

## news

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### **Biocat, the BioRegion of Catalonia**

The BioRegion of Catalonia is a new model of national development for a better coordination of biotechnological activities being carried out in Catalonia, mainly in the field of life sciences and the agro-food sector. It aims at making Catalonia an international reference point associated with top-quality research, a competitive business network and a strong and dynamic system of know-how transfer. The Catalan Bioregion Foundation, established by the Catalan Autonomous Government and the Barcelona City Council in 2006, is the means by which public R+D centres, private companies and Government will promote the biotechnology sector in Catalonia, both in terms of research and innovation and with respect to the setting up of companies and job creation. Furthermore, the BioRegion of Catalonia seeks to improve economy and social welfare by promoting the strategic sector of biotechnology, which is a key factor not only as a means of increasing knowledge but also as a driving force behind economy.

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### **Researchers of the Cavanilles Institute for Biodiversity and Evolutive Biology of the *Universitat de València* described the second smallest genome known so far**

The October 13, 2006 issue of *Science* contained reports of the two smallest ge-

nomes known so far: that of *Buchnera aphidicola* BCc (primary endosymbiont of the aphid insect *Cinara cedri* and that of *Carsonella ruddii* strain Pv (the only symbiont of the psyllid *Pachypsylla venusta*). Vicente Pérez-Brocal and other researchers from the Cavanilles Institute for Biodiversity and Evolutive Biology of the University of València reported the *Buchnera aphidicola* genome, consisting of a circular chromosome of around 416 kilobases (the other described genome, consists of a circular chromosome of around 160 kilobases; kilobase, kb, is the unit of length for DNA fragments equal to 1000 nucleotides). These genomes lack genes for many bacterial metabolic functions. Other strains of *B. aphidicola* that had been sequenced previously had larger genomes (615–641 kilobases) and greater metabolic capabilities. These tiny bacterial genomes are among the most stable due to their isolation inside their host insects, which prevents them from acquiring external DNA. The loss of genetic material by the endosymbiont, which has been estimated to be of about one gene per 5 to 10 million years, could lead to the extinction of the species unless it will eventually reach a halt. These endosymbionts of insects are useful model systems to test theoretical predictions about the evolution of genome size in non-recombining populations of small bacteria.

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### **Biomedical Research Cluster inaugurated in Barcelona**

The *Parc de Recerca Biomèdica de Barcelona* (PRBB) is a joint venture of the Autonomous Government of Catalonia,

the City Council of Barcelona and the *Universitat Pompeu Fabra* that comprises several independent research centres focused on various aspects of biomedicine and closely coordinated among them: Municipal Institute of Medical Research, which links basic research with the needs at the attached university hospital; the Centre for Research in Environmental Epidemiology, which carries out research on the effects to human health of the exposure to environmental pollutants as well as on environmental and occupational determinants of cancer and respiratory diseases; Department of Experimental and Health Sciences of the *Universitat Pompeu Fabra*, which trains future top researchers through an interdisciplinary program in which English is the common language; Center for Genomic Regulation, devoted to basic research on genomics and proteomics of diseases; Center of Regenerative Medicine in Barcelona, one of the three Spanish centres founded following the approval of the Assisted Reproduction Act (November 2003), in which research with human embryonic stem cells and various animal models is carried out to understand the basic mechanisms of the initial steps of organogenesis as well as the application of cell lines derived from stem cells to diseases in which there is a loss of cells; and the Institute of Advanced Technology (PET Center), which provides the scientific community and pharmaceutical industries with molecular imaging services based on positron emission tomography and magnetic resonance imaging. Around one thousand people, of which a good percentage are from abroad, work in the eighty research teams at the PRBB.

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### **Joan Massagué, invited lecturer to inaugurate the celebration of the centenary of the Institute for Catalan Studies**

Joan Massagué, Chair of the Cancer Biology and Genetics Program in the Sloan-Kettering Institute, New York, a member of the National Academy of Sciences U.S., and corresponding member of the Institute for Catalan Studies, was the invited lecturer at the inaugural ceremony of the celebrations of the Institute first centenary. The ceremony was held on 16 October, 2006 at the *Palau de la Música*, a crown jewel of Catalan art-nouveau style, and Massagué talked about “Oncology at the turn of the 21st century”.

