

# INSIDE I BEC

The newsletter of the Institute for Bioengineering of Catalonia



Managing Director David Badia presents the €1040 raised at 2016's Christmas party to charity AFANOC. Thanks, everyone!

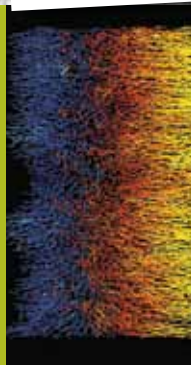
## INSIDE this issue...

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2017 sees the start of the largest European project ever coordinated at IBEC



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# A potential therapeutic target for MS

Towards the end of the year, an IBEC group published findings on a possible new approach to fight multiple sclerosis.

A chronic neurodegenerative disease that leads to neurological and autoimmune problems, MS affects 2.5 million people worldwide. It is an inflammatory, demyelinating disease in which the insulating covers of nerve cells in the brain and spinal cord are damaged, which results in communication problems between the brain and the body and can cause the nerves themselves to become permanently damaged.

In this study, IBEC's Molecular and Cellular Neurobiotechnology group, working with their collaborators at the Vall d'Hebron Institut de Recerca, examined the role of the immune semaphorin sema7A – a guidance molecule with dual functions in both the immune system and the central nervous system – in neuroinflammation.

Photo: Lucíasoladana



In an *in vitro* model of neuroinflammation, they saw that demyelination or cell death – the hallmarks of MS – were not affected in sema7A-deficient brain tissues when a lipopolysaccharide (LPS) endotoxin – an antigen that elicits a strong immune response – was added. Normal brain tissue, however, showed changes in demyelination and cell death when the endotoxin was introduced.

When they tested this *in vivo*, mice lacking Sema7A showed lower demyelination than wild type mice. In addition, a histopathological analysis of the brain indicated a decrease in the neuroinflammatory responses.

“Altogether, these results indicate that sema7A is involved in peripheral immunity and central nervous system inflammation in MS,” says Jose Antonio del Rio, head of the IBEC group. “Indeed, these data suggest that sema7A might be a potential therapeutic target to treat MS and other autoimmune conditions.” //

A. Gutiérrez-Franco, H. Eixarch, C. Costa, V. Gil, M. Castillo, L. Calvo-Barreiro, X. Montalban, J. A. Del Río & C. Espejo (2016). Semaphorin 7A as a potential therapeutic target for multiple sclerosis. *Molecular Neurobiology*, epub ahead of print

## Coupling up

IBEC Associate Researcher Ralph G. Andrzejak finished the year by publishing his first paper with IBEC affiliation.

Ralph, who joined IBEC as Associate Researcher in 2016, is director of the Non-linear Time Series Analysis Group at the Dept. of Information and Communication Technologies at the UPF. He develops non-linear signal analysis techniques that aim to detect non-random structure in complex dynamics, or characterize interactions in networks of dynamics. This is essential to be able to understand the behavior of many real-world systems such as the cardiorespiratory system, the brain, the climate, or even the stock market. The paper, published in *Physical Review E*, elucidates a way to define symmetric interactions between bidirectionally coupled dynamics, regardless of whether or not they are identical.

Ralph's work complements IBEC's because he applies his techniques to real-world biomedical signals, such as electroencephalographic recordings of epilepsy patients. //

P. Laiou & R. G. Andrzejak (2017). Coupling strength versus coupling impact in nonidentical bidirectionally coupled dynamics. *Physical Review E*, 95, 012210

## Light-regulated drugs as analgesics

A new study involving scientists from IBEC, IQAC/CSIC and CNRS in France uses light-regulated drugs to alleviate the negative emotions associated with chronic pain.

Chronic pain is pain that lasts more than six months. Its origin can be both physiological and emotional, and it is accompanied by symptoms such as hypersensitivity, anxiety and depressive behavior. It has no cure, treatment is difficult, and current drugs don't alleviate the symptoms.

In the paper published in *ACS Central Science*, IBEC's Nanoprobes and Nanoswitches group and their colleagues obtained a series of phenylazopyridines, molecules that act on the mGlu5 receptor – one of two brain receptors related to the sensation of pain and negative emotions – that change their structure when irradiated with light, like a switch.

Tests carried out in zebrafish demonstrated that localized administration of light and these photoswitchable phenylazopyridines enabled them to couple to

the neuroreceptors and modulate their activity – in other words, when light is applied to switch them on, the molecules had an effect on mGlu5. By observing the movement of the zebrafish larvae, the researchers could see how the activated compound affected emotions associated with chronic pain, such as anxiety. Not only that, but further experiments also demonstrated that the action of light and photo-exchangeable molecules in localized tissues, including the brain in mice, can regulate a drug's analgesic effect.

