decision-making in crisis management using sensor networks or mobile robots which can access more information and process it much faster than humans within critical time-constraints

Duration: 48 months

Estimated EU contribution: €1.86 million

Co-ordinator: Dr. Cornelis Nieuwenhuis of Thales Research and Technology Nederland B.V. - NL, kees.nieuwenhuis@decis.nl

Partners from: UK (Sheffield Hallam University); Netherlands (Universiteit van Amsterdam); Sweden (Örebro University); Belgium (Space Applications Services N.V.)

Environmental and Geosciences: BLUE4GLUE - Reinforcing capacity towards industrially relevant research on bio-inspired materials and delivery mechanisms"

BLUE4GLUE offers 10 researchers the possibility to absorb and implement new knowledge in a professional industrial-academic environment in the field of blue (marine) biotechnology and particularly in the area of bio-inspired adhesives and release materials for adhesives. The proposed development of bio-mimetic glue products will revolutionise the field of adhesive and surface technology

Duration: 4 years

Estimated EU contribution: €0.65million

Co-ordinator: Dr. Mario Guarracino Proctor and Gamble, Italy, guarracino.m@pg.com

Partners from: Italy (University of Naples Federico II); Germany (Fraunhofer Gesellschaft zur Förderung der angewandten Forschung)

Chemistry: MONACO-EXTRA - Monolithic Adsorbent Columns for Extracorporeal Medical Devices and Bioseparations

The MONACO-EXTRA project brings together a multidisciplinary consortium (3 SMEs, 3 universities and a medical hospital, from 4 different EU countries) of specialists in different areas of synthetic, polymer and surface chemistry, biomedical and biological sciences, engineers and bioengineers, immunologists and medics, united by the aim of developing new and efficient means of treatment of patients with incurable diseases requiring blood purification, and of exploring analytical and commercial applications for this technology in critical care medicine.

Duration: 4 years

Estimated EU contribution: € 2 million

Co-ordinator: Prof. Sergey Mikhailovsky University of Brighton, UK,
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Partners from: UK (MAST CarbonTechnology Ltd; Brighton and Sussex University Hospitals NHS Trust), Sweden (Protista Biotechnology AB; Lund University), Germany (Polymeric GmbH–Spezialpolymere–Klebstoffe–Polymercharakterisierung), Austria (Universität für Weiterbildung Krems)

Physics: FLUX – Femtosecond Lasers for the generation of Ultrafast XUV pulses

To study and manipulate electrons while they are spinning within atoms, intense, extremely short laser pulses in the extreme ultraviolet part of the spectrum are required. Recent advances in the production and application of attosecond laser pulses (light pulses that only last of the order of a millionth of a millionth of a millionth of a second, or 10^{-18} s) have brought attosecond science from the level of a promising technique to a booming scientific field. FLUX brings together 3 academic partners with 2 SMEs to release robust versions of the techniques to generate attosecond pulses from the laboratory to the market as part or in connection with the high-intensity ultrafast femtosecond lasers they produce. This could widen the use of ultrafast light sources to address important scientific and technological questions.

Duration: 4 years

Estimated EU contribution: € 0.75 million

Co-ordinator: Prof. Marc Vrakking, AMOLF, Amsterdam, Netherlands,
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Partners from: Greece (FORTH-IESL, Heraklion); France (CEA-Saclay, Gif-sur-Yvette; Amplitude Technologies, Lisses; Fastlite, Paris)