Fostering the Innovation Ecosystem

Activity Report 2016

Bosch i Gimpera
Universitat de Barcelona
TABLE OF CONTENTS

06 PRESENTATION

07 CONNECTING RESEARCH AND SOCIETY

08 ACTIVITY INDICATORS 2016

10 INNOVATION AND KNOWLEDGE TRANSFER

14 ADMINISTRATION AND MANAGEMENT OF RESEARCH AND KNOWLEDGE TRANSFER PROJECTS

16 PROMOTING UNIVERSITY-SOCIETY COLLABORATION

24 SUCCESS STORIES AND COMMUNICATION

27 THE INSTITUTION
I am pleased to present the 2016 activity report of the Bosch i Gimpera Foundation.

In 2016 we continued with the ambitious project of turning the Bosch i Gimpera Foundation into a key factor in the stimulation of the innovative and entrepreneurial ecosystem at the University of Barcelona. There is great potential for high quality research in Catalonia, and our mission as a knowledge and technology transfer office involves making sure that the excellent research carried out at the University of Barcelona reaches society.

In this sense, 2016 has been the starting point for numerous projects that have strengthened the synergy between scientists, research groups, entrepreneurs, investors, and industry. This is the case of the Science + Partners event, which brings together people from the business world and investors (Partners) and researchers (Science) who lead projects that are advanced enough to be transferred. In 2016 we also launched the F2I grant fund, which has distributed €155,000 to boost innovation and transfer among the researchers of the University of Barcelona.

In the field of the humanities, we have set in motion the Humanities Workshops, which, already in their second edition, are devoted to present different business initiatives to researchers and students alike.

With the aim of strengthening our ties with the university community, we have also introduced a Drop-in Sessions programme that allows us to accompany and guide researchers through entrepreneurship and innovation sessions.

The second edition of Health & Bio Team Dating and the course Keys to Bioentrepreneurship, whose sixth edition was very well attended, are also among the major projects that consolidated in 2016.

This was also the year of the renewal of our corporate image. Taking advantage of the fact that this makeover coincided with the Llull Year, we chose the Tree of Science as a reference, the work in which the author uses an allegory that represents each science as a tree with roots, trunk, branches, leaves, and fruits. The roots symbolize the basic principles of each science; the trunk, its structure; the branches, its genera; the leaves, its species; while the fruits stand for individuals, their actions, and their purposes.

The implementation of all these initiatives has enabled the realization of 733 collaborative projects between the University of Barcelona and the different national and international socioeconomic agents, which have resulted in a revenue of €42 million, 17 licensed technologies, and the creation of 4 new spin-offs.

Finally, I want to thank the team of the FBG for their work, which has once again shown their professionalism and enthusiasm for the project.

Jordi Naval
GENERAL MANAGER
CONNECTING RESEARCH AND SOCIETY

"The FBG is our link with companies. We scientists want to convey what we do to society, and there are people in the FBG who know how to do this. This helps us a lot, because most researchers are not businesspeople."

Pilar Vinardell
Department of Physiology of the University of Barcelona

We are the technology transfer office of the University of Barcelona and our mission is to transfer the results of the research carried out by UB researchers in order to contribute to economic and social progress through innovation.

We know two very different worlds very well, the world of university research and the business world, and we also know how to facilitate the collaboration between university and companies in order to increase the university’s impact on society. To achieve these goals, we support researchers, entrepreneurs, and investors at different levels in an agile and efficient way, and we do this by:

Providing solutions for people, that is, facilitating the creation of new products that improve people’s lives;

Creating opportunities for researchers, entrepreneurs, and investors;

Generating business, that is, facilitating the creation of innovative companies.
ACTIVITY INDICATORS 2016

- **Staff members**: 48
- **Licensed technologies/ Assessed inventions**: 17/53
- **Million euros revenue through contracts**: 42
- **Created spin-offs / Assessed ideas**: 4/22
- **Companies & Institutions**: 733
- **Active projects**: 1,947
351
Applications for grants

42/743
Dynamization activities / participants

796
People hired in relation to research projects

1.6
Million euros returns for the UB (Overheads & Licences)
Knowledge transfer is a driving force of motivation for researchers.”

