

NEWS

THE ROVIRA I VIRGILI UNIVERSITY CONFERS THE TITLE OF DOCTOR HONORIS CAUSA ON VINTON GRAY CERF

Dr. Vinton G. Cerf, popularly known as «the father of the Internet», visited Catalonia from 21 to 23 May 2000. On the 22nd Cerf was in Tarragona, where the Rovira i Virgili University, the University of the south of Catalonia, conferred the title of Doctor Honoris Causa on him, and where he also inaugurated the first street in the world called Internet. His sponsor was the lecturer of the Department of Computing and Mathematics, and chairman of the Internet Society in Catalonia, Manel Sanromà. The investiture ceremony was broadcast live worldwide on the broadcasting channels of the Supercomputing Center of Catalonia (CESCA), to which the Catalan universities belong, and of RedIris, the R&D network covering the whole of Spain.

He then travelled to Barcelona, where he was received by the President of the Generalitat of Catalonia and by the Mayor of Barcelona. He also gave a speech at the Barcelona Science Museum on Interplanetary Internet, a project on which he is currently working.

During his stay in Catalonia, Cerf spoke extensively to the media and gave his opinion on the different questions raised on the new technologies in general and on the Internet in particular. According to this expert the main problem that the network currently has is the explosion in Internet use, that is to say «there is an extremely important challenge of scalability in order to ensure a harmonious growth compatible with the increasing capacity of the network». In second place Cerf lists the aspects of security and reliability: «as the Internet becomes a basic infrastructure, it is absolutely vital that it is as reliable a tool as electricity or the telephone». To solve these problems of security Cerf is a supporter of international cooperation, and believes that the solution to cybercrime is the introduction of technological improvements rather than the establishment of a cybernetic police force. Cerf also warned that «trying to legislate to guarantee the privacy or the confidentiality of contents is a useless task, because the technology is advancing much faster than the regulations, and by the time they have been drafted, the technology has already changed». He likewise emphasized that episodes such as the appearance of viruses are not due to the Network, but to the operating systems of computers, and he therefore demanded more cybernetic hygiene «be-

cause periodic revisions and daily cleaning would make it possible to get rid of many of these evils».

As for the problem of digital illiteracy, Cerf also declared that this was a major challenge to be confronted and that there were different ways of dealing with it: wireless technology (to reach rural areas where there is no possibility of cable connections), reductions in the cost of computer and connection equipment and reductions in the cost of telecommunications. The father of the Internet mentioned that the latter is going down in those countries in which there is commercial competition and that governments must become involved, for example by providing public facilities, in order to prevent this danger of digital discrimination from occurring.

In relation to the future of the Internet, Cerf also spoke of the projects on which he is currently working: «Firstly there is still a lot to do on the Internet that we know, both from a technological and from a social point of view, and therefore in the Internet Society (the biggest organization of Internet users of the world) we will continue to work on fulfilling our motto: «The Internet is for everyone». However, over the past couple of years, together with the engineers of NASA's Jet Propulsion Laboratory, we have been considering how to overcome the scientific and technical problems represented by establishing an interplanetary Internet. We believe that the speed of light imposes limits on the transfer times of packages of information, which in the case of Mars is five minutes but which for the furthest away planets may be hours. It will be necessary to redesign the structure of the network in space. The objective is to create a network which allows the exploration of the solar system to be carried out continuously and not by fits and starts as has occurred until now».

THE BARCELONA BIOMEDICAL RESEARCH PARK

A collaboration agreement was signed on 11 April 2000 for the construction of the Barcelona Biomedical Research Park (PRBB). This agreement brings together Barcelona City Hall, the Municipal Healthcare Institute, Pompeu Fabra University, the Department of Universities, Research and the Information Society and the Department of Health of the General-

itat of Catalonia. The project was presented three days later, and on 23 September of this year the first stone of this new research centre was laid, beginning the construction of a 33,000 square metre building situated near the Hospital del Mar of Barcelona.

This park will be a focal point for biomedical research, the teaching of health and life sciences and healthcare. It will likewise house companies from the pharmaceutical and health sectors, and initiatives of a more social nature. The Park will participate fully in the efforts of the Generalitat of Catalonia to promote biomedical research as one of the key areas for the scientific and competitive future of Catalonia. Thus, among other actions, the Generalitat is promoting the creation of a Genomic Regulation Centre, directed by Manuel Beato, with the intention of achieving excellence in the European scientific scene.

