

## news

### Portal Meridià

Meridià (Meridian) is a new Internet portal set up by the Observatori of Research of the IEC to group the information deriving from universities, research centres (either private or public) and other organizations related to research in all fields of science and technology throughout the territories of Catalan language and culture. Meridià is an acronym coming from *mesurament de la recerca, desenvolupament i innovació* (measurement of research, development and innovation). It comprises information related to research, development and innovation (R+D+I) activities carried out in Andorra, Catalonia, Valencia and the Balearic Islands since 2000; in some cases there are reports that span to 1996.

A main feature of the project is that it comprises records and data of all the process of research, not only about the results presented in published articles. In addition, the information being released by the IEC, it reflects the neutrality of the Catalan academy that it is. Meridià lists more than 11,000 agents, including researchers from universities, centers, and companies, and provides statistical data regarding both economic resources (50,000 reports of activities funded by private or public institutions) and the socio-economic context (internal expense in R+D+I, total staff). The results of research efforts are also available and include publications (900 journals), theses, patents.

### The IEC joins the Google Book Search initiative

On July 31, 2008 the IEC signed an agreement with Google to digitize more

than 2000 books that have been published since the Institute was founded in 1907. The IEC collections include many works of historical, cultural and scientific great value, currently available only at a few libraries. This agreement, along with those that Google signed, in January 2007, with five Catalan libraries, among which the Library of Catalonia, will make it possible that more than 300,000 Catalan books now in the public domain can be available on the Internet.

### The Institute of Catalans Studies and Darwin's Year 2009

Charles Darwin will be the focus of many events throughout the world in 2009, to celebrate the second centenary of the British scientist's birthday and 150 years of the release of his seminal work *On the Origin of Species*. The ICE is joining such celebrations by organizing various activities including a series of lectures, which started on October 31, 2008, when Sir Crispin Tickell, from Oxford University, made a speech on "The theory of evolution: 150 years afterwards." The lecturer discussed how Darwin's vision of the history of life has influenced other fields of science, even beyond the boundaries of biology. Darwin's theory is an interpretation of the continuous change in the development of life on Earth that can be verified, and is not contrary to the second law of thermodynamics, even though currently there are people that try to challenge evolution on religious or pseudoscientific grounds.

### MEETINGS

#### Grand Challenges in Computational Biology

The Grand Challenges in Computational Biology Meeting, organized by the Barcelona Institute for Research in Biomedicine, the Spanish Institute for Bioinformatics, and the Barcelona Supercomputing Center, was held at the IEC on June 2-4, 2008. Computational biology is a wide multidisciplinary field where microscopic, mesoscopic and macroscopic simulation tools are used to shed light on the behaviour of living organisms. The exponential growth of sequence and structural databases, and the discovery of the complexity of most biomolecular interactions have given rise to computational challenges that cannot be addressed with current hardware architectures. In many fields, the limited power of computers is becoming the main obstacle for the advance of biological research. At the meeting, leaders in the field reviewed the state of the art of computational biology, from atomistic simulation to systems biology. Barcelona hosts MareNostrum, one of the most powerful supercomputer in Europe, with a calculation capacity of 94.21 Teraflops (94.21 trillions of operations per second).

#### Exploring Women's Participation in Technology Transfer, Incubation and Entrepreneurship (TIE) Conference

The "Gender, Science and the Economy: Exploring Women's Participation in Technology Transfer, Incubation and Entrepreneurship (TIE)" Conference was held in Barcelona on June 11 through 13, 2008. The meeting explored trans-

formation of gender relations at the interface among science, technology and economy, and was the culmination of the European Union (EU) Science and Society project on Women in Innovation, Science and Technology (WIST). It focused on the TIE fields, which have enormously developed and expanded in recent years due to the major role that science and technology play in knowledge-based economies. The conference dealt with TIE professions, which are still largely unexplored—with a few notable exceptions—and placed the EU experiences in a global context.

---

### The IUCN World Conservation Congress

The 2008 Congress of the International Union for Conservation of Nature (IUCN) was held in Barcelona on October 5-14, 2008 and gathered more than 8,000 of the world's leading decision makers in sustainable development: from governments, NGOs, business, the UN, and academia. The IUCN is the world's oldest and largest global environmental network, with more than 1,000 government and NGO member organizations, and almost 11,000 volunteer scientists in more than 160 countries. The main topics discussed at the Congress were "A new climate for change", "Healthy environments-healthy people" and "Safeguarding the diversity of life."