Petia Radeva
Computer Vision Research Group of the University of Barcelona
Contract Research

Annual contracted revenue

€ 12.08 MILLION
626 PROJECTS

Technologies, materials, and licences

119 PATENTS TO TRANSFER

67 PATENT APPLICATIONS

17 LICENSING CONTRACTS SIGNED

12 priority patent applications
17 international patent applications (PCT)
38 patents in national phases abroad

4 software technologies registered
27 material transfer agreements

€ 259,499 in revenue generated by licences
Business creation and support for the entrepreneur

25 ACTIVE SPIN-OFFS

4 SPIN-OFFS CREATED

22 business creation ideas received
41 entrepreneurial projects advised

Bluephage, SL: Development and commercialization of solutions for monitoring water safety and quality through microbiological indicators.

CareRespite, SL: Development of systems for the automatic recognition of behaviour in people with functional disabilities.


Timepath, SL: Virtual reality solutions for the video game industry.

Spin-off shareholdings through UB Innovative and Scientific Culture (CIC-UB):

Bluephage, SL; Virtual Body Works, SL; Nostrum Biodiscovery, SL; Cytes Biotechnologies, SL; Impetux Optics, SL; Braingaze, SL; Dapcom-Data Services, SL; Advanced Nanotechnologies, SL; Smalle Technologies, SL; Iproteos, SL; ImmunNovative Developments, SL; Genmedica Therapeutics, SL; Biocontrol Technologies, SL, and Enantia, SL.
UB Research groups awarded the TECNIO certification

Centre for the Design and Optimization of Processes and Materials (DIOPMA), Centre of Microsystems Engineering for Instrumentation and Control (CEMIC), Thermal Projection Centre (CPT), Centre for Research on Cellular and Molecular Technology (CELLTEC), Centre for Toxicology Research (CERETOX), and the Drug Development Service (SDM).

This certification, granted by the Generalitat de Catalunya with the support of ACCIÓ, identifies research groups that develop differential technology for companies or facilitate its use.

**Total turnover:**
€ 3.87 million

**Funding source:**
58% public - 42% private

---

22 European project proposals submitted;
2 projects granted funding (8 ongoing projects)

9 priority patent and PCT applications

Aggregate indicators of the following groups: DIOPMA, CEMIC, CPT, CELLTEC, CERETOX, and SDM

Three other groups of the University of Barcelona—Data Science, Applied Mineralogy and Environment (MAiMA), and the Centre for the Production and Validation of Advanced Therapies (CREATIO)—have been awarded a grant to encourage the development of their action plan for technology transfer, which will help them to obtain their accreditation as TECNIO entities.

Braingaze, Impetux Optics, Smalle Technologies, Iproteos, Cytes, and Nostrum Biodiscovery have managed to obtain **€ 2.58 million** in funding through capital increases.
The FBG is a key player for us, both for management and administrative issues and for knowledge transfer actions. It is a great help without which we would not be able to do half the work we do.”

Ana Inés Fernández
Centre for Design and Optimization of Processes and Materials (DIOPMA) of the Faculty of Chemistry

Grants

Annual contracted revenue:

27.08 MILLION

100 GRANTS
As for the Occupational Safety and Health Service, its personnel visited 47 companies and assessed 25 work centres.

€ 14.5 million correspond to revenues from projects and € 14.9 million to grants.

€ 14.5 million correspond to revenues from projects and € 14.9 million to grants.

29.4 MILLION EUROS
REVENUES FROM ACTIVITIES

796 PEOPLE HIRED

As for the Occupational Safety and Health Service, its personnel visited 47 companies and assessed 25 work centres.

Public and private grants

38 grants awarded both by public institutions and private institutions and companies

€1.68 million

Research grants awarded by the European Commission

62 contracts
€ 25.40 million

37 contracts funded by the Framework Programme, with a revenue of € 21.33 million.

25 contracts funded by other offices with a revenue of € 4.06 million.

The University of Barcelona leads three European projects funded with a total amount of € 8.9 million and three projects funded by the European Research Council (ERC): 1 Consolidator Grant, 1 Proof of Concept, and 1 Starting Grant.
The Bosch i Gimpera Foundation is essential because if it wasn’t for it, networking would be severely lacking. Companies would not know what research groups do, and it is very important to inform them about it, because companies have difficulty in approaching universities. In my opinion, this is the most important task of the FBG.”