The Park's research priorities will be in the following spheres:

- *Genomics* (in particular biocomputing and other technologies capable of being transferred, such as, for example, the design of micro-arrays and biochips). The Municipal Institute for Medical Research (IMIM) already has widespread experience in biocomputing and the modelling of biomolecules, and its research will now be potentiated with the resources of the Genomic Regulation Centre.
- *Genetics and Developmental Biology* (including Evolutionary Biology, Population Genetics, Human Molecular Genetics, basic Genic Expression studies and also new resources in genetic Epidemiology). Under this point, the Department of Experimental Health Sciences of the Pompeu Fabra University and the Genomic Regulation Centre constitute an important platform for the development of this research. As for Developmental Biology, the research also represents a major commitment, with two lines of action: on the one hand, research into subtle genetic changes and alterations during the development of living organisms and, on the other hand, research into the manufacture of differentiated cells and tissues from stem cells, paving the way for improvements in transplantations and the repair of post-traumatic lesions.
- *Cancer* (from the basic and molecular to the clinical and epidemiological perspective). The Municipal Institute for Medical Research has ample experience in basic research, thanks to the work of various scientific groups, and also in epidemiology and public health. Important new research will be carried out along these lines within the framework of the Genomic Research Centre, directed by the lecturer Manuel Perucho.
- *Environmental health and ageing*. Also includes a more in-depth study of the interactions with new genetics and new knowledge on cancer, and the contribution of the advances of the important scientific nucleus on Developmental Biology that it is planned to form in the Research Park. In this area the IMIM starts with a great research potential in epidemiology and public health.

– *Pharmacological therapeutics, biotechnology and toxicology*. Its objective will be to develop new therapeutic tools, specific applications within the fields of cancer and neuro/psychopharmacology, and the introduction of pharmacogenomics. The experience gained by the IMIM within the area of pharmacology is notable in this area, as is that of the Antidoping Laboratory and the new resources in Genomics and Genetics of the Department of Experimental and Health Sciences of Pompeu Fabra University.

Given the characteristics of the environment and the type of experience of the scientists of the PRBB, it can be anticipated that there will be a scientific continuum between basic research, applied research and technological innovation and, furthermore, a close interrelation between laboratory research, clinical research and public health research.

www.prbb.org

CONFERENCE ON BIODIVERSITY AND BIOLOGICAL CONSERVATION

The Catalan Institution for Natural History (IEC) organized a Conference on Biodiversity and Biological Conservation, held in Barcelona on 8 and 9 June 2000, and in Palma de Mallorca on 12 and 13 of the same month.

The coordinators of the Conference were Montserrat Vilà, a lecturer in Ecology at the UAB and researcher at the Centre for Ecological Research and Forestry Applications (CREAF), Ferran Rodà, professor of Ecology at the UAB and Director of the CREAM, and Joandomènec Ros, professor of Ecology at the University of Barcelona and director of the Marine Benthos Ecology Group of the same university, where he also coordinates the UNESCO Environment chair.

According to its coordinators, this international conference had two fundamental objectives: to present the most up-to-date knowledge on the biological, evolutionary and ecological factors and processes which generate and maintain biodiversity, and to explore the economic and social aspects both of its study and of its conservation.

The speakers were distinguished specialists in the research and management of biodiversity, both in Catalonia and abroad, and the overall aspects discussed covered a good part of the wide range of subjects included in the study and management of biological diversity.

Richard Primack, a lecturer in Plant Ecology at the University of Boston and Bullard Fellow of the University of Harvard, opened the conference by speaking about the challenges and the current limits of conservation biology as a discipline concerned with all aspects of the diversity of the Earth.

The connection between the ecology of communities and the ecology of ecosystems and the need to understand the

relationship between biodiversity and ecosystem processes, in order to integrate future developments, was the subject of the paper presented by Michel Loreau, a Lecturer at the Pierre and Marie Curie University of Paris and a member of the Executive Committee of the International Union of Biological Sciences, of the Executive Committee of the international programme Diversitas and of the Scientific Committee for Orientation on Global Change and Terrestrial Ecosystems (GCTE).

The main reasonings and methodologies used to economically assess different aspects of biodiversity, and a discussion on whether this economic approach is useful or whether it just diverts attention from the real problems raised by conservation, were the aspects raised by Gareth Edwards-Jones, a lecturer in Agriculture and Land Use at the University of Wales, and a national and international environmental impact assessment consultant for various agencies of the UNO.