---

### DEAN 2008 Conference

On November 16-18, 2008 Barcelona hosted the DEAN 2008 Conference. DEAN is a European network of Deans of Faculties and academic leaders, set up as a unique forum for leading European decision-makers that must face the demands of current higher education system. It focuses on management issues and complements the work of existing

national/European associations of deans which are primarily focusing on disciplines. Such a network is a key player in the rapidly changing European system of higher education. Since 1999 DEAN has organized annual conferences. The key question of the 2008 Conference was "Beyond 2010: Are you a key player in the European Higher Education Area?" Higher Education operates in a globally competitive environment in which higher education institutions (HEIs) are competing for students, academic staff, researchers and finance. National and worldwide rankings of HEIs are outcomes of this more competitive environment, and greater public and government calls for quality assurance, transparency and accountability. Issues discussed at the DEAN Conference included the need to review the structure of higher education systems and to question whether the variety and number of HEIs is appropriate to respond to the challenges of the global knowledge society as well as the mechanisms that can ensure diversity of institutional mission and can widen the access for students.

---

### AWARD

#### Daniel Pauly awarded the Fourth Ramon Margalef Prize in Ecology

French marine biologist Daniel Pauly (Paris, 1946) was awarded the Fourth Ramon Margalef Prize in Ecology and Environmental Sciences, worth € 100,000. Professor Daniel Pauly, current Director of the Fisheries Center at the University of British Columbia, is a world authority in the study of the decline of fisheries resources and the responses of ecosystems to human pressures. He has developed and applied new techniques that have made it possible to analyze global impacts of fisheries on marine ecosystems. Pauly, who is critical and often controversial about modern fishing practices, has strived to make the public aware of the urgent need to protect and preserve marine ecosystems, pointing

out at the destructive effects due to capturing fish at increasingly lower trophic levels. Pauly has developed the Marine Trophic Index (MTI) to quantify the impacts of such activities on the oceans. Due to his dedication to the protection of the environment, in 2003 *Scientific American* included him in the list of the 50 most influential scientists in the world.

---

### RESEARCH

#### Advances in the study of cancer metastasis

The team led by Joan Massague, chair of the Cancer Biology and Genetics Program at Memorial Sloan-Kettering Cancer Center in New York City, and member of the IEC, discovered a signaling "relay" that enables the cancer to molecularly "soften" its target tissue, allowing circulating cancer cells to pass through capillary walls and penetrate the target tissue. The study was made on breast tumors and the results were published in the April 4 issue of *Cell* [133:66-77; TGFβ Primes breast tumor tells for metastasis]. The misregulation of the transforming growth factor beta (TGFβ) signaling pathway, which is a key player in metazoa biology, can result in tumor development. It has a dual behavior on the organism. On one hand, TGFβ exerts tumor-suppressive effects that cancer cells must elude for malignant evolution. Later, however, TGFβ also modulates processes such as cell invasion, immune regulation, and microenvironment modification that cancer cells may exploit to their advantage. The study suggests that anticancer therapies based on both TGFβ and a signaling molecule called angiotensin-like 4 (ANGPTL4) could be useful to treat breast cancer.

#### Barcelona Science Park Bioincubator

The Helix Building of the Barcelona Science Park was inaugurated in January 2008. This new building offers more

than 6,500 m<sup>2</sup> of laboratory space and provides a home for more than thirty research groups and centres from both the public and private sectors. The building also houses the new PCB-Santander Bioincubator, which comprises more than ten technology-based spin-off companies (mostly from the University of Barcelona) whose activity focuses on emerging

areas in the field of life sciences including biomedicine, biotechnology, chemistry, nanotechnology and pharmacology. The objective behind the extension of PCB laboratories and the setting up of the PCB-Santander Bioincubator is to provide a long-term boost to technology-based companies within the biotech sector in Catalonia, the overall aim being

to ensure that wealth becomes knowledge based. The project comes from the collaboration agreement between the Santander Bank and the University of Barcelona which includes a funding programme aimed to back innovative research of direct market interest carried out by researchers from the University of Barcelona.