Sergi Munné
ANTIOX Research Group of the Faculty of Biology

“...is a great incubator of contacts that has yielded unexpected results”

Valentini Konstantinidou
Participant

“...I found a CEO for our company”

Ruth M. Risueño
Participant
Promotion of the collaboration between universities and companies in the field of the humanities and social sciences.

“Innovating in the scientific field of the Humanities involves making the effort to transcend individual knowledge and small research groups and put it at the service of society in general. It is about generating products that social organizations and companies can use and disseminate to contribute to the critical and cultural development of society. It is a matter of better linking education, games, leisure, and collective fun to the discoveries of the humanistic disciplines, using the appropriate technological platforms and generating quality products and services that are accessible to all.”

Gaspar Coll, Commissioner for the Humanities Park, 2016
In May, the FBG organized the sixth edition of the ‘Keys to Bioentrepreneurship’ course with the collaboration of the Biotechnology Association of Catalonia (ASBTEC), Biocat, Catalonia-Bio, and the Entrepreneurs School Foundation.

The aim of this course is to showcase the personal experience of the most successful Catalan bio-entrepreneurs working at the forefront of innovative international companies for the benefit of the university community.

“Keys to Bioentrepreneurship could be defined in many different ways, but for me the main word is impetus: impetus to the Catalan biotechnological ecosystem, impetus to the careers of future professionals eager to learn new things, impetus to companies, and impetus to innovation, entrepreneurship, and creativity. As a student, Keys to Bioentrepreneurship has been a turning point that has allowed me to see a tangible reality far removed from theoretical knowledge and master classes, to have the opportunity to meet people who have made me grow and forced me to look at things from a different perspective. Without a doubt, it is an experience worth living whatever your approach.”

Estefanía Fernández, student of the course
People from the business world and investors (Partners) advise researchers (Science) who lead projects that are advanced enough to be transferred.

“It was a great opportunity to learn about the new projects in the field of biomedicine developed within the UB framework. They all have great potential and provide solutions to serious medical needs. In addition, the projects have received valuable suggestions and comments that will help them to improve their proposals in the short and medium term.”

Alexandre Casta, Caixa Capital Risc

“Personally I think it has been a very good experience to understand the commercial / business aspects of technological development. The views of the experts in these fields have great value when defining a proposal, for scientific training does not usually include the elements necessary to start a business venture.”

Adrià Huguet, researcher from the Engineering Department of the Faculty of Physics
New line of funding that includes two types of grants: the **Proof of Concept** grant—endowed with € 125,000—aims to fund proofs of concept of research projects, and the **Mentor in Residence** programme—with a total budget of € 30,000—aims to promote the creation of new spin-offs of the University by providing the funds to hire a mentor that will complement the entrepreneurial team.

### Proof of Concept

- **25** submitted proposals
- **€125,000**
- **1** call in 2016
- **5** funded projects
- **€25,000** for proof of concept

- Proof of concept for the quantitative determination of coliphages in bathing water.
- Activator of HRI for the treatment of type 2 diabetes mellitus and other associated pathologies.
- Microbial biopolymer for the treatment of psoriasis.
- New antibiotics for the treatment of hospital-acquired Gram-negative infections.
- Immersive cerebral and orthopaedic rehabilitation and training exercises.

### Mentor in Residence

- **6** submitted proposals
- **€30,000**
- **1** call in 2016
- **5** funded projects
- **€6,000** for mentor in residence

- Placing on the market products for an easy, fast, and accurate analysis of coliphages. Bluephage.
- Immersive cerebral and orthopaedic rehabilitation and training exercises. iCortex.
- Fully adaptive error prediction encoder. FAPEC.
- Digital tools for evaluation, learning, and re-education of cognitive functions in childhood. Nummerus.
Trade fairs and Seminars

Mobile World Congress, EIT Health Meeting, eShow, E-Commerce, B Travel, Alimentaria, SIL, Partnering ASEBIO de Biocosmètica, Jornada d’Innovació Agrària Europea, Cosmetorium, Bi-ospain, EIT Health Bilateral Meeting, Internet of Things Congress, Smart City Expo, Beauty Innovation Day, and Fòrum de la Bioregió.