Charles François Bouduresque, Director of the Research Unit of the CNRS «Biological Diversity and functioning of coastal marine ecosystems», participated in the conference by speaking on marine biodiversity, dealing in particular with the threats that it confronts, its trends and its patterns.

The possible lines of research to help to understand the consequences of the loss of functional diversity of ecosystems were described by Shahid Naheem, a lecturer from the Zoology Department of the University of Washington in Seattle.

The interpretation of the function of genetic variability in the levels of survival of species in order to improve conservation and restoration strategies was the subject chosen by Josep A. Rosselló, a lecturer in Botany at the University of Valencia and a specialist in the sphere of molecular systematics and conservation genetics.

Joan Lluís Pretus, full professor of ecology at the University of Barcelona, described the historical development of how ecology treats the problem of understanding biodiversity, and its current prospects, in particular the function of the landscape in the conservation of this biological diversity.

International strategies for the conservation of biodiversity were also discussed, with an analysis of the types of international treaties and collaboration agreements signed by States with the aim of adopting specific legislation and developing actions in favour of certain spaces, environments and species. Carles Carboneras, an external resources advisor for the Territory and Landscape Foundation and a developer of European projects for this organization, was responsible for presenting this point.

Microbial diversity was another subject presented, this time by Carles Pedrós-Alió, a research lecturer from the Institute of Sea Sciences (CSIC), and the current coordinator of the European Union MIDAS project, who paid particular attention to the new molecular tools to tackle the problem of microbial diversity and ecology *in situ*.

Time was also reserved to deal with the more local aspects of the problems of the conservation of biodiversity in Catalonia and the Balearics. Xavier Carceller, a part-time

lecturer at the UPC and Head of the Natural Environment Planning Service of the Generalitat of Catalonia thus set out the objectives and the proposed actions for the conservation and sustainable use of the biological diversity of Catalonia. And Cristian Ruiz Altaba, a researcher working for the Mediterranean Institute of Advanced Studies, spoke about biodiversity in the Balearic Islands and the problems involved in designing adequate strategies for its conservation.

The same round tables were held in both venues, dealing with two highly topical questions: «Biodiversity and sustainability: how much biodiversity do we need?» and «How can we involve ordinary citizens in the conservation of biodiversity?»

5TH INTERNATIONAL CONGRESS ON DURABILITY OF CONCRETE HELD IN BARCELONA

The fifth International Congress on durability of concrete (CANMET) was held in Barcelona between the 4th and 9th of June 2000, with the «Eduardo Torroja» Institute of Construction Sciences chairing the local organizing committee, and with the participation of various Spanish companies and universities.

This meeting, which brought together some 275 researchers from around the world, covered the latest lines of research on concrete. Research on concrete and on structural materials for construction usually goes unnoticed. However, the economics of these materials, their durability, the comfort of buildings, the survival of the architectural heritage and the resistance of large constructions depend on this research. Behind all this is the interdisciplinary work of researchers and technicians (chemists, engineers, materials specialists...).

Various lines of research were highlighted in this congress, such as, for example, the analysis of the life cycle of these materials and how very high-performance concretes respond in exceptional structures.

This area also covers recycling: one of the lines studied is the durability and the performance of concrete when recycled materials, such as industrial by-products or ashes from thermal power stations, are added to it.

The field of the early detection of deterioration due to specific problems such as degeneration of the cement, decalcification and attacks by sulphates was also covered. In this field particular reference was made to the new techniques of exploration of the condition of structures to control factors such as permeability and mechanical resistance, in particular the use of permanent sensors.

Papers were presented along the same lines on repair methods for deteriorated structures, such as cathodic protection and the restoration of façades with mortar (very common in Barcelona).

The Congress was organized by the committee of CAN-MET (International Centre for the sustainable development of cement and concrete of Canada), the American Concrete Institute (ACI, USA), the Japanese Concrete Institute, the Construction Research Institute (Canada) and, chairing the local organizing committee, the «Eduardo Torroja» Institute of Construction Sciences of the CSIC (Advanced Council of Scientific Research).

Mohan Malhotra (ACI Council, Canada) chaired the Congress, with Carmen Andrade (CSIC) as chairperson of the local committee.

