

# ACTIVITY REPORT FUNDACIÓ BOSCH I GIMPERA







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## INTRODUCTION

## By the chairman

niversities have always been thought of in terms of their chief responsibilities - teaching and research - but the dynamism of the universities and the needs of society have lead to the consolidation of a third mission. This third mission takes in various fields and activities which universities, and especially those in the public sector, undertake with the community around us: solidarity, sustainability, responsibility, knowledge and technology transfer, and innovation, to name a few.

It is this responsibility, this third mission, which provides the best overview of the contribution made to society by the work done by universities, which is sometimes represented merely as theoretical development, with no application other than the training of scholars. Examples of the contribution by this mission of the universities are the transformation of knowledge into solutions, into access to technology, and into innovations that satisfy new needs.

At the University of Barcelona, the work of the Bosch i Gimpera Foundation (FBG) is now in its third decade, and plays a central role in the system of innovation that constantly works towards reinforcing co-operation between universities and business. This work is not done on a static basis, but instead adapts to the demands made of the universities by society, and has led to new types of technology transfer.

In the current phase of the FBG, the foundation is the largest and sole benchmark in transfer and valorisation of the results of research, and includes units such as the UB Agency for Assessing and Marketing Research Results (AVCRI) which has enabled the FBG to complete the transfer cycle: contracted research, valorisation and licensing and business creation.

The following pages contain a detailed report on the FBG's work in 2009, including examples of the contribution mentioned above, and its management of 40 million euros, which in 2009 increased above all in the major European projects are a.

Dídac Ramírez

## By the managing director

n 2009, the Bosch i Gimpera Foundation reinforced its position as the institution within the University of Barcelona Group responsible for transfer to society of the results of the research done at the UB and in the institutions of the UB Group, in the various fields of transfer of knowledge, technology and innovation: contracted research, collaborative research, valorisation and licensing of patents and creation of knowledge-based businesses.

In 2009, the rector's office of the UB decided to assign the work for the protection, valorisation and marketing of the results of the research generated in the UB environment to the Bosch i Gimpera Foundation. This work is done by the Agency for Assessing and Marketing Research Results (AVCRI). This objective of this integration process is to bring together the work of knowledge transfer and innovation in a single institution, and thereby to take advantage of the synergies between the FBG and the AVCRI in order to accelerate and reinforce the active support for researchers at the UB in all areas of knowledge and technology transfer.

This strategy was consolidated in 2010 when the Bosch i Gimpera Foundation was commissioned to manage the transfer activities arising from research, which led to the creation of the Valorisation and Licensing Area and which reinforced the activities supporting entrepreneurship that had been the responsibility of the FBG's Business Creation Area until that point.

The Bosch i Gimpera Foundation, as the institution promoting research at the UB, participated in various Spanish and international trade fairs in 2009to promote the scientific-technological range on offer at the UB, grouped by business sectors, and to market its technological portfolio. Seminars were also organised for researchers at the UB on the various types of knowledge transfer: contracted research (the Col·laborem? seminar) and the creation of knowledge-based businesses (the CREA!Empresa seminar).

The Bosch i Gimpera Foundation participated actively in the production of the candidature for the Campus of International Excellence, and the Barcelona Knowledge Campus (BKC), presented by the University of Barcelona with the Polytechnic University of Catalonia. The BKC has been recognised as the best Campus of International Excellence, and it is anticipated to be a driving force behind scientific, social and business activity in the Barcelona region.

In 2009, with the move of the International Projects Research Office to Tower D in the Scientific Park, all the FBG personnel now work in the same building, which leads to improved communication and greater internal interaction, and makes it easier for those using our services

Before moving on to the report, I would like to thank the members of the Board of Trustees for their support and commitment; and the researchers at the UB, the businesses and institutions that work with us and the personnel of the FBG, for all their efforts and for their ability to adapt in this time of changes.

M. Carme Ve rdaguer

## **Organisational structure**

## The Board

Chairman: Mr. Dídac Ramírez

First deputy chairman: Mr. Joaquim Coello Second deputy chairman: Mr. Àlex Aguilar

### Members:

Mr. Jord Alberch, Ms. M. Teresa Anguera, Mr. Josep A. Plana, Mr. Enric I. Canela, Mr. Miquel Espinosa (until February 2009), Mr. Jordi Damià (from July 2009), Mr. Joan Corominas, Mr. Rafael Foguet, Mr. Jordi Roig, Mr. Sergi Loughney, Mr. Miquel Àngel Cuevas, Mr. Fernando Albericio, Mr. Pablo Cigüela, Mr. Fernando Tejerina, Ms. Elionora Solé, Mr. Miquel Perdiquer

Secretary: Mr. Jordi Camós

## Areas and individuals

The FBG works towards its objectives in three business areas — the Technology Transfer Area, the Business Creation Area and the recently established Valorisation and Licensing Area — and in cross-department areas that help it to achieve its objectives: Contracts, Personnel, Administration and Finances, Technologies, Technical Office, and Communications and Marketing. The FBG also has a joint UB-FBG office which manages international research projects.

### THE TEAM:

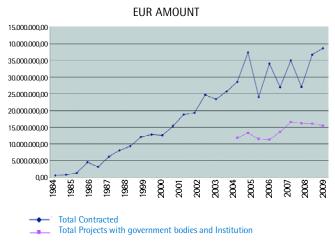
Ambel, Albert, personnel management and employment; Apellaniz, Anna, administration and management; Berges, Maribel, business creation; Casamitjana, Gemma, contracts; Closa, Alex, technology; Closas, Andreu, administration and management; Duran, Laia, administrative support; Esparbé, Isaac, technology transfer; Falcó, Joseph Lluís, business creation; Ferrando, Anna, administration and management; Ferrer, Mariona, communications and marketing; Gámez, Belen, Valorisation and Licensing; Giménez, Lluís, administration and management; Giménez, Anna, administration and management González, Miguel Ángel, technology transfer, Gutiérrez, Xavier, economic management of international research projects; Hierro, Joan, technology transfer, Jiménez, Raquel, contracts; Jordi, Lurdes, business creation/Valorisation and Licensing; López, Sheila, economic management of international research projects; Martin, Sandra, economic management of international research projects; Mata, Yvonne, reception; Morales, Pili, personnel management and human resources; Moreno, Raúl, Valorisation and Licensing; Navarro, Miguel, technology; Orellana, Carlota, communications and marketing; Pierrá, Daniel, administration and management; Novo, Teresa, communications and marketing; Plo, Teresa, administration and management; Pons, Roger, technology transfer; Riambau, Esther, business creation; Ros, Sergi, administration and management; Roselló, Gloria, contracts, Salom, Sònia, administration and management; Sanjuán, Irene, economic management of international research projects; Sánchez, Gemma, administration and management; Secall, Sara, Business creation; Segú, Maria, technical office; Segura, Marisa, economic management of international research projects; Serdà, Berta, secretary to the director, Solsona, Mireia, personnel management and human resources; Tejedor, Mercè, personnel management and human resources; Tello, Sandra, personnel management and human resources; Tort, Marta, administration and management; Ugía, Cristina, communications and marketing; Vega, Dolors, contracts; Verdaguer, M. Carme, director; Viñals, Marta, administration and management.

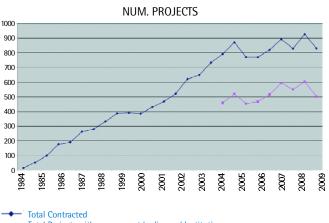
## RESULTS 2009

## UNIVERSITY-BUSINESS/INSTITUTION CONTRACTING 832 projects

More than 30 million euros in contracted research More than 7.5 million euros in services, studies and analysis

### PROGRESS 1984-2009





**Activity Report** 

## **BUSINESS CREATION**

5 businesses created
25 entre preneurial projects advised
36 business creation ideas received
5 new companies joined in the PCB-Santander Bioincubator
More than two million euros of financing requested for advised companies

## PROTECTION AND LICENCES

5 patent licences

48 inventions proposed by researchers

48 proposals assessed

24 priority patent applications

17 applications for international patent extensions (IPE)

## RESEARCH PROJECTS AND SERVICES

Relevant Details for 2009

In 2009, 832 projects amounting to 38,634,679.56 euros were contracted

Their distribution by type and centre was as follows:

2009										
		rojects		ean Projects		rative Agreements	Ń	rams & Service lanagement		TOTAL
	Num.	EUR amount	Num.	EUR amount	Num.	EUR amount	Num.	EUR amount	Num.	EUR amount
Others	4	349.169,67	3	1.084.355,00			20	3.997.346,93	27	5.430.871,60
Arts	9	103.010,87			13	52.136,42	1	1.616,40	23	156.763,69
Library & Documentation	5	122.778,10			6	9.024,14			11	131.802,24
Biology	92	2.693.386,69	10	4.277.612,35	42	294.951,79	1	3.200,00	145	7.269.150,83
Law	26	394.340,60	1	23.535,48	16	83.098,72	6	247.620,25	49	748.595,05
Pharmacy	93	1.638.443,91	1	2.694.418,00	43	364.997,12			137	4.697.859,03
Philology	2	12.617,24	1	436.200,00	1	686,70			4	449.503,94
Physics	31	1.655.108,58	4	1.678.494,00	11	50.355,19	1	18.695,00	47	3.402.652,77
Teacher Training	12	460.546,22	4	714.323,00	2	45.401,95			18	1.220.271,17
Geagraphy & History	13	88.400,11	2	412.248,04	6	42.018,66	1	53.444,32	22	596.111,13
Geology	24	1.820.813,60	3	564.912,00	19	253.135,64			46	2.638.861,24
Mathematics	1	16.250,00			1				2	16.250,00
Medicine	15	492.624,49			16	143.886,04			31	636.510,53
Education	18	192.058,50	3	134.112,00	6	14.091,90			27	340.262,40
Psychology	21	370.304,00	2	2.640.972,00	10	38.148,05			33	3.049.424,05
Chemistry	55	1.497.544,43	2	724.021,69	18	158.705,31	5	318.916,17	80	2.699.187,60
Business & Economics	69	1.602.564,22	1	40.000,00	36	413.324,60	7	952.477,26	113	3.008.366,08
Dentistry	1	199.920,00			1	1.750,75			2	201.670,75
Bosch i Gimpera Foundation	13	1.775.565,46					2	165.000,00	15	1.940.565,46
TOTAL	504	15.485.446,69	37	15.425.203,56	247	1.965.712,98	44	5.758.316,33	832	38.634.679,56