Drop in sessions and entrepreneurship and innovation sessions

31 VISITS
32 STUDENTS
236 RESEARCHERS
Awards of the Social Council of the UB and the Fundació Bosch i Gimpera

**Antoni Caparrós Prize, for the best knowledge transfer project**

Mireia Freixa, for the exhibition “Catalan modernism: Art, workshops, industries.” The professor of Art History Mireia Freixa curated the exhibition “Catalan modernism: Art, workshops, industries,” which, housed at La Pedrera, had over 93,500 visitors. This exhibition was the result of a series of research projects and doctoral dissertations, and offered a view of Catalan Modernism focused on industrial arts that emphasized the work of numerous local artisan workshops and manufactures.

**Marta Cascante, for the project “Valorisation of olive groves wastes for new applications in health care”**. The research group on Integrative Systems Biology, Metabolomics, and Cancer has developed a new additive for the health care and food sectors from plant residues generated by the extraction of oil. Specifically, these researchers characterized the properties of maslinic acid (present in olive skin) as an inhibitor of the development of intestinal polyposis, a disease that causes benign tumours that can eventually lead to cancer.

**Senén Vilaró Prize, for the best innovative business**

Minoryx Therapeutics, SL, is a company specialized in the discovery and development of new drugs to treat rare diseases that affect children and adolescents in an especially severe way. In 2015 this spin-off of the University of Barcelona closed a funding round of € 19.4 million, the largest round achieved by a biotech company in Catalonia up until then.

Crowdfunding

Impetux Optics, SL, spin-off of the University of Barcelona. Accomplished goal: € 125,000 through the platform Socios Inversores.

Braingaze, SL, spin-off of the University of Barcelona. Accomplished goal: € 200,000 through the platform Capital Cell.

Smalle Technologies, SL, spin-off of the University of Barcelona. Accomplished goal: € 240,550 through the platform Crowdcube Spain.

Research Group on Genetics and Epidemiology of Human Populations. ‘Knowing the genome of Pyrenean populations’. Accomplished goal: € 4,200 through the platform Precipita.
The FBG manages six of the eight Reference Networks of the Government of Catalonia. €1.10 million in revenues generated by contracts signed with companies and institutions.
SUCCESS STORIES
AND COMMUNICATION

Success stories

New automotive sensors reduce pollution levels
Currently, all vehicles incorporate one or more sensors to improve energy efficiency and reduce pollution. These sensors are essential for the proper functioning of catalysts, and thus their use is mandatory in most.

Surgical knife that reduces blood loss
It has already been successfully used in over 30 hospitals and 300 patients.

Catalan Modernism: Catalonia’s cultural heritage
Nearly 100,000 visitors have enjoyed the exhibition on Catalan Modernism.

3D Technology to Improve Body Posture
PhysicalTech is now commercializing this technology through a network of distributors in Spain, Italy, France, Colombia, and Argentina.
Communication and Outreach

Technology transfer needs of communication and marketing strategies to convince companies that they will find solutions in the university and to let researchers know that it is possible to bring some of their research and products to market. In 2016, the FBG has launched a project of interviews with researchers in order to give visibility to their projects, disseminate them, and make the importance of knowledge transfer known to society.

We interviewed:

- "We need more female reference figures; Marie Curie is quite a worn-out example by now"
  
  Ana Inés Fernández
  DIOPMA

- "The lack of investment in innovation is a cultural problem"
  
  Laszlo Bax
  BRAINGAZE

- "Without language we would have to redefine ourselves as a species"
  
  Ruth de Diego
  PSYCHOLOGY UB

- "Abandoning animal testing is not only a matter of ethics, it is also cheaper"
  
  Pilar Vinardell
  PHYSIOLOGY UB

- "Knowledge transfer is a driving force of motivation for researchers"
  
  Petia Radeva
  COMPUTER VISION UB

- "The future of universities involves combining basic knowledge and knowledge transfer"
  
  Sergi Munné
  ANTIox
All Together Meeting

All together Meeting is a encounter of the staff of the FBG with a researcher of the University of Barcelona. It has the twofold aim of helping FBG staffers to better understand the work of researchers through real cases of projects that they have a hand in launching, and of letting researchers meet the FBG’s staff in person.