Distinguished attendees included A.M. Neville (United Kingdom), the leading specialist in detecting the risk of aluminous cement, K. Mehta (University of California, USA) and B. Mather (Waterways Experiment Station, USA), both specialists in the field of attacks by sulphates, a problem which occurs frequently in Catalonia, especially in the pyrites of the Maresme, a region adjoining Barcelona.

Also, P. Schiessel (Technical University of Munich, Germany) and A. Aguado (Polytechnic University of Catalonia) were awarded prizes during this Congress, Schiessel for his work on corrosion of concrete reinforcement, and Aguado for his research on high-performance concretes.

CREATION OF ISOCO, THE FIRST SPIN-OFF COMPANY OF THE CSIC DEVOTED TO ARTIFICIAL INTELLIGENCE

The Spanish Council of Scientific Research (CSIC) and the company Intelligent Software Components S.A. (ISOCO) signed a collaboration agreement at the beginning of this year. The signatories to the agreement were the then chairman of the CSIC, César Nombela, and Francisco Martín Cervera, Chairman of the Board of Directors of ISOCO.

ISOCO is a company founded in mid-1999 as a spin-off of the Artificial Intelligence Institute (IIIA) of the CSIC, and is the first of this type in the field of artificial intelligence and the Internet.

ISOCO, like the other spin-offs being promoted by the CSIC, responds to a firm policy of the CSIC to help society and the industrial fabric to benefit from the results of the research generated in its centres.

The team that founded ISOCO mainly came from the IIIA-CSIC. It is made up of young researchers, software engineers and financial analysts with widespread experience in the sector of the new information and communications technologies. It should be highlighted that in 6 months ISOCO has multiplied its workforce by six and that it currently has important national and international clients.

The company is specialized in the research, design and

development of intelligent software components for electronic commerce, allowing the extraction, analysis, integration and personalization of Internet information.

Its developments are based on an innovative software components system, programmes which have been designed with artificial intelligence techniques, already tested and protected (the original code cannot be accessed), which are joined together in accordance with the application required. In comparison with the traditional method of programming a system from scratch, the components system allows customized advanced computer applications to be created in a much faster, more flexible manner and, no less importantly, at a lower cost, as the components have already been developed, and are reusable.

The R&D team of ISOCO is currently based in the Artificial Intelligence Institute, on the Campus of the Autonomous University of Barcelona.

www.isoco.com

THE EU-USA CONSULTATIVE FORUM ON BIOTECHNOLOGY

On 31 May 2000, during the European Union-United States summit, it was decided to establish a Forum of twenty experts of recognized international prestige (10 European and 10 American), independent of the government, to discuss the new challenges raised by biotechnology, at the same time assessing its risks and its benefits. The main objective of this Forum is to offer advice and to bring the positions of the two administrations closer together in relation to legislation and trade in biotechnological products.

The Catalan molecular biologist Pere Puigdomènech was invited and appointed member of the EU-USA Consultative Forum on Biotechnology. Puigdomènech is the director of the Molecular Biology Institute of Barcelona of the Research and Development Centre (CID) of the CSIC, and expert in the field of plant transgenics.

Ruud Lubbers, a lecturer in Sustainable Development and Globalization at the University of Tilburg and former prime minister of Holland, chairs the Forum on behalf of Europe.

The experts of the EU-USA Consultative Forum on Biotechnology are researchers, consumer representatives, economists, experts in bioethics... On evaluating the benefits and risks of biotechnology, the multidisciplinary nature of the Forum is intended to cover the widest possible range of related subjects, such as health, safety, economic development, food safety and environmental impact. The experts will likewise have to consider the ethical problems, consumer information, the public's perception of this branch of science, and intellectual and industrial property, including the always conflictive patents.

The first and most immediate task of the Forum is to prepare a report for the next EU-USA summit, planned for December 2000, and to provide both administrations with recommendations.

CALENDAR OF EVENTS

1st Spring School on «History of Science and Technology and Scientific Popularisation: the Museums»

Maó, May 17-19, 2001

Scientific museums, from its different private origins to its transformation into public places of research and teaching, have played a very important role in the building of modern science and by shaping the public image of science. Yet, this outstanding role has not been openly admitted. Moreover, scientific collections and museums have played a notable part in the preservation of scientific and historical heritage.

The new directions of the historiography of science have contributed to re-evaluate the importance of museums by studying all aspects of science as culture and of science in construction. This new approaching raises the problem of the existing gap between two communities of professionals: curators and historians of science.