	Núm	Eur. Amount
Projects	60,58%	40,08%
European Projects	4,45%	39,93%
Collaborative Agreements	29,69%	5,09%
Programs & Service Management	5,29%	14,90%

The distribution by origin of the projects, depending on whether they originated in companies, government bodies and institutions or the European Union, was as follows:

2009										
	(	Companies		ment bodies stitucions	Others		European Union		TOTAL	
	Num.	EUR amount	Num.	EUR amount	Num.	EUR amount	Num.	EUR amount	Num.	EUR amount
Others			4	349.169,67			3	1.084.355,00	7	1.433.524,67
Arts	2	28.384,00	7	74.626,87					9	103.010,87
Library & Documentation	3	118.157,42	2	4.620,68					5	122.778,10
Biology	38	973.215,48	54	1.720.171,21			10	4.277.612,35	102	6.970.999,04
Law	3	68.771,87	23	325.568,73			1	23.535,48	27	417.876,08
Pharmacy	77	1.345.066,47	16	293.377,44			1	2.694.418,00	94	4.332.861,91
Philology	1	9.600,00	1	3.017,24			1	436.200,00	3	448.817,24
Physics	11	629.708,00	20	1.025.400,58			4	1.678.494,00	35	3.333.602,58
Teacher Training										
Formación del Profesorado	4	220.840,00	8	239.706,22			4	714.323,00	16	1.174.869,22
Geagraphy & History	1	5.172,41	12	83.227,70			2	412.248,04	15	500.648,15
Geology	13	778.752,00	11	1.042.061,60			3	564.912,00	27	2.385.725,60
Mathematics	1	16.250,00							1	16.250,00
Medicine	9	116.134,35	6	376.490,14					15	492.624,49
Education	1		17	192.058,50			3	134.112,00	21	326.170,50
Psychology	3	9.991,15	18	360.312,85			2	2.640.972,00	23	3.011.276,00
Chemistry	39	798.408,06	16	699.136,37			2	724.021,69	57	2.221.566,12
Business & Economics	9	141.224,04	60	1.461.340,18			1	40.000,00	70	1.642.564,22
Dentistry	1	199.920,00					1	199.920,00		
Bosch i Gimpera Foundation			10	1.683.000,00	3	92.565,46			13	1.775.565,46
TOTAL	215	5.259.675,25	286	10.133.205,98	3	92.565,46	37	15.425.203,56	541	30.910.650,25

	Num.	EUR amount
Companies	39,74%	17,02%
Government bodies & institutions	52,87%	32,78%
European Union	6,84%	49,90%
Others	0,55%	0,30%

Projects *	Num.	%
> 100.000	35	6,94%
From 75.001 to 100.000	24	4,76%
From 50.001 to 75.000	20	3,97%
From 25.001 to 50.000	60	11,90%
Until 25.000	365	72,42%
Total	504	100,00%

<sup>\*</sup> UE projects not included

	Num.	Amount	% N.	%amount	average amount
Projects	504	15.485.446,69	93,16%	50,10%	30.725,09
Projects Eur.	37	15.425.203,56	6,84%	49,90%	416.897,39
Total	541	30.910.650,25	100,00%	100,00%	



Sectorial distribution of contracts with companies:

2009					
SECTOR	Num.	Eur. amount	% Projects	% Amout	
Agriculture, livestoch & fishing	4	156.329,41	1,86	2,97	
Food & Beverage	6	132.724,36	2,79	2,52	
Auto	2	97.180,00	0,93	1,85	
Banks & Insurance Co.	3	60.055,03	1,40	1,14	
Biotechnology	3	38.523,51	1,40	0,73	
Construction	4	69.950,00	1,86	1,33	
Consultancies	43	118.643,25	20,00	2,26	
Cosmetics	1	11.980,00	0,47	0,23	
Culture & hobbies	1	144.240,00	0,47	2,74	
Communication	2	45.600,00	0,93	0,87	
Education	1	600,00	0,47	0,01	
Sport	1	105.558,00	0,47	2,01	
Pharmaceutical companies & fine chemicals	66	1.928.025,37	30,70	36,66	
Factory	1	80.000,00	0,47	1,52	
Environment	7	107.092,62	3,26	2,04	
Medicine	2	10.030,00	0,93	0,19	
Metellurgy & Electronic	16	505.487,33	7,44	9,61	
Oil Industry	14	796.176,38	6,51	15,14	
Optical	1	4.384,00	0,47	0,08	
Chemistry	10	187.200,77	4,65	3,56	
Health	4	14.830,53	1,86	0,28	
Public Services	20	598.814,69	9,30	11,39	
Telecommunications	1	16.250,00	0,47	0,31	
Veterinary medicine	2	30.000,00	0,93	0,57	
TOTAL	215	5.259.675,25	100,00	100,00	

## Research projects and services

This category is the R+D and services and projects carried out by the research groups, departments and research institutes of the University of Barcelona and of public and private institutions. It also includes advice and consultancy work commissioned by third parties; the production of studies and reports; scientific-technical assistance services; analysis services; software development, artistic work, and specific training and improvement activities entailing no official recognition or the issue of qualifications or certificates by the University of Barcelona.

504 Spanish and international projects amounting to 15,485,446.69 euros

37 projects with the European Union amounting to 15,425,203.56 euros

## Examples of research projects and services

## Designing a natural wastewater treatment plant

The natural wastewater treatment plant developed by Josep Cerdà, of the University of Barcelona Department of Sculpture, and the company Moix, based on an agreement signed with the Bosch i Gimpera Foundation and with the support of the Government of Catalonia ACC1Ó. is called PlantDepur.

This wastewater treatment system based on using water-treatment plants won first prize for Innovation at the Girona Fair.

## • Agreement to disseminate scientific culture and communication at the Santa Mònica Arts Centre

The Department of Culture and the Media, the UB and the UAB signed an agreement through the FBG for the dissemination of scientific culture and communication at the Santa Mònica Arts Centre.

• European project for designing new treatments for tuberculosis NOstress (Unraveling the Molecular Mechanism of Nitrosative Stress Resistance in Tuberculosis) Molecular of Tuberculosis) is a European project run by the FBG and the OPIR (International Projects Research Office) and coordinated internationally by Professor Javier Luque of the UB-IBIB Department of Physicochemistry and Biomedicine Institute, within the health area of the 7th European Union Framework Programme.

The objective of the NOstress project is to design new therapies to combat tuberculosis, which is particulary prevalent in Asia and in Africa. Apart from the leading role played by the UB, teams from the IRBB-CSIC, the Microbial Technology Institute in India, the University of Buenos Aires, in Argentina, and the University of Sheffield, in the United Kingdom, are also involved in the project.

## • The Chilean research police encourage excellence

The UB's Department of Sociology and Organizational Analysis undertook a project through the Bosch i Gimpera Foundation for the Chilean research police to implement scientific and technical co-operation programmes of shared interest, in Spain and internationally.

These programmes are part of the objectives of the Chilean research police aimed at the professionalisation of its personnel, based on the most advanced security and police investigation techniques, with the help of experts from the UB.

## • SOSTAQUA project

The SOSTAGUA project (Technological Developments Towards a Self-Sustainable Urban Water Cycle) is a CENIT project presented by Agbar (the Barcelona Water Group), in which the FBG is co-ordinating the participation of the UB Group research groups.

The project aims to promote cooperation between public and private institutions in research, development and innovation (R+D+I). The project took place between 2007 and 2009 inclusive, and the UB's budget was 1,550,000 euros. Five UB research centres and the Barœlona Science Park (PCB) were involved in this project

The areas of work involved in the SOSTAQUA project are water technology and the environment. The objective of SOSTAQUA is to improve the sustainable water cycle. The four cornerstones of the SOSTAQUA pro g ramme focus on research and development in the fields of water, waste, energy and health.

## **Project management** and administration

Providing services not linked to the signing of contracts and the management of the UB's own or external programmes and services, as well as seminars, accounted for a volume of 291 projects managed, amounting to 7,724,029.31 euros.

The services provided involved a turnover of 3,259 invoices.

**359 people were recruited** through the FBG in 2009. Of these, 80.5% were Spanish, 15.3% were from elsewhere in Europe and 4.2% were from other countries.

Countries of origin: Argentina, Bolivia, Bulgaria, Belarus, Canada, Colombia, France, Germany, Greece, Guatemala, Hungary, Iran, Ireland, Italy, Japan, the Netherlands, Tunisia, Turkey, the United Kingdom, the United States, Venezuela.

## VALUING AND COMMERCIALISATION OF PATENTS

**RELEVANT DETAILS FOR 2009** 

5 patent licences

48 inventions proposed by researchers

48 proposals assessed

24 priority patent applications

17 PCT extensions

## A SUCCESSFUL CASE:

A treatment patented at the UB begins trials in patients

A treatment against muscle atrophy and cachexia, associated with cancer, is in phase II of its pharmacological development. This is a success for the process transferring the knowledge created at the university to society, as a treatment that arose from research at the UB will now be tested on patients.

