Summer 2013 / Issue 6

# **NSIDE**BEC

The newsletter of the Institute for Bioengineering of Catalonia



# All change at the top

No sooner had IBEC welcomed new Managing Director David Badia into the fold than the news came that founding director Josep A. Planell would be leaving to take up his new position as Rector of the Open University of Catalonia (UOC). By May, though, the Board of Trustees had appointed Associate Director Josep Samitier as the new Director of IBEC from a total of nine candidates, four of them from abroad, of which three were shortlisted for consideration.

"Changes in direction and management that all come at once are invariably going to cause a measure of uncertainty," says Josep. "Now, though, we're back on track with a strong sense of direction, including plans to develop the next mid- to longterm strategy for the institute."

In his farewell message to staff, Josep A. Planell described his seven years at IBEC as 'the most fulfilling of my life from a professional point of view', and conveyed his confidence in Josep Samitier's ability and dedication to help the institute progress towards even higher achievements.





## Meet the directors...

If you don't already know Josep Samitier, you haven't been at IBEC very long. Associate Director since the institute's birth in late 2005, Josep also heads IBEC's Nanobioengineering lab, is Full Professor of Electronics at the University of Barcelona's Physics Faculty, coordinates the joint Master in Biomedical Engineering at the UB and the Polytechnic University of Catalonia (UPC), and is Director of the UB's Health Campus of Excellence (HUBc). "As Director of IBEC I will maintain a continuity of the institute's existing objectives, while also reviewing and renewing our direction to incorporate new ideas to meet current challenges," he says.

David Badia studied Business Administration and Management Development, and previously held positions at IRTA and CNAG. "IBEC is already a key player in Catalan research, and it's a privilege to be part of it," says David, who's keen to stress that his door is always open for dialogue and discussion. "There are many challenges to face that will require total involvement. Our objective in Support is to offer the best possible service to our research community - improving efficiency while maintaining proximity to the researcher - and to facilitate decision-making by the Board. IBEC has huge potential for improvement regarding internal integrated processes." //

## **Support services reshuffle**

One of David Badia's first changes as MD has been a reorganisation of the Support Services units. "We've renamed some units, with General Projects becoming Research Affairs, and Corporate Projects becoming Knowledge Exchange (see page 7), to better reflect the responsibilities of the units in light of the new challenges IBEC

will be facing in the future," he explains. "In Research Affairs, headed by Teresa Sanchis, Javier Adrían will now coordinate the Project Managers so that Teresa can focus more on any internal and cross-cutting support projects related to IBEC's Corporate Development.

"We're also reducing the number of sup-

Some of the Support Services staff, with IBEC's directors, pictured at the 6th IBEC symposium



port areas to seven, with the Funding Services Unit (Esther Gallardo) now integrated into Research Affairs, so that every step of the project process is the responsibility of a single unit."

In addition, as the position of Associate Director has disappeared for the moment, the Associate Director's Assistant position is also eliminated, and Judith Forné will support the unit.

Since the adoption of the Nanotechnology Platform at the beginning of this year, the Infrastructures unit has become Core Facilities under the leadership of Isabel Oliveira. More details about the staffing of this unit can be found on page 8.

The other units – Communications and Outreach (Vienna Leigh), Finance (Ana González), Human Resources (Carol Marí) and IT (Juli Bafaluy) – have no changes in leadership or responsibilities. //

#### **SCIENTIFIC ROUNDUP**



## A journal cover in July...

The Nanoprobes and Nanoswitches group's *Angew Chem* paper published in June, which describes a strategy to quickly and reversibly

impair the function of specific proteins using light-regulated inhibitory peptides, made the cover and 'Very Important Paper' selection in the journal, as well as being extensively publicised both here and abroad.

Pau Gorostiza and the IRB's Ernest Giralt

and their teams synthesized two peptides which change shape upon irradiation with light, so allowing or preventing specific protein-protein interactions. "Photo-sensitive peptides act like traffic lights – they can be made to give a green or red light for cell endocytosis," says Pau. "They allow the use of focalized light to control and study biological processes. It opens up the possibility of designing light-regulated drugs whose effects can be restricted by region and time, thus reducing side effects in other areas." //

This image is a reconstruction of tissue behaviour around a nonadhesive region - the black area - showing kenotaxis, a new process revealed in Nature Materials by Xavier Trepat and his collaborators in June. When an obstacle – such as a gel providing no traction – is placed in the path of an advancing cell layer, the cells move around it, hugging it as they pass. What is surprising, though, is that they also continue to pull themselves collectively back towards the gel, as if yearning to fill the space. In the same month, the Integrative Cell and Tissue Dynamics group also published in Nature Cell Biology their findings that, during development, neural crest cells 'chase' placodal cells which dash away when approached, thus propelling the cell sheet in a certain direction. The group's research into cell motility aims to shed light on this critical process in development and healing which is also inherent to the development of many diseases.