This school seeks to study in depth questions such as:

- To pay attention to scientific collections and museums as objects of study and also to report on its origins, stories, and classes, or on the different functions they had and have played.
- To go deeply into the historical relationship between museums and the development of scientific activities. We want also to assess the part of the history of science in the preliminaries and presentation of collections and exhibitions in order to give an account of the complexity and dimension that scientific knowledge and activities entail.
- To highlight the importance of museums for the preservation of cultural and scientific heritage. Here we would like to discuss those problems and challenges that come from the own collections: preservation, inventories, classification and cataloguing, restoration, purchase and gathering, both private or public, of natural and artificial objects.
- To think about the role that collections and museums can and must to play in the field of didactic of sciences.

This school is devoted both to students and professionals, historians, educators, journalists and curators.

ALACANT

2001 / 06 / 04-06

WESSEX INSTITUTE OF TECHNOLOGY

10. CMEM: International conference on computational methods and experimental measurements

Email: wit@wessex.ac.uk

2001 / 06 / 06-08

WESSEX INSTITUTE OF TECHNOLOGY

3rd ECOSUD: International conference on ecosystems and sustainable development

Email: wit@wessex.ac.uk

BARCELONA

2001 / 05 / 16-19

EUROPEAN ASSOCIATION OF POISONS CENTRES AND CLINICAL TOXICOLOGISTS

21st EAPCCT annual international congress: Heavy metal toxicity and its management, the metabolic consequences of poisoning

Email: albert.jaeger@chru-strasbourg.fr

<http://www.eapcct.org>

2001 / 06 / 09-12

EUROPEAN SOCIETY OF CARDIOLOGY (ESC)

5th International meeting of the ESC working group on hearth failure

Email: kristian.thygesen@aas.auh.dk

2001 / 09 / 13-16

4th International congress on peer review in biomedical publication

<http://www.ama-assn.org>

2001 / 09 / 23-27

WORLD ASSOCIATION OF PERINATAL MEDICINE

5th World congress

Email: gp@pacifico-meetings.com

<http://www.perinatology2001.com>

2001 / 06 / 28-30

INTERNATIONAL SOCIETY OF CARDIOVASCULAR INFECTIONS

6th International symposium on modern concepts in endocarditis and cardiovascular infections

Email: geybcn@adv.es

<http://www.heyseco.com>

PALMA DE MALLORCA

2001 / 05 / 21-25

INTERNATIONAL INSTITUTE ON SUYSTEMS SCIENCE IN HEALTH CARE

8th SYSTED: international conference on systems science in health social services for the elderly and the disabled

Email: alass@alass.org

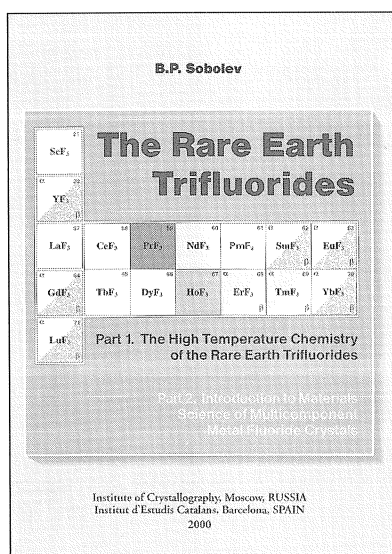
SITGES

2001 / 06 / 27-30

INTERNATIONAL SOCIETY OF CARDIOVASCULAR INFECTIOUS DISEASES

6th. International symposium on modern concepts in endocarditis and cardiovascular infections

Email: barcelona@geyseco.com

BOOKS**The Rare Earth Trifluorides. Part 1**

B.P. Sobolev. Editor

Institute of Crystallography, Moscow

Institut d'Estudis Catalans, Barcelona 2000, 520 pages

ISBN 84-7283-518-9 (vol. 1)

This book which comprises 2 parts is the first monograph dealing with the background studies and the recent advances in the high-temperature chemistry of the condensed state and materials science of fluorides of 16 rare earth elements (RE or *R*), namely: Sc, Y, La and 13 lanthanides (except Pm).