The first stage, phase I, was carried out with healthy volunteers, in order to obtain information on the dosage and safety of the medication. In phase II, the development stage, the medication is administered to patients for the first time, in order to confirm its effectiveness, side-effects and suitable doses. Overcoming each of these phases is an increasingly demanding and difficult task, to the extent that approximately only one of every 5,000 medicines studied in the laboratory finally reaches the market.

The project has been undertaken by the researchers in the Biochemisty and Molecular Biology Department of the Faculty of Biology J. M. Argilés, S. Busquets and F. López and the English pharmaceutical company Acacia Pharma Ltd.

On 14 May 2009, the Bosch i Gimpera Foundation began the integration process for the Agency for Assessing and Marketing Research Results (AVCRI). This is the University of Barcelona agency responsible for strategic and operational management of the industrial and intellectual property created at the University.

A ruling by the rector appointed M. Carmen Verdaguer as acting director of the AVCRI and began the design of a new department in the FBG to undertake the work done by the Agency to date. This integration process will conclude in 2010 with the creation of a new business area within the FBG, called the Valorisation and Licensing Area.

During these months of transition, the following objectives were prioritised:

- Ensuring the continuity of projects and the work of the AVCRI.
- Integrating the AVCRI team of professionals within the FBG structure.
- Identifying synergies with the FBG.
- Preparing a UB management mandate for the FBG for the latter

to assume management of the operations and transfer of the UB's research results.

The Valorisation and Licensing Area inherits the mission of the AVCRI, which is to ensure the identification, protection, valorisation and marketing of the results of the research carried out at the University of Barcelona.

When commercialising the results of research done at the UB and the corresponding intellectual and industrial property rights, we aim to transfer the benefits of these discoveries to society and to defend the public interest and achieve a good return for the University and its researchers.

Transfer projects: Transfer projects are the results of projects that are original and can be protected, and which have an application that meets a need that is not covered by society, and as such has a great deal of transfer potential.



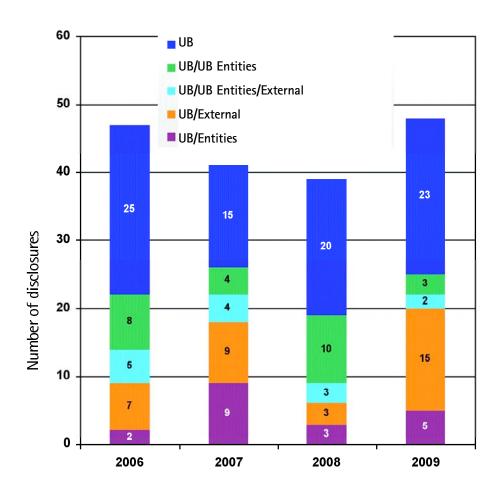
Lifecycle of a transfer project:



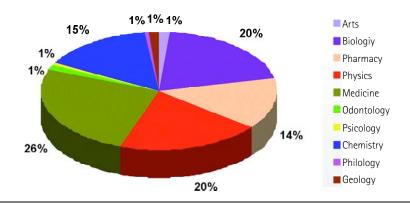
## Identification and assessment

48 new proposals were received in 2009, which were assessed from the point of view of their protection and commercial potential.

Disclosures by year and entities



Disclosures by faculties 2006-2009



## **Protection**

When the technologies identified are assessed as positive, these research results are protected – before being made public – by the application for a patent (a priority application) or by the registration of intellectual property.

2009 saw the following:

24 priority patent applications

17 international extensions (PCT)

4 national phases

There are 47 patents available for transfer.

An international extension enables a patent to be maintained for a further eighteen months without the major expenditure involved in beginning national phases.

In 2009, the national phases of a patent began in Europe, Canada, the United States and Japan.

A non-confidential description of the highly innovative protected technologies is provided on the FBG website.

## **Valorisation**

Academic research is generally at very early stages, which thereforemeans that the risk within the value chain in terms of applying their results in economic terms is high. Additional supervised research, accompanied by marketing concepts, intellectual property and business development, is necessary to take it to a precommercial level. In particular, creating concept tests and prototypes is a very valuable phase in this process.

One of the tasks of the Valorisation and Licensing Area is to find solutions that enable progress to be made in the development of projects, to reduce risk and make projects more appealing and more likely to be transferred to industry. Among these solutions a re the following: designing development plans with researchers, research by complementary teams for production, financing research and strategic and operational management of development projects.

The financing of the concept tests which bring these technologies to the market and make them less risky for companies is obtained from public grants, and from private institutions such as Banco Santander.

5 projects received financing from the ACC1Ó Valtec grants 3 projects received financing from the FEYCT Innocash grants 5 projects received financing from the Banco Santander PPV grants, managed by the FBG

### **EXAMPLES OF VALORISATION PROJECTS**

## TREATMENT OF LIVESTOCK EXCREMENT TO PREVENT WATER POLLUTION

Reducing the concentration of nitrogen content in livestock excrement, known as slurry, is a major problem all over the world, as it affects the productivity of farms and can lead to the pollution of aguifers and agricultural crops.

**Endowment: 152,129** 

Main objective of the project: To define a new reagent and the associated process for the treatment of slurry. The project also aims to ascertain the characteristics of the solid arising from the treatment and assess its properties as a fertiliser.

Main results obtained: Positive results were obtained in the treatment of both digested and non-digested slurry. A patent application was made with these results. An international extension to the Patent Cooperation Treaty (PCT) was subsequently applied for, with the addition of the description and uses of the end product of the treatment.

The project obtained additional funds from the Valtec programme (ACC1Ó), which shows the importance of the proposal. With SIDI-Santander, contacts with three companies in the sector have been with a view to working with the results.

The possibility of applying for a CDTI grant jointly with a company for the construction of a biogas plant including the slurry treatment process is currently being considered.

## NEW TREATMENT FOR BLOOD INFECTIONS: SEPSIS

Sepsis is a serious disease involving an extensive infection of the blood, which leads to severe sepsis and septic shock if not treated properly.

Main objective of the project: To validate the usefulness of the human recombinant protein CD6 as a treatment for sepsis and septic shock in animal models.

Endowment: 183,100

Main results obtained: The main researcher in the project created a spin-off (Immunnovative Developments) in order to develop the product until it reaches the clinical concept trial stage. The technology will be licensed to the spin-off. Potential investors are already interested in the spin-off created. The concept test in animals which shows the efficacy of CD6 in the treatment of sepsis is now available. There are positive results from its use in combination with antibiotics, which is important for standard clinical practice.

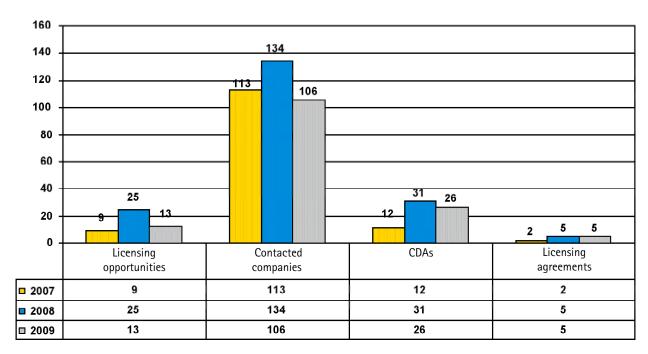
The national phases of the application for a PCT international patent have begun in Europe, the United States, Canada and Japan.



## **Commercialisation**

In order to find the best companies that can develop the University of Barcelona technologies and take them to market, we participate in trade fairs where we contact these companies, and attempt to establish partnerships with them.

LIST OF COMMERCIALISATION ACTIVITIES UNDERTAKEN DURING 2009



## LICENCE CONTRACTS SIGNED IN 2009:

• Standardised method and kit for the quantification of the hepatitis A virus (HAV kit)

Inventor: Albert Bosch (Biology)
Type of contract: patent licence

• Control of the tests based on the inverse transcription – polymerase chain reaction (Mengo)

Inventor: Albert Bosch (Biology)
Type of contract: patent licence

• New lipopeptide antibiotics based on polymyxins Inventor: Francesc Rabanal (Biology)
Type of contract: patent licence

 Hybridomas producing monoclonal antibodies Inventor: Pablo Engel (Medicine)
 Type of contract: licence • Assessment of river restoration projects Inventor: Narcís Prat (Biology)

Type of contract: software use licences

## **Projects**

Nano2Market: The objective of this project is to produce best practice guides for intellectual property strategy and technology transfer in the nanotechnology field. Based on various cases studied in different technological areas (energy, materials, medical applications, ICTs, instrumentation, the environment, food and security) and also based on the analysis of European nanotechnology projects, the aim is to produce a technological map identifying the main actors in the development and commercialisation of these technologies.

The consortium consists of:

- Technological centres supplying the technologies to be analysed: Fraunhofer-Gesellschaft (Germany)
   Interuniversity Microelectronics Centre (IMEC, Belgium)
   Institute for Bioengineering of Catalonia (IBEC)
- Intellectual property and technology transfer agencies:
   France Innovation Scientifique et Transfert (FIST, France)

Barcelona Science Park (PCB-AVCRI, Spain) University of Alicante (Spain – co-ordinator)

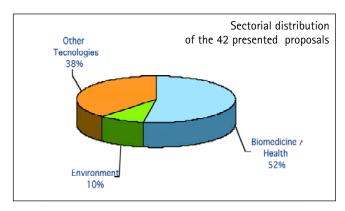
• Experts in risk capital, industrial partnerships, market analysis and technological supervision:

Nanotechnology Industries Association (NIA, United Kingdom) Brabo Ventures (Denmark)

TecKnowMetrix (TKM, France)

Camera di Commercio, Industria, Artigianato e Agricoltura di Milano (CCIAA, Italy)

Innocash: The Bosch i Gimpera Foundation, as an officially



approved institution for the Innocash programme promoted by the FEYCT, produced a technological dossier for the University of Granada.