## **Shedding light on MS**

**P**ostdoc Ana Bribián finished her time at IBEC with a publication in *Cell. Mol. Life Sci.* in May that revealed a new lead in the quest to understand neurodegenerative diseases such as multiple sclerosis.

MS is known to result from the progressive breakdown of myelin – which insulates the nerve cells – in the central nervous system. Ana looked at the role played by the enzyme PDE7 in regulating OPCs, which differentiate into oligodendrocytes, which produce myelin. When demyelination occurs, the CNS reacts by using proliferating adult OPCs, which represent about 5-7% of the total number of cells in the adult brain, to remyelinate; but the enzyme PDE7 compromises OPCs' proliferation, differentation and survival. Ana, who carried out the study while in IBEC's Molecular and Cellular Neurobiotechnology group, and her collaborators found two new inhibitors for PDE7 which, when applied, reduced the OPCs' death rate and accelerated their maturation into oligodendrocytes which could then carry out the remyelination process.

"This reveals new roles for PDE7 in regulating OPC survival and differentiation during brain development and in adulthood," says Ana, who left in April for Toledo's Hospital Nacional de Parapléjicos. //

## ...and one in March

The Nanobioengineering group began the year with some results in high-ranking journals, publishing their work on surface-applied continuous chemical gradients



for the study of dose-dependent effects on cells in Nanomedicine NBM (Anna Lagunas et al., 2013). Later, the group's work on the solid-phase synthesis of alkanethiols for biological applications, which they did in collaboration with researchers at the IRB and the UB, was featured on a March cover of the Eur. J. Org. Chem. (Prats-Alfonso et al., 2013). And in May, senior researcher Mateu Pla saw work he completed just before coming to IBEC published in Small. Mateu and his colleagues at McGill University developed an easy, low-cost nanopatterning method based on lift-off nanocontact printing with various biological and medical applications. //

## Autophagy key

In a *Nature Neuroscience* paper in March, IBEC researchers uncovered a 'doublewhammy' attack inhibiting autophagy that could underlie toxicity in Parkinson's disease.

Ángel Raya of the Control of Stem Cell Potency group and his collaborators in Italy and the USA revealed that dardarin – mutations of which are the most common cause of familial Parkinson's – is broken down by autophagy. But dardarin uses a very specific type of autophagy in a rather peculiar way, so that its mutations are also able to strike out at the process itself and undermine its efficiency. This also has an effect on another crucial process that can lead to Parkinson's: the build-up of a protein called α-syn. When autophagy is compromised by dardarin, α-syn is able to accumulate.

"Our findings mean that interventions aimed at enhancing autophagy activity or at preventing its decrease in pathologies and with age may prove to be valuable in identifying promising strategies for Parkinson's treatment," says Ángel. //

# **Our market forces**

#### New technologies unveiled during 2013

#### A gadget to help save lives on the road

A new technology to combat dozing off when driving developed by IBEC, UB and industry partner Ficosa was unveiled at February's GSMA World Mobile Congress in Barcelona. The drowsiness alerter, Somnoalert<sup>®</sup>, is a smart phone application that uses inertial sensors and GPS data to detect movements that are characteristic of nodding off at the wheel, such as deviation from the driving lane, or sudden corrections. The patented software, which also incorporates biomedical sensors to analyze respiration data, is the result of a collaborative project between IBEC's Signal and Information



Processing for Sensing Systems group led by Santiago Marco, the UB's Department of Electronic Engineering, and Ficosa, a Barcelona-based multinational that researches, develops, produces and commercializes car systems and parts. "Most monitoring systems developed in the last few years have been integrated systems that need to be connected to the car's system," explains Santiago. "Our device combines our group's expertise in sensors and biological data analysis with Ficosa's vehicle know-how, and is completely portable."