“The results, despite being at a preliminary stage, demonstrate the possibilities of future development of therapies based on photopharmacology,” says IBEC group leader and ICREA professor Pau Gorostiza. //

X. Gómez-Santacana, S. Pittolo, X. Rovira, M. Lopez, C. Zussy, J. A. R. Dalton et al (2016). Illuminating Phenylazopyridines To Photoswitch Metabotropic Glutamate Receptors: From the Flask to the Animals. *ACS Central Science*, 3 (1), pp81–91

## Monster project for new cancer approaches

The new year saw the start of the largest European project ever coordinated at IBEC, Pere Roca-Cusachs' MECHANOCNTROL, which aims to come up with new therapeutic or diagnostic approaches for cancer and other diseases.

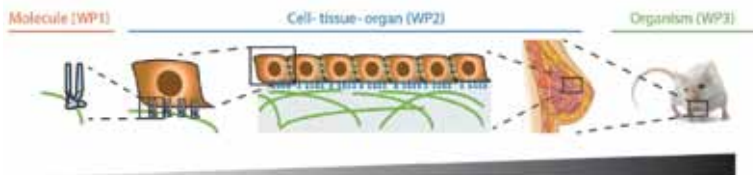
Funded under Horizon 2020's FET Proactive programme, MECHANOCNTROL will focus on understanding and controlling how cells transmit and detect mechanical forces. With its grant of €7m over five years, it is over three-fold larger than the prestigious ERC fellowships.

"Most solid tumors have altered mechanical properties, such as a stiffness higher than that of normal tissue. This increased stiffness promotes tumor progression," explains Pere. "This doesn't just apply to cancer: other diseases, such as fibrosis, are also driven by increased stiffness. If we can understand and control this process, this has a huge potential for new therapies across a wide range of diseases."

Mechanical forces and stiffness are detected through specific molecular bonds at the nanoscale, but this is integrated first within cells, then within tissues, and finally within organs and organisms. "Understanding this process at all those different scales is a huge endeavour that requires multiple disciplines," says Pere. "MECHANOCNTROL will do precisely this, gathering a team of biologists, biophysicists, engineers, modellers and chemists to understand and control cellular mechanics from the scale of the molecule right up to the entire organism." As well as IBEC, the MECHANOCNTROL consortium comprises the UPC and Mind the Byte S.L. in Spain, the Universitair Medisch Centrum Utrecht and Noviocell B.V in the Netherlands, Germany's Leibniz-Institut, and King's College London.

The project is one of only 12 projects selected out of 210 submissions from across Europe. //

Below: MECHANOCNTROL will include multiscale modelling from the molecule to the organism.



## National research award for IBEC's young talent

At the end of 2016 IBEC group leader and ICREA researcher Samuel Sánchez (right) was announced as the winner of the Premi Nacional de Recerca al Talent Jove (National Research Award for Young Talent) from the Generalitat de Catalunya and the Catalan Foundation for Research and Innovation (FCRI). The prestigious honour and cash prize of €10,000 is awarded annually to the most accomplished young researcher in Catalonia.

Samuel was selected for his pioneering work in the development of self-propelled nanomotors and nanorobots, devices with huge potential for advances in medical applications such as targeted drug delivery,

as well as in environmental issues such as the fight against water pollution.

"I'm very happy to be selected from among the talented young scientists in Catalonia, of which there are many, so the competition for this prize is very high," says Samuel. "It's also a tremendous honour that the work we've been doing over the last few years has been recognised by the FCRI, a highly-regarded foundation with a great reputation."

The National Research Awards encourage the recognition of science, and are awarded to researchers, sponsors, businessmen or journalists. This year's winner of the senior Premi Nacional de Recerca was ICFO Director Lluís Torner. //



## "La Caixa" help for CF research

Eduard Torrent's Bacterial Infections: Antimicrobial Therapies group's project with the Associació Catalana de Fibrosi Quística (ACFQ) has been awarded funding by the Obra Social "La Caixa".

Eduard's work about developing new strategies to combat bacterial infections and possible therapeutic targets is strongly linked to cystic fibrosis (CF) and has been supported by the ACFQ since 2009. Now, the work is set to receive a generous boost over three years thanks to a new funding initiative from Obra Social "La Caixa".

CF affects 1 in 2000-3000 newborns in Europe per year, according to the WHO. It causes the formation and accumulation of thick mucus in the lungs, intestines, pancreas and liver, and patients suffer respiratory failure due to chronic bacterial colonization – biofilms – in the lungs.

Eduard's research is taking new approaches to overcome this problem, such as developing testing systems that closely resemble what is found in a CF patient's lungs, as well as introducing several nanomedicine strategies to combat these infections.