**Projects Valorisation Programme or PPV:** Banco Santander and the Marcelino Botín Foundation financed a fund to assess projects, endowed with a million euros over two years.

- 42 proposals were presented in 2009.
- The second year of the six projects selected in the first PPV call was managed.
- The decision on the second call was made:
- 5 projects were selected to be valued at an average of 200,000 euros over two years, and agreements for undertaking these five projects were signed.
  - Sectors of the projects financed:
  - 2 in biomedicine and healthcare technologies
  - 2 in communication technologies
  - 1 in energy and the environment

## BUSINESS CREATION AND ENTREPRENEURIAL SUPPORT

**RELEVANT DETAILS FOR 2009** 

5 businesses created
25 entrepreneurial projects advised
36 business creation ideas received
5 new companies joined in the PCB-Santander Bioincubator
More than two million euros of financing requested for advised companies

The FBG fosters the entrepreneurial spirit and support for entrepreneurs at the UB. It is part of the ACC1Ó Network of Technological Springboards — which will be known as valorisation units from 2010 onwards — and provides support for scientific-technological business start-ups.

It provides entrepreneurs with advice, starting from the initial idea until the constitution of the company for the projects proposed by the teaching staff, researchers, doctorands and students in the UB community.

It also promotes the entrepreneurial spirit among the academic community and students by means of various presentations, courses and collaborations with other institutions, such as the Entrepreneurship Chair, ACC1Ó and Barcelona.

## **Business creation**

More than 25 technology-based companies received advice in 2009, and applications were made for capital for these companies, which amounted to more than two million euros.

Five companies received the Gènesi grant from ACC1Ó, and six more arranged Capital Concepte grants (which they had applied for before 2009 and which were pending formalisation). These companies also sought other sources of financing (venture capital, investment angels, industrial partners, the Torres Quevedo programme).

## **Advice for entrepreneurs**

In 2009, advice services were provided for the production of business plans and presentation of financing applications, amounting to a total of 2.1 million euros. The results are shown below:



New entrepreneurs presented	36
Projects advised by the Springboard	25
Projects approved in Gènesi	5
Projects approved in Capital Concepte	6
Projects approved for NEOTEC	0
Projects receiving other financing	2
Businesses created in 2009	5

- VCN, a viral therapy for solid tumours, May 2009
- Phyture Biotech, active substances in vegetable crops, Faculty of Biology, June 2009
- Transmural Biotech, medical devices with applications in surgery and gynaecological diagnosis, Hospital Clinic, June 2009
- GAT, microalgae-based biofuels, independent, September 2009
- Spine Up, innovative treatments for high initraocular pressure and glaucoma, Faculty of Medicine/Hospital Clínic, November 2009

## **PCB-Santander Bioincubator**

The PCB-Santander Bioincubator is jointly run by the FBG and the Barcelona Science Park (PCB).

The following companies joined the Bioincubator in 2009:

Argon Pharma: anti-tumoral and nanconjugate therapeutic polymers for cancer

Neurotech Pharma: drugs for diseases of the central nervous system. A UB spin-off with the participation of CIC-UB.

SOM Biotech: new medical applications for known drugs Janus Developments: in-licensing and valorisation

Eyytoo: medical devices for contraception and sexually transmitted diseases

These new companies are added to those already existing:

Agrasys – Aleria – Omnia Molecular – Aromics – UBAN – Genmedica Terapeutics SL – Infinitec Activos – Biocontrol Technologies – Intelligent Pharma – Bioingenium – Neuroscience Technologies – Endor Technologies – Sabir Medical

The company Transbiomed left the Bioincubator in 2009.

Programmes undertaken by the companies in the PCB-Santander Bioincubator in 2009:

## • Personalised business consultancy services

The FBG assigned a specialised consultant to each business in the Bioincubator, who works with the entrepreneurial team in areas including:

- a) advice on technology licences (in and out licensing);
- b) advice on business areas.

## • Training session on biotechnology patents, March 2009

Mr. Brian O'Shaugnessy, partner of Buchanan Ingersoll and Rooney,

PC, gave a talk on new trends in protecting industrial property in biotechnology in the United States.

• Information session on grants for internationalisation

## Management of associate companies portfolio

The FBG is responsible for monitoring the UB affiliated spin-offs through the company Cultura Innovadora y Científica UB (CIC-UB).

The seven companies in which the UB currently has a shareholding a re as follows:

• Thera Centre de Llenguatges i Computació, SL • Enantia, SL • Genmedica Therapeutics, SL • Biocontrol Technologies, SL • Neurotec Pharma, SL • Unidad Biotecnológica Analítica, SL (UBAN) (joint venture) • Oleoyl Estrone Developments (OED) (tender process ongoing)

## **Technological audits**

The objective of the project was to contact UB research groups to discover opportunities for marketing technologies, by means of both research contracts with companies, and patent licences and business start-ups. This project ended in 2009 with the following overall results (since 2007):

Number of groups contacted	46
Number of initial phases undertaken	42
Number of groups agreeing to particip	pate 36
Number of groups declining to partici	pate 10
Number of audits in research phase	0
Number of joint phases carried out	36
Number of audits in report phase	36
Number of audits in monitoring phase	21

## **Entrepreneurship Chair**

The Bosch i Gimpera Foundation has managed and actively collaborated with the UB's Entrepreneurship Chair since 2007, as they both share the same objective of promoting business startups and promoting entrepreneurial culture at the University of Barcelona.

The FBG has collaborated with the Chair's co-operation in the Firms Innovation Development Programme, in which it has played a key role in obtaining official qualifications from the UB for the two stages of the project. The director of the Chair, Dr. Jaume Valls, was the academic director of the Innovation Management in Business course, and participated in its design and Coordination of the teachers

IN 2009, the FBG collaborated with the Chair on the following training activities:

- IV UB Business Creation Workshop
- Managing Creativity in in the Innovation Society Summer School
- University master's degree in Technology-based Business Startups,

November 2009

## Recognition

## 9th ACC1Ó Business Idea Competition

The company Phyture Biotech won third prize and Nanochimia was a finalist among the 110 projects presented for the ACC1Ó business idea competition.

### Annual incubators competition

The PCB-Santander Bioincubator came in third place in return on investment in the annual incubators competition organised by The Technopolicy Network.

## Fifth Entre preneur prizes of the Caixa Manre sa Foundation

Janus Developments, a PCB-Santander Bioincubator company, won first prize for business ideas; and WorldSensing, a company advised by the FBG, won the second prize for business ideas with its FastPark product.

# INNOVATION AND TRANSFER KNOWLEDGE PROMOTION

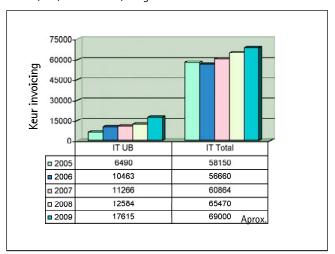
## Coordination of UB TECNIO brand groups

The FBG is the driving force behind groups that are part of the TEC-NIO brand of ACC1Ó and provides them with support in growth and consolidation, coordinates their work in their relationship with ACC1Ó and monitors their development and transfer results.

TECNIO is a brand of ACC1Ó that covers the leading experts in applied research and technology transfer in Catalonia. It includes research

and development centres, technological centres, research groups, laboratories, private foundations and technological innovation centres. Its main objectives are to consolidate and strengthen the technology transfer model in order to create a Catalan technology market that provides businesses with competitiveness and technology in order to contribute added value to their projects, and to become a springboard for raising their international profile.

Eleven UB research centres were affiliated to TECNIO in 2009. The total turnover of the TECNIO-UB groups in the 2009 financial year was 17,615,257.05 euros, a figure which was an increase of 39.98%

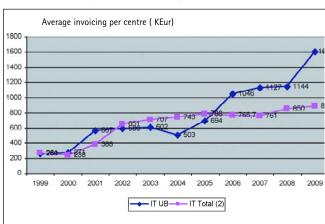


compared to the 2008 financial year (figure 1).

Figure 1. Turnover of the IT-UB network

(1) The exact figure for the 78 IT centres is unavailable

By way of a comparison, the average turnover of the eleven UB



groups is over one million euros (Figure 2).

Figure 2. Average turnover of the TECNIO-UB groups compared to TECNIO

(2) The exact figure for the 78 IT centres is unavailable

An analysis of the turnover of the eleven TECNIO-UB groups men-



tioned above shows that a significant proportion comes from work with companies (50.19%) while the remainder (49.81%) comes from public financing (concept 3).

Public funding50%

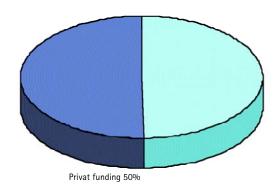


Figure 3. Distribution of turnover in the IT-UB network

Twelve international patents were presented and more than nine million euros invoiced in 2009.

## **UB Groups belonging to TECNIO**

CELLTEC UB - Cellular biology.

**CEMIC** (Centre for Engineering Micro-systems for Instrumentation and Control) – Nanotechnologies and bioengineering.

**CEQAP** (Centre for Environmental-Chemical and Product Engineering) – Chemical engineering.

**CERETOX** (Experimental Toxicology and Ecotoxicology Unit) – Toxicology research.

**CPT** (Centre for Thermal Projection) – New materials, surface treatments.

**DIOPMA** (Centre for Design and Optimisation of Processes and Materials) – Materials and metallurgy.

**ELECTRODEP** (Corrosion and Electrodeposition Laboratory) – Materials and electrochemistry.

**SCT** (Scientific-technical services) – The UB's Scientific-technical services.

SDM (Medicine Development Service) – Formulation and development of medicines.