#### An aid for dieters and athletes

While a p Isn

While a postdoc at the Center for Bioelectronics and Biosensors at Arizona State University, Ismael Diez of IBEC's Nanoprobes and Nanoswitches group helped out at different stages in a project to develop Breezing, a metabolism tracker that works by simply measuring the gas composition of your breath. It syncs with your smartphone to give immediate results, such as whether you're burning fat, carbohydrates or both, the number of calories you burn depending on how active you are, or your weight progress and how it corresponds with your metabolism. After more than ten years of work, the U.S. group launched Breezing earlier this year.

Photo: Breezing.co



## **New projects for 2013**

Kick-off meetings of projects involving IBEC that have taken place so far this year include the EU-funded Nanomicrowave ('Microwave Nanotechnology for Semiconductor and Life Sciences'), held in London at the end of January, of which the Nanoscale Bioelectrical Characterization group is a partner. The project, which will make use of recent developments in nanotechnology to explore the interaction of microwaves with matter at scales of micrometres to nanometres, involves groups from the UK, Austria, France and Italy. Also starting off was IPRES ('Interacción persona robot en entornos semiestructurados bajo criterios de permitividad'; consortium pictured above), whose inaugural meeting was held at IBEC in February. The project, which is funded by MINECO, involves the Robotics group of Alícia Casals. A further first meeting was of Fibrogelnet ('Network for Development of Soft Nanofibrous Construct for Cellular Therapy of Degenerative Skeletal Disorders'), an EU-project coordinated by IBEC's George Altankov. //



## Media frenzy

IBEC has made several appearances in the press lately. The recent *Nature Materials* and *Nature Cell Biology* papers of Xavier Trepat hit the headlines in *El Périodico* – which devoted an entire feature to him – and other publications including *Ara* and *La Razón*. Pau Gorostiza's unveiling of photo-switchable molecules to control proteinprotein interactions gained coverage in *La Vanguardia* – a full feature in Sunday 14th July's *Dinero* magazine– and *BioWorld*, among others.

In addition, IBEC Director Josep Samitier was filmed for a series of video 'capsules' which will be broadcast on TV towards the end of the year.

IBEC's researchers have also been called upon to comment on breakthroughs made elsewhere. Group leader Ángel Raya appeared in *La Vanguardia* and *El Mundo* giving his opinion on some research published in *Nature* about a group in Japan that has managed to create a functional human liver using induced pluripotent stem cells, as well as on Barcelona TV. //



## **Insider info**

Project manager Javier Adrian was chosen from more than 50 applicants for a stay in Brussels as part of the CDTI's INNVOLUCRA initiative, which aims to help Spanish institutes and companies optimise their EU funding opportunities.

Javi was one of just six project managers selected to take part in the six weeks of seminars and networking opportunities in June and July, during which the emphasis was on giving the participants the heads-up on the new strategies and protocols of the upcoming Horizon 2020 framework programme, which takes over from FP7. The five others came from the Barcelona Supercomputing Center, the Centro Tecnológico Forestal de Cataluña, and organisations in Madrid, Murcia and Seville.

"The chance to be in close contact with Europe's most important funding bodies, international agencies, policy makers and companies was invaluable," says Javi. "It helped me understand how being in Brussels as an expert, officer, evaluator or lobbyist really works." His experience is sure to be helpful when IBEC revises its project management strategy, which will aim to increase the number of successful proposals and coordinated projects. Javi will also share his new EC contacts, a network that will prove useful to solve future H2020 questions. "As my stay in Brussels took place several months before the beginning of H2020, we're now in pole position here at IBEC to get started on informed and wellprepared project proposals," he adds. //



L-r: original ISC members Luigi Ambrosio, Léonard Aucoin, Jean Louis Coatrieux, Paolo Dario, Jeff Fredberg, Gunter Fuhr, Sam Stupp and Bernt Uhlin

## "IBEC is now mature"

On May 9th, after the members of the International Scientific Committee had participated in CERCA's evaluation of IBEC (see page 3), they announced that the original members would be stepping down to allow new director Josep Samitier to renew the ISC, whose job is to oversee and advise on the next steps in IBEC's development.