Meet with:

XAVIER FERRER
Department of Evolutionary Biology, Ecology and Environmental Sciences

IGNASI VILAJOSANA
Worldsensing, Internet of Things solutions

JOSEP M. GUILEMANY
Thermal Projection Centre (CPT)

ÀLEX AGUILAR
Department of Evolutionary Biology, Ecology and Environmental Sciences

CONCEPCIÓ PATXOT
Center for Economic Analysis and Social Policy

It has been a pleasure to participate in this meeting space, which I have to say seems an excellent idea. Research and transfer do not work without the participation of all agents, interns, students, researchers, and all the administrative, project management, accounting, contracts, and general management staff. We are all essential for things to work; therefore, I think this is an excellent opportunity for us to know each other. I often think that I know you all, but surely I don’t, and you can count on me.”

Albert Soler
Applied Mineralogy and Environment Research Group of the Faculty of Earth Sciences (participant in 2017)
Board of Trustees

Mr Didac Ramírez, chair until 30 September 2016
Mr Jordi Alberch, acting chair between 1 October and 19 December 2016
Mr Joan Elias, chair since 19 December 2016
Mr Salvador Alemany, first deputy chair until 28 July 2016
Mr Josep A. Plana, second deputy chair until 20 December 2016
Mr Oriol Escardíbul, second deputy chair since 20 December 2016
Mr Àlex Aguilar, board member since 20 December 2016
Ms Isabel Miralles, secretary until 20 December 2016
Ms Belén Noguera, secretary since 20 December 2016
Mr Jordi Alberch, board member until 1 October 2016
Ms Conxita Àvila, board member between 23 November and 20 December 2016
Mr Jordi Codina, board member

Mr Enric I. Canela, board member
Mr Joan Corominas, board member
Mr Alexandre Blasi, board member until 28 July 2016
Mr Carles Vivas, board member since 14 September 2016
Mr Pere Lluís Cabot, board member
Mr Luis Herrero, board member
Mr Miquel Perdiguer, board member until 2 August 2016
Mr Carles Penas, board member since 1 September 2016
Mr Jordi Roig, board member
Mr Fernando Tejerina, board member
Where are we?

The Fundació Bosch i Gimpera is represented in the boards of trustees of the University School of Hospitality and Tourism (CETT-UB), and the Barcelona Science Park (PCB). We are also members of the advisory board and steering committee of the Barcelona UB Entrepreneurship Institute (BIE), jointly founded by the FBG and the UB, and members of the monitoring committee of the Energy Sustainability Chair, and the committee of the Barcelona University Centre (BCU). We also belong to the European Biotechnology Network; we represent the UB in the Enterprise & Innovation Community of the League of European Research Universities (LERU), and we are members of the following clusters: Beauty Cluster Barcelona, RailGrup, Advanced Materials, and Mental Health.
Who are we?

Staff of the Fundació Bosch i Gimpera

General Management: Jordi Naval, general manager; Berta Serdà, secretary
Technical Office: Maria Segú, head
Communication and Marketing: Mariona Ferrer, head. Team: Cristina Ugía and Nerea Oñate*

Management: M. Teresa Plo, manager
Administration, Financial Management, and General Services: Sergi Ros, head of administration; Ana Giménez, head of financial management. Team: Anna Apellániz, Digna Cárkoba, Yvonne Mata, Anna Rovira,* Daniel Pierrá, Sonia Salom, Gemma Sánchez, Cristina Serra, Marta Tort, and Elisabeth Vico
Public and International Grants Unit: Mònica Cunill, head. Team: Albert Casas
Technology: Àlex Closa, head. Team: Andreu Valls** and Miguel Navarro

Innovation and Knowledge Transfer:
Lurdes Jordi, director
Contract Research: Salvador Mena, head
Valorisation and Licensing: Inma Íñiguez, head
Business Creation: Esther Riambau, head
Contracts: Gemma Casamitjana, head
Innovation and Knowledge Transfer team: Francesc Benlliure,** Jose Conde, Mar Coromina, Laia Crespo, Íñigo Cucurull, Isabel Durán, Belén Gámez, Raquel Jiménez, Eva Martín, Joaquim Moreno,** Nil Neira,* Maria Reyes,* Gloria Roselló, Jordi Vallès, and Dolors Vega

Strategic Projects: Joan Hierro, director; M. Carme Verdaguer,** director. Staff related to the Reference Networks of the Government of Catalonia: Pablo Bou, Silvia Chellini, Gemma Hernández, Karsten Kruger, Josep Pascual, and Lali Sanz

(*) Interns. - (**) Replacement of staff on maternity or temporary incapacity (TI) leave, voluntary resignation, or retirement.