UQC (Combinatory Chemistry Unit) – Combinatory chemistry SINTEFARMA (Centre for Research and Development in Organic Synthesis for the Pharmaceutical Chemical Industry). Synthesis of molecules with therapeutic activity

ACC1Ó is firmly committed to co-operation between research groups. The members of the TECNIO brand of the UB have formed the UB Centre for Innovation and Advanced Technologies (CITA UB) in order to achieve synergies in applied research.

## **UB Centre for Innovation and Advanced Technologies (CITA UB)**

The UB Centre for Innovation and Advanced Technologies (CITA UB) is a project that began in 2008 in order to bring together groups active in knowledge transfer in a single centre. It aims to promote co-operation and synergies between these groups, which will significantly increase their transfer activities.

This centre aims to be a meeting point for UB research groups and companies interested in undertaking R+D+i Projects. As a result, the CITA UB was conceived and acts as a centre in which the University and businesses participate.

The CITA UB currently consists of UB groups that are members of the TECNIO brand that have joined voluntarily after having assessed the group's knowledge and its ability to undertake applied research projects.

The CITA UB will not be limited to the groups mentioned above, but instead will be open to participation by other groups.

The CITA UB is currently structured in six programmes, which focus on the development and transfer of knowledge in specific business sectors:

- 1. FOOD SAFETY AND QUALITY. Food sector. Includes all food safety and quality technologies.
- 2. SUSTAINABLE DEVELOPMENT. Sector covering the environment, energy and water. Innovation in technologies for sustainable development.
- 3. IMPROVEMENT IN INDUSTRIAL PROCESSES. More traditional sectors such as construction, automobiles, plastics, coatings (paintings, varnishes, etc.). Work on technologies for improving industrial processes such as the development of new materials and chemical processes, among others.
- 4. INFORMATION AND KNOWLEDGE SOCIETY. The instrumentation sector, computational linguistics, software, ICTs, etc. This area includes technologies for the information society.
- 5. HEALTH AND QUALITY OF LIFE. Pharmaceutical, biotechnology and medical technology sectors. Work on developing technologies for health and quality of life.
- 6. SOCIO-ECONOMIC SCIENCES. Sectors such as teaching, the economy, etc. Development of knowledge related to areas of knowledge in the sectors of the humanities and social sciences.

## Firms Innovation Development Programme

In 2009, the Bosch i Gimpera Foundation, together with the Barcelona

Chamber of Commerce and the Government of Catalonia ACC1Ó Agency, completed the first pro g ramme and implemented the second Firms Innovation Development Programme, the objective of which is to foster the improvement of competitiveness in companies and their growth through innovation. The first and second programme, which covers two academic years are taking place in the 2008–2009 and 2009–2010 courses respectively.

The overall objective of the programme is to support the stimulation of the technological innovation process in SMEs by means of including human capital from the UB trained in innovation management (graduates, engineers, master's degree holders, doctorands and doctors) in the production processfabric.

The project involves the collaboration of FeinaUB, which has raised the profile of initiative through its website and professional guidance seminars, and managed the reception of the 53 students interested in the project. Finally, 12 students with various qualifications (ranging from Business Studies to Chemical Engineering) joined the programme.

The project is structured in two phases, each of which leads to a qualification from the University of Barcelona:

- Training phase; a course on innovation management in business (between October and November 2009): specialised training for twelve qualified UB students. The course involved 120 teaching hours and the participation of teachers from the University of Barcelona, the Chamber of Commerce and ACC1Ó. The qualification received is a UB certificate of achievement.
- Stimulation phase of business innovation (implemented from February to July 2009 for the first project): six students taking the innovation management course worked as paid interns to foster and boost innovation in a company. This phase of stimulation included advice from external experts in order to carry out a diagnosis of the company and monitoring of the innovation intern's road map, which contained the actions to be taken in order to improve the company's current innovation management system.

The results for this period show that the participating companies applied for a total of three Innoempresa grants from the ACC1Ó agency, of which two were awarded. In terms of job placement, four companies offered their innovation intern a permanent position, although in the end only one accepted for three months after the end of the internship period. This phase leads to a UB postgraduate diploma for the internship period in the company.

Thanks to the programme, an improvement in the competitive position of SMEs in terms of a substantial increase in the number of innovation projects undertaken in Spain and internationally is anticipated.

## Reference Networks Managed by the Government of Catalonia

The reference networks are a tool of the Government of Catalonia's Research and Innovation Plan, the main objective of which is to take advantage of the synergies between the various research groups of excellence in the different universities and research centres in a given knowledge area to foster collaboration between them, increase their capacity to undertake major research and innovation projects, optimise the R+D+i infrastructures and equipment in Catalonia and promote business competitiveness by means of innovation projects.

The Bosch i Gimpera Foundation manages five of the nine networks in Catalonia.

Reference Network on Enonomy & Public Policy

Number of researchers: 47

Universities or centres: UB, UAB, UdG, URV

University-business projects: 22

Most important activities: Presentation and approval of a European project on health options in the European Union – Workshop on financing and use of healthcare services – Publication of a manual on health economics – Presentation of the book Infrastructures and economic growth in Spain 1850–1935– Study of the origins of the deficit in welfare spending in Catalonia – Second Joint Research Design Course (RDC), coorganised by ESTER, the Centro de Estudios Antoni de Capmany and Global Euronet at which several researchers presented their research projects – "Workshop on Energy and the Environment" at the University of Girona, at which researchers from several European universities participated – Publication of the six-monthly bulletin XREPP News, with the first issue in July, featuring the main news and a calendar of activities.

Reference Network on Applied Economy

Number of researchers: 131

Universities or centres: UB, UAB, UPF, URV

University-business projects: 43

Most important activities: Production and dissemination of a sixmonthly information bulletin - Collaboration on the organisation of the XI International Conference on Economics - Presentation of a candidature (in collaboration with the AECR) to organise the international conference of the European Regional Science Association in 2011 - Symposium on regulating railways in metropolitan environments.

Reference Network on Theoretical and Computational Chemistry

Number of researchers: 273

Universities or centres: UB, CSIC, UdL, UAB, URV, UdG, ICIQ,

ICMAB-CSIC, UPC

University-business projects: 14



Most important activities: Publishing of the promotional leaflet - Preparation of seminars to celebrate 25 years of the computational chemistry network - Assessment of fifteen technologies for subsequent commercialisation - Holding a Summer School and a workshop with various pharmaceutical and materials companies - Dissemination of the network in specialised publications and journals in the pharmaceutical and materials sectors - Conference of exotic carbon molecules and Bader's theory - Seminar on "Modelling reactions inside the cell" - Seminar on "Molecule-based magnets: new chemistry and new materials for this millennium".

Reference Network on Advanced Energy Materials

Number of researchers: 154

universities or centres: UB, UAB, CSIC, UdL, UPC

University-business projects: 22

Most important activities: Participation in the international conferences on advanced ceramics and at the EMRS Spring Meeting – Preparation of a themed portal for disseminating energy challenges

- Preparation of an international conference on energy (April 2010)
- Presentation and approval of a European project for the European Union-Russia NMP call Organisation of the workshop "Renewable Energy: Production and Storage".

Reference Network on Food Technology

Number of researchers: 294

Universities or centres: UB, UdL, UAB, UdG, UdL-IRTA, IRTA-

Monells;URV

University-business projects: 150

Most important activities: Publication of the promotional leaflet – Attendance at TECNOALIMENTARIA with a stand and workshops – Assessment of ten technologies for subsequent commercialisation – Membership of working groups of the "Food for Life" platform – Dissemination on the Internet in specialist publications and journals in the food sector.

## Promotion and dissemination activities

A number of initiatives were undertaken in 2009 focusing on promoting research, marketing and valuing the capabilities of the UB, and stimulating collaboration between the university and business in the fields of R+D+i and fostering entrepreneurial culture. In short, these initiatives aim to promote the transfer of knowledge to both researchers and society.

## Conferences and seminars

Participation in the **Technical Seminar on Valorisation** en **Humanities** held at Carlos III University of Madrid (Madrid, 21 January 2009).

Participation with the lecture Valorisation of technologies as part of

the Entrepreneurship Chair, in the master's degree in Creating and Managing Innovative Technology-based Companies (Barcelona, 5 March 2009)

The Bosch i Gimpera Foundation, with the Barcelona Science Park and the PCB-Santander Bioincubator, organised the conference "Recent Trends on US Patent Law and How They Affect Biotech Companies" and the One to One personalised sessions (Barcelona, 9 March 2009).

Organisation of a benchmarking seminar Training Course on Creating Spin-offs for OTRIS and FUES Technicians (Barcelona, 20 April 2009)

Participation as a speaker at PATINNOVA 2009 at the seminar "Knowledge Transfer: national best practices and the involvement of NPOs in knowledge transfer activities" (Prague, 28 to 30 April 2009).

Organisation, in collaboration with the CDTI, of the seminar Help for R+D+i in collaboration with business (Barcelona, 29 April 2009)

Participation in the course Management of R+D and Business creation in the Biomedicine and Biotechnology field at the Faculty of Biology (Barcelona, May-June 2009).

Participation moderating the round table Ideas, innovation and limited resources. How are they allocated in a company? as part of the IV UB Business Creation Workshop (Barcelona, 7 May 2009).

**Entrepreneur Day.** The FBG is a collaborating institution, and organised various activities:

- Knowledge Capsule: "How to protect my project"
- The Advice Area. The consultants in the Business Creation Area participated in the business creation advice session. (Barcelona, 20 and 21 May 2009).