"IBEC is now mature, and has more than fulfilled its mission," the ISC said in their report. "In a short time, it has

achieved great success in many areas: the excellence of its research, as proven by its publications in the best scientific journals; its capacity to attract talented

to attract talented researchers; the quality of its management, that helped it face acute economic problems; its robust internal organization; its international visibility and very active communication policy; its gender balance;

The ISC also conveyed that they "have no doubt that IBEC will continue to strive for excellence", but that some issues still

and the strong motivation of all its staff."

require attention, such as the translation of research results to clinical practice, and patenting and transfer to industry. "Simple but essential questions will need to be carefully pondered: What research lines from the last ten years should be kept alive? In which lines is IBEC a leader or a laggard? What will bioengineering research look like in the next ten years? Are there new and more promising research lines that should be developed? What can be improved, in our organization and

> practices, to attract and retain the best young researchers?" they advised.

> The ISC finished by thanking all members of IBEC for their support and their very professional management of

the ISC meetings, saying: "It was always a pleasure for us to come to Barcelona and see almost the birth of IBEC and its impressive growth."

Josep's plan is to put together a new ISC composed of some existing members and some new ones. Group leaders are welcome to make suggestions for potential new candidates. //



When an institute addresses new challenges or trends, a need for a new professional profile can emerge. Gaëtan Chary (above right, with senior research associate Jérôme Noailly), with his background in materials engineering and expertise in finite element analysis, is working as a consultant for the Biomechanics and Mechanobiology group

## **Finding solutions**

in a project on tibial plateau fractures with Hospital Sant Pau. He also trains BMMB group members in the use of open source numerical simulation software, and will support other clinical and industry collaborations that emerge from the group's knowledge in areas such as biomechanical modelling. "With not much money to spare, it's important that collaborative projects and other research alliances find ways to work with open source software, instead of having to purchase expensive commerical licences," explains Gaëtan, who's from Valence, France. Jérôme adds: "As well as preparing

ourselves for future participation in European projects under Horizon 2020, the group would like work with the Support Services to tackle challenges in commercialisation, bearing in mind IBEC's aim to increase clinical and industrial collaborations. While Gaëtan's main focus is on our modelling software, he will also assist in the technology transfer activities that are made possible by the experimental facilities we have available."

If other IBEC groups want to explore open source solutions for their own requirements, the BMMB group would be happy to share their experiences. //

"IBEC has succeeded in becoming one of the best research institutes in Spain...in only six years" ISC Report, 9th May 2013

### **IBECinPICTURES**

The 6th IBEC Symposium on Bioengineering and Nanomedicine on 8th May welcomed 230 participants, almost 40 of them coming from outside IBEC from places as far afield as Belgium and Colombia.

The symposium was opened by Gabriel Capellá, Head of Research and Innovation in the Generalitat's Department of Health, and Jordi Alberch, vice-rector of the UB, and the first keynote speaker was former IBEC director Josep A. Planell with his entertaining presentation 'Everything you wanted to know about IBEC's history that nobody told you before'. Later in the day, Josep was presented with a goodbye gift, and Capellá, Alberch and ISC president Jean Louis Coatrieux all thanked him for his dedication at the helm of the institute for the past seven years. Other keynote speakers this year were IBEC's George Altankov, new ISC members Jocelyne Troccaz and Bernat Soria, and Albert van den Berg from the University of Twente. Themis Toumanidou of the Biomechanics and Mechanobiology group won the prize for Best Flash Presentation, and Zaida Álvarez from the Biomaterials for Regenerative Therapies group won Best Poster.



## An audience of thousands

BEC's Robotics group leader Alícia Casals represented Catalonia's scientific community when she and two doctors, a psychiatrist and a biomedical researcher read out a poem at the Concert per la Llibertat at Camp Nou on 29th June.

Alícia, along with Bonaventura Clotet (IrsiCaixa), Manel Esteller (IDIBELL), Miquel Casas (UAB) and Pere-Joan Cardona (Germans Trias i Pujol), contributed a reading of 'Ara Mateix', a poem by Catalan poet Miquel Marti i Pol, during the four-



hour event. The evening featured freedomfocused songs and readings that are part of the collective consciousness of Catalonia and elsewhere, and involved musicians, writers, actors, castellers, civic representatives and many others.

The concert, which was organized by Òmnium Cultural and attracted a 90000-strong audience, aimed to be 'an outcry from civil society to demand, through the universal language of music, the right of the Catalan people and all peoples of the world to decide freely and democratically their own future'. It also collected 25 tons of food for the Fundació Banc dels Aliments.