Part 1: The High Temperature Chemistry of the Rare Earth Trifluorides

Physico-chemical, crystallographic, thermochemical and some other characteristics of *RF₃* are reported, polymorphism, morphotropy and preparation techniques are discussed as well. High-temperature chemical interactions of *RF₃* with other chemical elements and their compounds are considered. The book primarily provides information about chemical interactions between *RF₃* and other metal fluorides. These data are most fully represented in T-x (temperature vs. composition) phase diagrams of the *MF_m - RF₃* and more complex systems. Regular features of the changes in products of chemical reactions between *RF₃* and fluorides

of 1-, 2-, 3-, 4-charged cations are discussed. Combinations of *MF_m* and *RF₃* form the following series of systems: *MF - RF₃*; *MF₂ - RF₃*; *RF₃ - R'F₃*; *MF₄ - RF₃*. There are special Chapters devoted to the description of the products of the chemical interaction in each series, one chapter for each series. Phase composition, main characteristics of the phases and melting curves (wherever they were determined) are provided for each series.

Systems with *M1+* = Li, Na, K, Rb, Cs, Ag, Tl, NH₄ have been studied in the series *MF - RF₃*. Cations *M2+* = Be, Mg, Ca, Sr, Ba, Cd, Pb, Mn, Co have been studied in the *MF₂ - RF₃* series as well as some systems with Fe, Co, Ni, divalent rare earths *R2+* = Sm, Eu, Tm, Yb. Mutual reactions between rare earth trifluorides yield the systems *RF₃ - R'F₃*, where *R* = Sc, Y, La - Lu. Studies of the systems *MF₄ - RF₃* are hindered due to high vapor pressures of *MF₄* (Zr, Hf, Th, U). The most comprehensive data have been obtained for the series *ZrF₄ - RF₃* and *HfF₄ - RF₃*.

The choice of three-components systems *MF_m - RF_n - QF_q* for the studies was prompted primarily by the practical interest to glasses which contain rare earth fluorides. Phase diagrams for those systems have been studied insufficiently. Prospects for studies of the high-temperature chemistry of rare earth trifluorides in multicomponent systems are discussed.

An ingenious theory of space and time

Luis Raluy and Rafael Herrera. Editors

Cinctorres Club, C.B., Tortosa, 1999, 116 pages

ISBN: 84-95325-01-2

Immunology and the liver autoimmunity

Ricardo Moreno, Gerardo Clemente and Carmelo Garcia.

Editors

Aran Ediciones, S.A., Madrid, 2000, 284 pages

ISBN: 84-86725-69-0

Lèxic de bioquímica català-castellà-anglès

Maria Magdalena Ramon Andreu. Editor

Universitat de les Illes Balears. Servei de Publicacions,

Palma de Mallorca, 2000, 105 pages

ISBN: 84-7632-590-8

Fundamentals of process integration and environmental economics

Lluís Puigjaner. Editor

Universitat Politècnica de Catalunya. Escola Tècnica

Superior d'Enginyeria Industrial, Barcelona. Centre de Medi

Ambient, 1999, 450 pages

ISBN: 84-930526-1-2

Advanced concepts on batch processes integration and resource conservation economics

Luis Puigjaner Corbella, Antonio Espuña Camarasa and

Moisés Graells Sobré. Editors

Universitat Politècnica de Catalunya. Escola Tècnica

Superior d'Enginyeria Industrial. Centre de Medi Ambient,

Barcelona, 2000, 222 pages
ISBN: 84-930526-7-1

Sciences of carbon materials

Francisco Rodríguez Reinoso. Editor
Universitat d'Alacant. Secretariat de Publicacions, Alacant,
2000, 674 pages
ISBN: 84-7908-544-4

Proof procedures for multiple-valued propositional logics

Felip Manyà. Editor
Consejo Superior de Investigaciones Científicas,
Madrid, 1999, 138 pages
ISBN: 84-00-07793-8

Low power techniques and neural applications in microelectronics

Joan Oliver *et. al.*. Editors
Centro de Visión por Computador, Bellaterra, 2000,
250 pages
ISBN: 84-922529-6-0

Miramón. Geographical information system and remote sensing software: user's manual

Xavier Pons. Editor
Centre de Recerca Ecològica i Aplicacions Forestals,
Bellaterra, 2000
ISBN: 84-931323-5-7

Object-oriented technologies and beyond for software generation and integration in Geomatics

José Antonio Navarro Esteban. Editor
Col·lecció: Monografies tècniques, 6. Matèries
Entitat Autònoma del Diari Oficial i de Publicacions,
Barcelona, 1998, 162 pages
ISBN: 84-393-4619-0