Participation in the lecture University Research Results Transfer Offices Network on the course Managing Technological Innovation: An Emerging Sector for Employment Opportunities, organised by the Rafael Altamira Summer University, University of Alicante (Alicante, 20 - 24 July 2009).

Participation with the presentation University-business co-operation: a path to innovation in the session organised by the SDM research group with representatives of the pharmaceutical industry (Barcelona, 3 September 2009).

Joint organisation, with the PCB and Biocat, of the seminar "Bioentrepreneurs at the University of Barcelona" (Barcelona, 8 October 2009).

Collaboration with Barcelona Activa/Biocat on the seminar Ready 4 Growth Healthcare (Barcelona, 15 and 16 October 2009):

- Programme design
- Moderation of round tables
- Selection of speakers

Colaboration with Biocat on the programme Bioemprendedor XXI:

- Participation in the Advisory Board
- Consultancy for five business projects (Best@way, Syndec, Transmural, Phyture, Transbiomed)
- Presentation of three business projects (Transmural, Phyture, Transbiomed)

Participation with the lecture The University of Barcelona valorisation model at the III Annual RedOTRI Andalucia Meeting (Jaén, 4 - 6 November 2009).

Participation with the lecture "University and society" in the master's degree Organisational and Government Models of Universities, organised by the UB Postgraduate Agency (Barcelona, 9 November 2009).

CREA! Empresa is the name of a project which began a year ago promoted by the Bosch i Gimpera Foundation, with the aim of fostering the entrepreneurial spirit among the university community and raising awareness of new professional opportunities in research based on contact with UB entrepreneurs, as well as learning from their professional experience. The third project took place in 2009, and was attended by more than fifty people (Barcelona, 10 November 2009).

The FBG organised an information session entitled Let's work together. Make your knowledge reach society. Work with business and institutions, to explain the details of working for companies and institutions at university. It invited all the researchers interested in finding out more about knowledge transfer and the support provided by the FBG in this area. It was attended by researchers from sixteen faculties and schools of the nineteen at the UB (Barcelona, 18 November 2009).

FBG personnel attended a series of events organised in 2009 on subjects in the fields of entrepreneurship, technology transfer, patents and R+D, among others, in sectors as varied as pharmacy, patents, energy, biotechnology and chemistry, to name a few.

## Technology fairs and meetings

The Bosch i Gimpera Foundation, as an institution promoting the UB's research in society, attended various fairs, both to represent the research of the UB, grouped by business sectors, and to market its technological portfolio and to promote business start-ups.

BARCELONA: Maquitec - Construmat - Ecocity - Eurocoat -

GlobalGeo – BTA – Fòrum Bio Regió – Mobile World Congress – III Jornada AIN – Trends in Nanotechnology – Feina UB (Physics and Chemistry Faculties)

LONDON: Advances in "Smart Materials"

MADRID: CPhI Worldwide TERRASSA: SECPhO

VALENCIA: New Materials Forum, Egètica-Expoenergètica

## Presentation of the FBG's activities and work

Various Spanish and international fairs were attended in 2009 to explain the work and activities undertaken in the FBG. Delegations from the following bodies were hosted:

- Universidad Nacional del Litoral, Santa Fe (Argentina)
- Instituto Tecnológico de Buenos Aires (Argentina)
- University of La Laguna
- Technical University of Demnark
- Parque Tecnológico Agroalimentario Aula-Dei, Zaragoza
- Polo Tecnológico de Química de la Universidad de la República, Canelones (Uruguay)
- Centro Tecnológico de Valparaíso (Chile)
- Cape Higher Education Consortium, Western Cape in South Africa, a higher education consortium including the following universities: University of Cape Town, University of Stellenbosch, University of the Western Cape and Cape Peninsula University of Technology
- Institut Químic de Sarrià
- Delegation of the State Government of Guanajuato (Mexico)
- University of Castilla-La Mancha

## Promotional materials

The UB capabilities are grouped by industrial sector. The sectors in which most scientific and technological breakthroughs achieved by the University of Barcelona research groups are applied during 2009 are as follows:

- AGRICULTURE AND LIVESTOCK WATER FOOD SECTOR: Water, food and nutrition · Health, physiology and genetics · Production technologies, agriculture and socio-economic aspects.
- CONSTRUCTION SECTO R: Construction · Technical projects and R+D+l projects
- NAUTICAL SECTOR ENVIRONMENT CHEMICAL SECTOR: Agriculture, livestock and nutrition  $\cdot$  Environment and energy  $\cdot$  Metallurgy, construction and electronics  $\cdot$  Paints and surface treatments  $\cdot$  Chemistry and health  $\cdot$  Technologies for automobiles
- MATERIALS, ELECTRONICS AND MACHINERY: Electronics, automation systems and energy · Materials · Environment.

## **Projects**

## **UB Business Council and Bosch i Gimpera Foundation Prizes**

The second UB Business Council and Bosch i Gimpera Foundation Prizes for the best knowledge transfer project and the best innovative business were awarded in 2009.

The objectives of the prizes are to promote the return to society of the knowledge acquired during studies and research; to value the importance of technology, knowledge and innovation transfer projects; to foster the creation of innovative knowledge-based businesses; to acknowledge the innovative capacity generated, and to promote entrepreneurial culture in the university sphere.

Thirteen candidatures were presented for this second series of prizes: seven for the Antoni Caparrós prize and six for the Senén Vilaró prize. The jury, which consisted of members of the two organising institutions, decided that the winners were:

## Antoni Caparrós Prize

Dr. Ana Inés Fernández Renna, for the project Using magnesium oxide with low environmental technology and materials content. The background and continuity of the transfer activities undertaken by this lecturer in the Department of Materials Science and Metallurgical Engineering and researcher in the UB DIOPMA research group was taken into consideration, as well as the fact that this technology transfer has helped business to open new commercialisation lines for products and to implement product diversification strategies.

## Senén Vilaró Prize

The company Biocontrol Technologies, SL, a spin-off affiliated to the UB and represented by Dr. M. Isabel Trillas Gay, for having followed the classic business start-up model based on UB technology: being advised since its beginnings by the FBG and located in the PCB-Santander Bioincubator. The market opportunity presented by this company's products was also taken into consideration.

The prizegiving ceremony was held on 3 December 2009, and the Blecua and Margalef Board of Trustees Prizes were also awarded, for the best scientific work based on a doctoral thesis read at the UB in the social sciences and experimental sciences fields, respectively. The proceedings were attended by the president of the National Energy Commission, Maria Teresa Costa i Campí.

## **Competitive projects**

The Bosch i Gimpera Foundation has always been very active in seeking public grants — and especially those awarded by the Ministry of

Science and Innovation to research results transfer offices (OTRI) to finance of knowledge transfer projects.

There were seven of these projects in 2009. They are as follows:

## • OTRI 2005 grants:

Development of the University of Barcelona Nutrition and Food Safety Research Institute

Project for undertaking technological audits on university research groups to find new technologies eligible for patents and licensing

Bosch I Gimpera Foundation – UB Catalan Universities Patents Portfolio Project (in Coordination)

Technical Support Staff Programme

### • OTRI 2006 grants:

Employment of a sales technician for structuring technology transfer in the Materials area of the University of Barcelona for the aeronautical and automobile sectors.

Protection and marketing of intellectual property (software, databases) for the life sciences sector.

## • OTRI 2008 grants:

Strategic Transfer Plan (PETRI) presented by the Bosch i Gimpera Foundation in December 2008, to be implemented over four years, until 2012.

## Recognition

The Bosch i Gimpera Foundation was an active participant in the preparation of the candidature of the Barcelona Knowledge Campus (BKC) Campus of Excellence Barcelona, presented by the University of Barcelona and the Polytechnic University of Catalonia, and specifically in the production of the proposal of the implementation of transfer projects.

The BKC received the Best International Campus award, with an endowment of 21 million euros, and is anticipated to be a driving force for scientific, social and business activity in the Barcelona area.

## **Internal projects**

## Human resources

**Training** for the personnel in the FBG structure:

Number of Courses	Num. of Workers Trained	Personalised training	External training
30	All personnel	7	33

A very positive aspect is that everyone in the organisation participated in at least one training initiative in 2009. Another very positive

aspect is the staff's degree of satisfaction with the training they received, according to the results of the satisfaction surveys, which showed that the courses obtained an average score of 8 out of 10.

The subsidies for training granted by the Tripartita Foundation were processed this year.

### RECRUITMENT

Eight new appointments were made: two staff members were replaced due to maternity leave, four new jobs were created and appointments were made to two existing jobs in the PCB (AVCRI) which now have a contractual relationship with the FBG.

Network personnel: two new recruits, one to substitute a worker on maternity leave and another on leave of absence to care for a child.

Internships: two people carried out internships - one in the Department of Communication and Marketing and the other in the Business Creation Area.

Training sessions on administrative risks for structure and research projects personnel were scheduled.

Everyone requesting a medical examination received one.

## FBG project administration web portal

One of the objectives for 2009 was to update the survey of projects by researchers using the abstracts website (Project Administration). A survey was sent to all the directors for them to assess the content and accessibility according to their needs and priorities.

The speed of enquiries and navigability were improved, so that it is now a more flexible process with a more user-friendly interface, which also enables the desired information to be exported in Excel format.