To watch the concert visit the TV3 website at http://www.tv3.cat/videos/4626811/ Concert-per-la-Llibertat---part-23-%28de-2130-a-2330%29 (the scientists' appearance is at minute 57"). //

## **On track**

In September IBEC's fourth Junior Group Leader in the Tenure Track scheme will start in her new position.

Elena Martínez, formerly a senior researcher in the Nanobioengineering group, will lead the Biomimetic Systems for Cell Engineering group, joining Eduard Torrents, Elisabeth Engel and Pere Roca as JGLs, who were the successful candidates in the inaugural year of IBEC's Tenure Track scheme last year.

All the candidates were selected for the scientific quality and feasibility of the projects they proposed, as well as the potential impact of their research, the added value offered by their projects in IBEC's research programme, and their ability to carry out efficient group leadership and management. //

# Not just a one-way dialogue

### We talked to Arantxa Sanz, Head of Knowledge Exchange, about the services her unit offers to researchers — with the aim of boosting collaboration with industry or the clinic

# Arantxa, why has the name of the Corporate Projects Unit changed to Knowledge Exchange?

"The Corporate Projects Unit as it was was more focused on making links with endusers - industry, clinicians, policy makers - in terms of "corporate development" for IBEC as a whole. From now on, we will be working much more closely with IBEC's individuals and groups to make these sorts of connections. Also, it's to reflect the added responsibilities that we have taken on regarding knowledge transfer and innovation activities. We help researchers by giving advice and support on the various options for commercialization, such as patenting or licensing, or even sometimes creating a company. Our services include addressing all Intellectual Property (IP) questions, and we'll also help with negotiations over contracts or agreements, or how to put together collaborative schemes and long-term alliances."

# What type of connections with end-users can individual researchers or groups make?

"We promote sponsored and collaborative research by fostering and facilitating contact with industrial and clinical partners, making most of institutional agreements already in place, or by acting as mediators when we are approached from outside, exploiting IBEC's participation in networks and think tanks. We also help with negotiations over contracts or agreements, or how to put together collaborative schemes and long-term alliances."

#### So that's why it's called 'Knowledge Exchange' and not 'Knowledge Transfer', for example?

"Yes. Because, as well as offering a service to the researchers of IBEC, the philosophy is to open a two-way dialogue with the identified end-users and policy makers to maximize IBEC's novel knowledge impact at the local and global levels. We need to listen to hospitals, patient groups and decision makers to see what is needed, and how best to transfer the benefits of our results to society. Or, as I mentioned before, these third parties are often those who contact us rather than the other way around."

## What sort of things have you been doing so far under this new name and strategy?

"We've developed IBEC's IP Policy document, as well as various workflows and documents to assist researchers with IP management and commercialization, which are available to all in the public folders. We also held a workshop back in June, which was very well attended, to explain this policy within the framework of Spanish law and the services currently provided.

"Regarding specific transfer projects, secrecy abounds in the transfer realm! I would like



Oscar Alegre of IBEC's legal advisors RCD explaining IBEC's IP policy at the special information session organised by the Knowledge Exchange unit on June 13th

to highlight the THERALIGHT project, which has achieved European funds to move frontier research on opto-controlled drug delivery closer to the clinic. The new focus of the Joint Unit that we have with the Barcelona Centre for International Health Research (CRESIB), and our connections with the Hospital Sant Pau (see page 5) on diverse areas such as robotics and biomechanics, have also benefited from the KE Unit's efforts to protect IBEC's results and translate them to the clinic."

#### How can people get in touch with you?

"IBEC researchers can contact us directly at techtransfer@ibecbarcelona.eu or via their Project Manager; we work closely with the Research Affairs unit. Organisations from outside IBEC are also more than welcome to write to us at the same address." //

## ews in brief • News in brief • New

// If you like drawing, please contact ibeccommunications@ibecbarcelona.eu. We're looking for a talented amateur cartoonist or illustrator to draw for IBEC's websites, leaflets, blogs, outreach activities and other materials. We can't pay you anything, but you will be credited and get visibility for your work.