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### **Mas-Colell will serve as Secretary General of the European Research Council**

The Scientific Council of the European Research Council (ERC) selected Ernst-Ludwig Winnacker and Andreu Mas-Colell as the ERC two first Secretary General. Winnacker, Professor of Biochemistry at the University of Munich and president of the German Science Foundation (DFG), will be in charge until June 2009; Mas-Colell, Professor of Economics at the *Universitat Pompeu Fabra* in Barcelona, President of the European Economic Association, and member of the Institute for Catalan Studies, will follow Winnacker in this position, until December 2011. Mas-Colell was *Conseller* (Minister) of Universities, Research and the Information Society in Catalonia (2000—2003) and set up successful initiatives including an innovative publicly funded foundation (*Institució Catalana de Recerca i Estudis Avançats*, ICREA) for recruiting internationally top researchers. Previously he was

Professor of Economics at Harvard University (1981–96) and of economics and mathematics at the University of California, Berkeley (1972–80). The ERC was a project to develop under the 7th Framework Programme (FP7) of the European Commission as a new means to boost the quality and impact of European research.

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## **AWARDS**

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### **CosmoCaixa, 2006 European Museum of the Year**

CosmoCaixa was the recipient of the 2006 European Museum of the Year Award, a prize that the European Museum Forum, independent organisation founded in 1977 by Kenneth Hudson, gives to two kinds of museums: established museums that have undergone modernisation or expansion during the previous two years, and new museums opened to the public in the previous two years. The judging Committee pays special attention to imaginative interpretation and presentation, amenities, financial organisation, social responsibility, educational work, marketing and management of the candidate museums. The winner receives a Henry Moore trophy that will keep for one year and pass to the following awarded museum. CosmoCaixa is a science museum in Barcelona built on the site of an older museum, of which only the beautiful art-nouveau style building has been maintained. “From a quark to Shakespeare” is the motto of CosmoCaixa, a museum whose contents is universal. The museological concept has been there meticulously planned, and every aspect of the displays has been analysed in depth. Despite it being a science museum, “beauty” is a concept at the basis of any factual presentation. The permanent collections of the museum comprises four sections: inert matter, living matter, intelligent matter, and civilized matter. The new CosmoCaixa was built in a steep slope and its upper part is a public square that allows a first contact with the science world underground.

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### **Sir John H. Lawton awarded the 2nd Ramon Margalef Prize in Ecology and Environmental Sciences**

British professor and researcher Sir John Hartley Lawton was awarded the the 2006 Ramon Margalef Prize in Ecology and Environmental Sciences. Lawton, a pioneer ecologist, has contributed significantly to the advancement of ecological sciences, always seeking ecological standards and regulations by using the most advanced and sophisticated tools. He has worked in widely varying areas, such as the dynamics of towns and communities, habitat destruction and fragmentation, interdependencies and interactions, biodiversity conservation, biological control in plants and animals and, more recently, he has studied the impacts of global change on communities of organisms and sustainable development. Lawton recommends to approach large-scale ecological studies, even though it is not always easy to obtain funds for such big projects, especially in the field of ecology.

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### **Contributions to Science Most Visited Article Awards 2003, 2004 and 2005**

— The sections of sciences of the *Institut d'Estudis Catalans* (IEC) concedes every year the Most Visited Article Award to the author (or authors) of the article more visited in the website of this journal, which has to have been published during the three former years. The author of the rewarded article receives a crediting diploma during the acts of delivery of the Prizes *Sant Jordi* of the IEC.

In April 24, 2006, the following prizes were conceded:

— The article “Arithmetical problems in number fields, abelian varieties and modular forms” by P. Bayer, A. Arenas, T.

Crespo, J. Guàrdia, J.-C. Lario, E. Nart, J. Quer, A. Rio, A. Travesa, N. Vila, X. Xarles, published in *Contributions to Science* 1 (2): 125-145 (1999), has received the MOST VISITED ARTICLE AWARD 2003 delivered by this journal.

This report summarizes the contribution to number theory made by the members of the *Seminari de Teoria de Nombres (UB-UAB-UPC)* in Barcelona. These results are presented in connection with the state of certain arithmetical problems, and so this monograph seeks to provide readers with a glimpse of some specific lines of current mathematical research.

— The article “Methods in the treatment of obesity” by X. Remesar, J.A. Fernández-López, M. Foz and M. Alemany, published in *Contributions to Science* 1 (4): 463-478 (2000), has received the MOST VISITED ARTICLE AWARD 2004 delivered by this journal.

This article emphasizes a coordinated effort of basic research, and the development of effective drugs together with adequate information of the patients and actualization of the knowledge of the health personnel working in the field are needed to face the threat of dangerous and uncontrollably spreading obesity.

— The article “Enric Casassas Memorial Lecture 2002: Some highlights and perceptions of analytical chemistry” by J.D.R. Thomas, published in *Contributions to Science* 2 (2): 257-268 (2002), has received the MOST VISITED ARTICLE AWARD 2005 delivered by this journal.