## Risk prevention

Risks were assessed and the measures needed were detected in the following faculties:

• Faculty of Biology • Faculty of Geology • Faculty of Law

## **Projects Management**

In order to make university-business/institution processes and relationships more flexible, the FBG manages various areas:

## Businesses-University-Society (EUS)

The EUS programme (Business-University-Society) is the result of the collaboration between the Faculty of Economics and Business, the

Circulo de Economía Foundation and the Bosch i Gimpera Foundation, in order to provide comprehensive training for students in the second cycle of their degree courses in Business Administration and Management and Economics in the faculty, and as an added value, to provide them with the opportunity to complete their academic training with an internship programme in a private or public company or institution, by means of an initiative coordinated between the two parties. The FBG provides administrative support, and invoices the companies and pays the students, as well as signing the agreement. The average annual number of students in 2009 was

## Barcelona University Centre (BCU)

The Barcelona University Centre (BCU) was established in 1997 with the mission of promoting, co-ordinating and directing all the work and activities considered necessary for promoting the Barcelona metropolitan area as an international university centre. This project was initially promoted by the Government of Catalonia, Barcelona City Council and the universities of Barcelona. As the BCU does not have its own legal status, the FBG is responsible for its financial management, which means that the Bosch i Gimpera Foundation provides it with support in all administrative aspects regarding management, such as invoicing, payment of suppliers and arranging services, among other areas.

The BCU is currently supported by the Government of Catalonia, Barcelona City Council, the Catalan Foundation for Research and Innovation, the universities located in Barcelona — the UB, the UAB, the UPC, the UPF, the URL, the UIC and the UAO — and the University of Vic.

## INSTITUTIONAL PARTICIPATION

## **Trusteeships**

The Bosch i Gimpera Foundation is represented by its managing director on the boards of trustees of the following institutions:

Barcelona Science Park – Institute for Research in Biomedicine – CETT (centre for education and knowledge transfer in hotel management and tourism)

## **Institutional participation and presence**



## Technology and knowledge transfer networks with FBG involvement

### **EUROPEAN NETWORKS**

Technology, Innovation, Information (TII) – Pro Ton Europe – Enterprise Europe Network (EEN)

### SPANISH NETWORKS

Research Results Transfer office Network (OTRI Network)

The FBG is the Research Results Transfer Office (OTRI) of the UB, and the managing director was the co-ordinator of the RedOTRI Universidades Network and a member of the Permanent Commission until June 2009.

On 7 January, the report RedOTRI 2008 was presented at the Ministry of Science and Innovation (MICINN) by the president of the Conference of Spanish University Rectors (CRUE), Ángel Gabilondo; by the secretary of State for Universities, Màrius Rubiralta; by the president of the R+D Sectorial Commission of the CRUE, Francisco Tomás; and the assistant managing director for Institutional Relations of the MICINN, Cristina Moneo, and the co-ordinator of RedOTRI, M. Carme Verdaguer. The social role of knowledge transfer was emphasised as an instrument with which universities not only provide companies with value, but also help other institutions including town councils, NGOs and trade unions. The role of Spanish universities in 2010 will be to train people, and to generate and transfer knowledge.

There was a 25% increase in research contracted by companies, and the importance of the university as a generator of R+D has been enhanced, with 68% of the country's scientific production and the fact that 13% of Spanish universities are among the world's 500 most prestigious universities.

There was a very positive trend in most indicators: 617 million euros attracted by R+D work done with and by companies; 434 applications for Spanish patents, and 192 international extensions and 190 contract licences signed.

Among the main challenges for the future mentioned in the report is the need to intensify efforts in business creation based on university knowledge and on the return from royalties from licensed inventions.

The annual survey produced by RedOTRI is the only source of specific information on knowledge transfer by universities in Spain. It is aligned with the ProTon-Europe Survey, a survey by the European ProTon association covering the technology transfer offices at European universities.

The report also includes the work done by the network in 2007 and the proposal approved by the CRUE R+D sectorial commission for the creation of a National Knowledge Valorisation and Transfer Programme.

The FBG holds the vice-presidency through the director of the Technology Transfer Areaof the University-Bussines Foundation Among the projects carried out in 2009 was SMEs GO HEALTH, which aims to foster the participation of SMEs and groups of SMEs in projects related to the health area of the 7th Framework Programme, and seminars were also organised to present the new strategy of the Centre for the Development of Industrial Technology (CDTI), for fostering business investment in R+D+I P rojects in collaboration with universities.

The University-Business prizes were presented in November 2009, in the presence of the Infanta Elena de Borbón.

The FBG currently participates in three groups of Ministry of Science and Technology (MICINN) experts through the FUE network: the OTRI Group, the Transfer and Technology Group, and the Human Resources Group.

### **CATALAN NETWORKS**

The FBG is the institution that manages and co-ordinates the UB research groups they are part of the **TECNIO** brand.

The FBG is the **technological springboard** of the UB through the Business Creation Area.

## Other institutions

### **ENTREPRENEURSHIP CHAIR**

The Bosch i Gimpera Foundation has managed and actively collaborated with the UB's Entrepreneurship Chair since 2007, as they both share the same objective of promoting business start-ups and promoting entrepreneurial culture at the University of Barcelona.

### CIC-UB

The FBG is responsible for monitoring the spin-offs affiliated to the UB through the company Cultura Innovadora y Científica UB (CIC-UB).

## PCB - SANTANDER BIOINCUBATOR

The FBG manages the PCB-Santander Bioincubator through the Business Creation Area and with the Barcelona Science Park (PCB).

### **INNOACSH**

The Bosch i Gimpera Foundation – AVCRI has been accredited as an officially approved institution for the Innocash programme promoted by FEYCT. This means that the FBG is one of the institutions that can produce technological dossiers that help to assess the technologies presented by Spanish public centres. As an officially approved institu-

tion, the FBG produced a technological dossier for the University of Granada.

## NANO2MARKET

"Best Practices for IPR and Technology Transfer in Nanotechnlogy Developments" Nano2Market.

The Valorisation and Licensing Area is participating in this 7th European Framework Project, involving the production of guides for best practices for intellectual property and technology transfer strategies in the nanotechnology field.

### HIT BARCELONA

The Bosch i Gimpera Foundation was a member of the Hit Community at the World Innovation Summit (HIT), a conference that brought together experts in innovation from all over the world, and was held in Barcelona in June 2009. The objective of the Hit Community was to connect the international innovative community with the local system by means of specially nominated institutions.

## Institutional representation

The FBG, represented by its Managing director or by other members of the various areas and departments, undertakes the following institutional representation tasks:

Coordination of the AGAUR Business Area.

Coordination of the RedOTRI Universidades Network and a member of the Permanent Commission (until June 2009)

Collaborating institution and member of the advisory board of the summer school Creativity Management in the Innovation Society, a course organised by HEC Montreal and the UB Entrepreneurship Chair.

Member of the human resources assessment panel of the National R+D+i Plan.

Assessing member of the call for grants for research communication initiatives of the University of Girona.

Collaborating member of HIT BCN 2009.

Member of the OTRIS08 grants assessment committee.

Member of the assessment committee of the Institute of Chemical Research of Catalonia (ICIQ).

Member of the "product of the year" ethics committee.

Member of the advisory board of the BioEmprendedor XXI programme.

Member of the Vicenç Vives Advisory Board of the Faculty of Economics and Businesses.

Member of the consultation group KIC Valorisation Agency.

Member of the jury of the 9th Business Ideas Competition.

Member of the jury of the Ciutat de Barcelona Prizes 2009 in the technological innovation category.

Vice-presidency of the FUE network.

## **CONTRACTING COMPANIES**

## Number of organisations: 150

Ab Biotics Producciones Industriales de Microbiotas, S.L.

Acacia Pharma, Ltd.

Advanced In Vitro Cell Technologies, S.L.

Agencia de Acreditación en Investigación, Desarrollo e Innovación Tecnológica (AIDIT)

Agrupació de Fabricants de Ciment de Catalunya

Agua, Residuos y Medio Ambiente, S.A.

Aguas de Levante, S.A.

Almirall, S.A.

Alstom Transporte S.A.

AN S.Coop.

APC Europe, S.A.

Ascat-Vida, S.A.

Asociación Empresarial del Seguro UNESPA

Assessorament Integral en Processos, S.L.

Atlantic Copper, S.A.

Automat Industrial, S.L.

Barcelona de Serveis Municipals, S.A.

Baucells Alibes, S.A.

Bayer Materialscience, S.L.

Bcn Peptides S.A.

Bet Value, S.L.

Biocontrol Technologies, S.L.

Bioglane S.L.N.E.

Bioibérica, S.A.

Boehringer Ingelheim España, S.A.

Brita Spain, S.L.

Brudy Technology, S.L.

Caixa d'Estalvis de Catalunya

Cantera Roca, S.L.

CaridianBCT Inc

Ceeram S.A.S

Cementos Molins Industrial, S.A.

CEMEX España, S.A.

Cesif Consultoría, S.A.

Circutor S.A.

Clavegueram de Barcelona, S.A. CLABSA

Coplosa, S.A.

Degremont, S.A.

Deimos Space, S.L. Depurar 8B, S.A.

Diagnostic Grifols, S.A.

Digna Biotech, S.L.

DNO



Dr. Antonio Cardesa Garcia Echerkon Technologies Ltd.

Eisai S.A.S.

Empresa de Promoció i Localització Industrial de Catalunya, S.A.

**AVANCSA** 

Empresa Metropolitana de Sanejament, S.A.

Enantia, S.L.

Endesa Distribución Eléctrica, S.L. Ens d'Abastament d'Aigua Ter-Llobregat

Espai Visual, S.L. Esteve Química, S.A. **Eurex Resources PLC** Euvitro, S.L. EXBIO Praha, a.s. Farmaprojects, S.A.

Ferrer Internacional, S.A.

Ferrocarril Metropolità de Barcelona, S.A.

Ficosa Internacional, S.A.

Fungi-lab, S.A. Futbol Club Barcelona Gaesco Gestión, S.A. S.G.I.I.C.