// One of the high-school students who visited IBEC as part of the programme of 'one-on-one' meetings was named one of the 15 best ESO pupils in the country at the 4th Congreso Investiga I+D+i in



Madrid, organized by the Fundación San Patricio, Santander Bank and CSIC. Anna Llinàs Vaquer (second from right) visited the Signal and Information Processing for Sensing Systems group – specifically PhD Student Lluís Fernández – for some expert advice on her school project on artificial perception. When she heard about her excellent ranking, which was as one of just 15 selected for their projects from more than 1200 students, Anna wrote a letter to IBEC thanking the group for their help.

// The Annual Report 2012 is available online at www.ibecbarcelona.eu/ documents or as a hard copy from Communications. New sections cover PhD theses, mobility statistics, and Technology Transfer.

#### **IBEC PEOPLE**

At the beginning of the year Guadalupe Rivero joined IBEC as Project Manager to assist the groups of Jérôme Noailly, Alícia Casals, Xavier Trepat and Raimon Jané. She completed her PhD in Pharmacology at the University of the Basque Country and then worked as a postdoc in the School of Pharmacology of the University of Bristol. Before coming to IBEC, she worked as a researcher and project manager at biotechnology company Omnia Molecular.





Three of the PCB's Nanotechnology Platform staff were incorporated into IBEC when the institute took over the platform in February. The Core Facilities Unit, previously known as Infrastructures, now includes Raúl Pérez, Judit Linacero and Marina Cazorla, who are on hand at the platform full-time to offer scientific and technological support to users. In addition,

the Nanobioengineering group's Laboratory Technician Juan Manuel Álvarez also joins the Core Facilities team to support the Nanotechnology Platform, in addition to his existing duties, on a part-time basis.

#### AWARDS AND HONOURS

// A former PhD student from the Microbial Biotechnology and Host-Pathogen Interaction group, Aitziber Vivero, received the 2012 'Premio Extraordinario' for his PhD thesis from the Faculty of Biology of the University of Barcelona. From all the theses defended every year at the faculty, only one or two are awarded this honour.

// Victor Pomareda from the Signal and Information Processing for Sensing Systems



group won the best Service Robotics paper award for Towards Real World Gas Distribution Mapping and Leak localization Using a Mobile Robot with 3D and Remote gas Sensing Capabilities' at the 2013 IEEE International Conference on Robotics and Automation in Karlsruhe in May. His work on the Rasmus robot (pictured) was done

in collaboration with Sweden's University of Örebro.

// Lorena Redondo, formerly a PhD student in the

Nanoprobes and Nanoswitches group, received a \$500 award for her oral presentation in the AFM BioMed Conference in Shanghai in May. Lorena, who is now a postdoc at the Université d'Aix-Marseille in France, presented work published in the journal Langmuir last year, 'Influence of Cholesterol on the Phase Transition of Lipid Bilayers: A Temperature-Controlled Force Spectroscopy Study'.

#### UPCOMING EVENTS

#### 3rd September 2013

**IBEC Seminar:** Cells at interfaces: regulating cellular functions with nanoscale spacing of extracellular ligands. Ada Cavalcanti-Adam, Dept of Biophysical Chemistry, Uni. of Heidelberg / MPI for Intelligent Systems, Stuttgart

#### 20th September 2013

**IBEC Seminar:** Bacterial DNA synthesis: new strategies for treatment of infectious diseases. Eduard Torrents, Bacterial infections: antimicrobial therapies group, IBEC

For more events, please visit www.ibecbarcelona.eu.

#### Want to get involved?

If you have an idea for an article for InsideIBEC or would like to write one yourself, please contact us. Is your group starting or finishing a project? Is there an important change in procedure that people should know about, or a deadline coming up? Perhaps something interesting has happened in your area of research, or perhaps you've had an interesting visitor. Maybe you'd just like to find out what the IBEC community thinks about something, or you have a request for help.

Send your ideas to vleigh@ibecbarcelona.eu.



Ibec Institute for bioengineering of Catalonia

InsideIBEC issue 6, Summer 2013. Published at IBEC, Baldiri Reixac 10-12, 08028 Barcelona, Spain www.ibecbarcelona.eu/documents Vienna Leigh. Please sen contributions to vleigh@ibecbarcelona.eu

## BEG

Dr. Toni Andreu, Director of the Instituto de Salud Carlos III, visited Spanish Research Call for Health (FIS), a responsibility delegated to them by them by the Spanish Ministries of Health and Economy & Competitiveness. After seeing a general presentation about IBEC by