Analytical Chemistry is perceived in terms of the author's experiences in industry, the public service, teaching, research and consultancy. Views are expressed on the evolution of Analytical Chemistry in the last half century, and also on aspects of its significance and role in decision-making, matters of curricula development (including student projects) and ‘*Continuing Professional Development*’, and research. Although chemical sensors figure highly in the author's research contributions, the focus here has been more on his other work in the analytical field, including separations by electrophoresis, ion-exchange and foam chromatography, and of polarography. Finally, there are reflections on the miscellaneous challenges made

of Analytical Chemistry, and of demands of the future as offering exciting prospects.

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## OBITUARIES

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### Iuri Nikolayevitch Vershinin (1932–2006)

Iuri Nikolaevitch Vershinin, corresponding member of the Institute for Catalan Studies (IEC) Science and Technology Section (1992), passed away on July 25, 2006. Vershinin, a renowned Russian physicist and corresponding member of the Russian Academy of Science was also the recipient of a highly prestigious civilian award, bestowed upon him in 1970 by the government of the Soviet Union.

Vershinin began his professional career as an engineer and the head of an electrotechnics laboratory at a cement plant in Novosibirsk. Throughout his life, he retained an interest in the improvement of production processes.

He served as deputy director of the Siberian Energy Institute and state director of Russia's Scientific Research Institute of Electric Energy (1979–1985). He later became director of the Physics of Dielectrics Laboratory at the Institute of Electrophysics, Ural Division, of the Russian Academy of Sciences, in Yekaterinburg, as well as a member of its board.

Vershinin was internationally renowned in the field of electrical physics and high-tension techniques. He was the author of more than 170 publications, among which the manual «Physical fundamentals of the high-tension electric technique» (1992) and the monographs «Electrical breakdown of dielectrics» (1968) and «Electrothermic and explosion processes in the electric breakdown of solid dielectrics» (2000) stand out. Later in his professional career, Vershinin and his collaborators dedicated themselves to the study of electrophysical processes in condensed matter and their applications to pulsating retropropulsion micro-engines for spacecrafts.

Vershinin was highly esteemed by his

students, as evidenced by the tribute paid to him in January, 2006, in Novosibirsk, in recognition of his research and academic contributions. But Vershinin's interests extended beyond the scientific: he was an avid sportsman and a talented musician.

During the 1980s, Enric Casassas and Manuel Font i Altaba, both members of the IEC's Science Section, initiated a series of activities aimed at establishing relations between the Russian Academy of Science and the IEC. As part of these activities, the two men traveled to Russia, where they succeeded in organizing a series of collaborations with several centers at the Russian Academy of Science, including the Moscow Crystallography Institute and those belonging to the Ural Division. On December 4, 1989, in the IEC's Prat de la Riba conference hall, Vershinin held a seminar entitled «Pulse discharges in solid dielectrics», [*Butll. Soc. Cat. Cièn.*, **12**, 533-556 (1991)] on the occasion of his visit to Barcelona to sign the collaboration agreement between the IEC and the Ural Division of the Russian Academy of Science. On June 1990, the first Catalan-Soviet seminar on the Structure and Physical Properties of Crystals was held in Barcelona at this Institute, as a result of the agreement between the IEC and the Moscow Crystallography Institute. The following June, at a second seminar on the same topic but this time held in Russia, the well-known chemist Enric Casassas was a member of the Catalan delegation (the proceedings of these two seminars have been published in *Butll. Soc. Cat. Cièn.*, **12**(2) and **13**(1), 1991 and 1992). The location of this second seminar was a ship that traveled the tourist route of the channels joining Moscow with the Baltic Sea and the Volga River. The voyage inspired Casassas to write a lovely chronicle of that time, which was recently published by Valencian publishing house Edicions 3 i 4 (*Rússia: quatre trossets de guia*, 2006).

In one of its passages (p. 74), Casassas recalls his first visit to meet Vershinin:

«...at the ports of the White Sea, our friend Vershinin, the manager of the Industrial Consortium (scientificotechnical) of the Great Ural, with whom the IEC

signed its first agreement, who took us up and down the Urals, from Chelyabinsk and Miass to Pervouralsk, passing through the blast furnaces of Kassli, the one who brought us from Sivtivkar to the northernmost tundra on a helicopter, who took us to the Lake Baikal and the Uzbekian taverns in Irkutsk, where we visited the Decembrist museum, the one who plays the piano, competently and romantically like a professional we've had the opportunity to meet on some other occasion, let's say Juli Pons, very ascetic in contrast with Vershinin, who was full of vitality, totally driven...».