Garte Ganadera

Geología de Exploración y Síntesis, S.L.

Gerard Kessels, S.A.

Gestió de Residus Especials de Catalunya, S.A.

Grup Promotor, S.L. Grupo Antolín-Ingeniería, S.A.

Grupo Reig Jofré Hamamatsu Photonics K.K. Hess Services UK Ltd. HISTOPAT, S.A. Impladent, S.L.

Ingeniería de climas para procesos, S.L.

JC Fábrica de Válvulas, S.A. La Farga Tub, S.L. La Morella Nuts, S.A.

Ipsen Pharma, S.A.

Laboratorio Dr. Oliver Rodés, S.A. Laboratorios Casen-Fleet, S.L.U. Laboratorios Dr. Esteve, S.A. Laboratorios Lesvi, S.L. Laboratorios Miret, S.A. Laboratorios Ojer Pharma, S.L. Laboratorios Servier, S.L. Laboratoris Seid, S.A. Lafarge Cementos S.A.U

LFS Pharm, S.L. Lilly, S.A. Lipotec, S.A. Lucta, S.A.

MacDermid Española, S.A.

Macneny, S.L.

Magnesitas Navarras, S.A.

Medichem, S.A. Medivet Pharma S.L. Miguel Torres Blanquez MOEHS Ibérica, S.L. Moix, Serveis i Obres, S.L.

Novocat Pharma, S.A.

Nub3D, S.L. Nutrexpa, S.L. Operon, S.A. Oryzon Genomics, S.A.

Pharma Mar, S.A.Sociedad Unipersonal

Phyture Biotech, S.L.

Produccions Culturals Transversal, S.L.

Productos Aditivos, S.A. Promotora Mediterranea-2, S.A. Química Farmacéutica Bayer, S.A. Química Farmaceutica Bayer, S.L. Química Referent al Foc

Rafael Hidalgo Fernández. Farmàcia Hidalgo

Ramem, S.A.

Red Electrica de España, S.A.U. (REE)

Repsol YPF, S.A.

Rohm and Haas Europe Services ApS-FR

Rottapharm, S.L. Unipersonal

Rovalma, S.A. Roxar Limited

Rubinum S.A. -Animal Health-Sandoz Industrial Products S.A.

Sanofi-Aventis Recherche & Développement

Santa Clara International College SantheraPharmaceutical Limited

SCA Ibérica. S.A. Select Botanical, S.L.

Serveis Funeraris de Barcelona, S.A.

Shell International Exploration and Production B.V.

Shell International Exploration Production Skretting Aquaculture Research Centre AS Societat General d'Aigües de Barcelona, S.A Societat Gestora d'Advocats i Consultors, S.L.

Sono Tecnologia Audiovisual, S.L.

StatoilHydro ASA

StatoilHydro Petrdeum AS Sycom Training Systems, S.L. Talleres Mecánicos Comas, S.L.U.

TaüllOrganics, S.L. Tecil, S.A. Tecnatom, S.A.

Tecnologias y Servicios Agrarios S.A. TRAGSATEC

Tecoman 98, S.L. Teknokroma, S.C.C.L. Uniland Cementera, S.A. Union Life Sciences Ltd.

Urquima, S.A. Varian Iberica, S.L. 22 Arroba BCN, SAU

## CONTRACTING INSTITUTIONS

## Number of organisations: 150

Agència Catalana de l'Aigua

Agència Catalana de Seguretat Alimentària

Agència d'Avaluació de Tecnologia i Recerca Mèdica

Agència de Protecció de la Salut

Agència de Salut Pública de Barcelona - ASPB

Agencia Nacional de Evaluación de la Calidad y Acreditación ANECA

Agrupació Oliària Lleidatana, S.C.L.

Ajuntament de Badalona Ajuntament de Barcelona Ajuntament de Berga

Ajuntament de Calafell Ajuntament de Manacor Ajuntament de Manlleu Ajuntament de Parets delVallès

Ajuntament de Sant Cugat del Vallès

Ajuntament de Tàrrega

Ajuntament d'Olesa de Montserrat

Associació Catalana d'Universitats Públiques (Acup) Associació Pla Estratègic Metropolità de Barcelona

Associació Revista d'Igualada Autoritat del Transport Metropolita

Ayuntamiento de Adeje Ayuntamiento de Arona Ayuntamiento de Madrid

Barcelona Supercomputing Center - Centro Nacional de

Supercomputación

Cambra Oficial de Comerç, Indústria i Navegació de Barcelona

Canal de Isabel II Casa Asia CEDEX

Cementiris de Barcelona, S.A. Centre d'Alt Rendiment Esportiu

Centre d'Estudis Jurídics i Formació Especialitzada

Centre d'Informació i Documentació Internacionals a Barcelona -

Fundació CIDOB

Centre d'Innovació i Desenvolupament Empresarial CIDEM

Centre Tecnològic de Nutrició i Salut (CTNS)

Centro de Estudios y Experimentacion de Obras Públicas

Centro Nacional de Inteligencia

CETaqua, Centre Tecnològic de l'Aigua, Fundació Privada

Ciudad Autónoma de Ceuta

Commission of the European Communities Confederación Hidrográfica del Ebro

Consejo General de Colegios de Economistas de España Consejo Superior Investigaciones Científicas -CSIC

Conselh Generau d'Aran

Consell Comarcal del Baix Llobregat Consell Comarcal del Barcelonés Consell de l'Audiovisual de Catalunya

Consell de Treball, Econòmic i Social de Catalunya (CTESC)

Consell General de Cambres de Catalunya

Consell Insular de Menorca Consell Insular d'Eivissa

Consell Interuniversitari de Catalunya Consorci de Gestio Corporacio Sanitaria

Consorci de la Costa Brava Consorci de la Zona França

Consorci de Promoció Comercial de Catalunya

Consorci per a la reforma de la Gran Via a l'Hospitalet

Consorci Sanitari de Barcelona

Consorcio de Emergencias de Gran Canaria

Cruz Roja Española Diputació de Barcelona Diputacio de Girona Diputación de Salamanca Diputación Foral de Guipuzkoa Diputación Provincial de Burgos

**Diversos** 

Ecole Polytechnique Federale de Lausanne Entitat Autonoma de Difusio Cultural

Entitat Metropolitana de Serveis Hidràulics i Tractament de Residus European Commission - Institute dor reference materials and meas-

urements

Federació Catalana Associació Familiars Malalts Mentals

Federacio de Municipis de Catalunya

Federación de Vela de la Comunidad Valenciana Fundació Barcelona Digital Centre Tecnològic

Fundació Caixa Catalunya Fundació Empresa i Ciència Fundació Gala - Salvador Dalí

Fundació Institut de Recerca Hospital Universitari Vall d'Hebron

Fundació "La Caixa"

Fundació Lluita contra la Sida Fundació Miguel Torres

Fundació Parc Científic de Barcelona Fundació Privada Funamment

Fundació Privada Museu Industrial del Ter

Fundació Privada pel foment de la Societat del Coneixement Fundació Privada per a la Investigació i la Docència Sant Joan de

Deu

Fundació Privada per la Navegació Oceànica de Barcelona

Fundació R.A.C.C

Fundació Salut i Comunitat

Fundación ACSAR Fundación Alternativas

Fundacion Banco Bilbao Vizcaya Argentaria

Fundación CIDETEC

Fundacion Ciudad de la Energia Fundación Claudio Naranjo

Fundación Democracia y Gobierno Local Fundación Española de Cereales (FEC)

Fundación Española para la Ciencia y la Tecnología FECYT

Fundación Monjos Budistes Sakya Tashi Ling

Fundación Mundos de Vida Fundación Telefonica

Fundacion Victimas del Terrorismo

Generalitat de Catalunya Gobierno de Aragón Govern de les Illes Balears Institut Cartogràfic de Catalunya

Institut Català d'Assistència i Serveis Socials Institut Català de les Indústries Culturals

Institut de Ciències de la Terra Jaume Almera CSIC Institut de Recerca i Tecnologia Agroalimentàries Institut de Seguretat Pública de Catalunya

Institut d'Estadística de Catalunya



Institut Geològic de Catalunya Institut Mallorquí d'Afers Socials Institut Menorquí d'Estudis

Institut Municipal de Promoció Economia Vic

Institute for Neuroimmunology and Clinical MS Research (INiMS)

Instituto Cervantes

Instituto de Microcirugia Ocular, S.A. IMO Instituto Tecnológico Pesquero del Perú

Junta de Andalucia

Mancomunitat Municipis Area Metropolitana Barcelona

Ministerio de Ciencia e Innovación

Ministerio de Cultura

Ministerio de Economía y Hacienda

Ministerio de Educación

Ministerio de Educación y Ciencia. CIDE Ministerio de Sanidad y Consumo Ministerio de Trabajo e Inmigración

Ministerio del Interior

Museo Histórico-Minero D. Felipe de Borbón y Grecia Organisation for economic co-operation and development Parc Nacional d'Aigüestortes i Estany de Sant Maurici

Parc Natural de la Serra de Montsant Parc Natural del Cadi-Moixero Parc Natural del Cap de Creus Parc Natural dels Ports

Patronat Municipal de Cultura de l'Ajuntament de Martorell

Policía de Investigaciones de Chile

Secretaria de Estado de Economía, Planificación y Desarrollo del

Gobierno de la República Dominicana Servei Meteorològic de Catalunya Síndic de Greuges de Catalunya Sistema d'Emergències Mèdiques, S.A.

Sociedad Española Bioquímica Biologia Molecular

Turisme de Catalunya Universidad de Alicante Universidad de Extremadura Universitat Ramon LLull Universitat de les Illes Balears

Xunta de Galicia