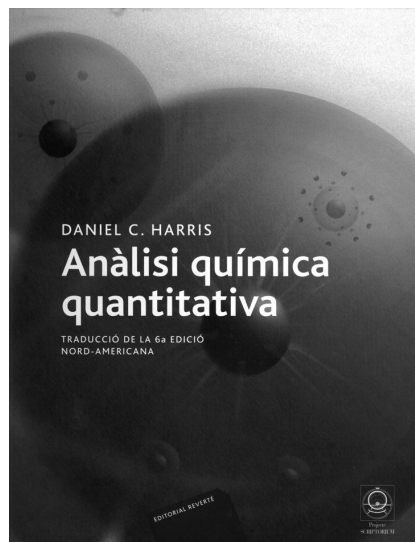
It is clear that Yuri N. Vershinin and Enric Casassas shared a great friendship, and this inspired Vershinin to proudly assume the position of corresponding member of our Institute. For this reason, today, we deeply honor his memory.

### Josep Egozcue (1940-2006)

Josep Egozcue, Professor Emeritus of Cell Biology of the *Universitat Autònoma de Barcelona*, and a member of the Institute for Catalan Studies died on February 7, 2006. Egozcue was a pioneer in human genetics in Spain and in the techniques of assisted reproduction that made it possible human in vitro fertilization. He authored or coauthored more than 470 articles, most of them related to meiosis and pre-implantation. He held many positions including the presidency of the European Association of Human Reproduction and Embryology, of which he was founder member, and had been Honorary member since 2003. He was consultant of the European Council and the Spanish Parliament in Reproduction Bioethics and a member of the Observatory of Bioethics and law of the Science Park of Barcelona.

## BOOK REVIEWS

### Anàlisi química quantitativa

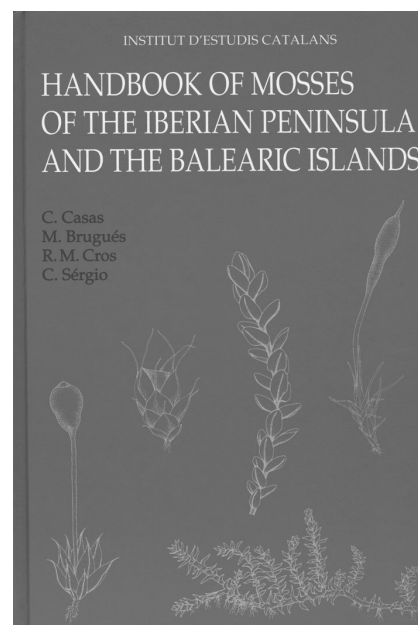


Daniel C. Harris  
Catalan translation coordinated by Salvador Alegret and Elisabeth Bosch  
Editorial Reverté, 2006  
ISBN 978-84-291-7601-8

The Catalan version of the original 6th edition of *Quantitative Chemical Analysis*, by Daniel C. Harris was published under the so-called *Projecte Scriptorium*. Editors of the Catalan version are Salvador Alegret and Elisabet Bosch, professors of Analytical Chemistry at the *Universitat Autònoma de Barcelona* and the *Universitat de Barcelona*, respectively. This textbook has been used worldwide by students of chemistry, engineering studies, pharmacy, biology, geology, environmental sciences and food science and technology. The publisher (Editorial Reverté, Barcelona) stated that 70 per cent of university students from Catalonia and the Balearic Islands preferred textbooks in Catalan, whenever available. Up to now, however, students from Catalan universities had to resort to editions in other languages, mainly in Spanish. The *Projecte Scriptorium* aims at publishing university textbooks for basic subjects in scientific and technical studies. The project has

contributed to the body of science language with around 6000 neologisms.

### Handbook of mosses of the Iberian Peninsula and the Balearic Islands: illustrated keys genera and species



Creu Casas, Montserrat Brugués, Rosa M. Cros, Cecília Sérgio. Illustrations: Anna Barrón, Iolanda Filella  
Institut d'Estudis Catalans, 2006  
ISBN 84-7283-865-X

This Handbook, which was the last big project in which Creu Casas (1913-2007) participated, has its bases in *Flora dels Briòfits dels Països Catalans* Vol. I. Molses (2001) and deals with mosses growing in the extreme southwest of Europe and includes peninsular Spain and Portugal, Andorra and the Balearic Islands. This flora comprises 791 taxa, which represent 64 per cent of the European moss flora. The volume, with many illustrations, contains dichotomic keys for genera and species. For each species, there are differential morphological characteristics, data on ecology, distribution and frequency.