"This co-operation triangle of researchers, clinicians and the patient's associations, with the tremendous support of the Obra Social "La Caixa", has the potential to make huge advances in the fight against this inherited condition," says Eduard, who collaborates with the Hospital Universitari Vall d'Hebron. //

This issue, InsideIBEC talked to a distinguished Catalan scientist who's made the USA his home, and a young director with 50 patents to his name.

# “In Catalonia, things have changed tremendously”

**Prof. Miquel Salmeron is Adjunct Professor at the University of California and Senior Staff Scientist / Principal Investigator at Lawrence Berkeley National Laboratory (LBNL)**

At the end of 2016 Miquel Salmeron was awarded the Berkeley Lab Prize–Lifetime Achievement Award for his exceptional contributions. The honour recognizes his more than thirty years of study and discovery that has irreversibly changed the field of materials surfaces and interfaces and the study of their properties, a journey that started at the University of Barcelona where he studied physics as an undergraduate.

“Whenever I go back to Catalonia, I see that things have changed tremendously since I left,” he says. “The region was lucky to get Andreu Mas Colell – who’s also a good friend of mine – as a councillor, who recognised that the existing Spanish system just simply wouldn’t work for research, and that he needed to reform it.

“He recognised that research needs an open, transparent system to attract the best scientists, and by creating CERCA to oversee the research centres he managed to challenge and tackle the existing mentality of inbreeding.”

Having worked for decades in the USA, Prof. Salmeron, who moved to California

**“We’ve elected a president who thinks climate change is a hoax”**

permanently in 1984, is used to a different system than he left behind when he completed his PhD at the Universidad Autonoma of Madrid in 1975 and started to forge links with LBNL as a postdoc. “The model in the USA has always been based



on merit; there are no contracts for life, your productivity is always under scrutiny, and salaries are negotiable,” he says. “This attracts the best of the talent, who can compete on a global scale.”

We happen to be talking on the day after the American presidential election, though, so it remains to be seen if this happy state of affairs will continue. “What a disaster! I’m still reeling from the result,” Prof. Salmeron says. “We’ve elected a president who thinks climate change is a hoax. This could be extremely bad news for science in this country.” //



# “Intellectual property starts at the very first discussion”

**Prof. Dr. Heiko Zimmermann is Managing Head of the Fraunhofer Institute for Biomedical Engineering in Germany**

Prof. Zimmermann was visiting IBEC in December for two reasons: one, to attend the thesis defense of an IBEC PhD student, and secondly to take part in the first selection of the Bioengineering Excellence Scientific Training (BEST) postdocs. But as a star of technology transfer – inventor of more than 50 granted patent families of which more than 20 have been commercially licensed – he seemed the ideal person to ask for advice about how IBEC and its

scientists can boost their success in translating results to the market. “It’s difficult to get into the right mindset, because technology transfer isn’t about ‘clean’ science,” says Prof. Zimmermann, whose research covers cryobiology, cryotechnology and biopolymers for clinical scaffolds. “It involves thinking about money—which, as scientists, we’re not used to doing.”

The key to successful technology transfer is having the freedom to operate, while also being aware of the importance of secrecy. “Intellectual property starts at the very first discussion. The first thing to do when you have an idea is to google it using keywords,” he advises. “If there are any issues blocking a patent, even the most

amazing idea is bound to fail.”

He thinks that the exciting possibilities that are offered by 3D bioprinting, among other advances, are a great opportunity for centres such as IBEC. “As we move away from ‘flat’ biology we need interdisciplinary institutions and groups that can undertake entire workflows from cell production technologies all the way up to organoids and organs,” he says. “Some biolabs working with cells haven’t changed their methods for decades, but places like IBEC can be at the forefront of large-scale production and automation, leading to great leaps not only towards getting more products to market, but also to pave the way towards truly personalized medicine.” //



## 10 years of impact

IBEC is all set to spend 2017 celebrating “ten years of impact”, as the year marks a decade of research results at the institute. As such, 2017’s 10th Annual Symposium in June will be a special two-day affair with VIP guests, institutional talks and an alumni workshop, which will also serve to launch our new Alumni Association (see page 6).

As well as the symposium, we also have a host of other events planned for the year. Kid’s Day will offer a chance for the young families of staff and scientists to enjoy a morning of fun and activities at the PCB, and following close on the heels of the symposium, the institute’s main birthday party will be a lavish evening Gala Celebration held at a beautiful location in the city and featuring food, drink and many IBEC-themed surprises.

A countryside retreat for senior staff and scientists will follow in October, and IBEC’s B-Debate in November and then the Christmas celebration in December will round off the year.

Mark your diaries now, and help us make sure IBEC’s tenth birthday celebrations go with a bang! //

## Rubbing shoulders with a Nobel Prize winner

IBEC group leader and ICREA researcher Pau Gorostiza will share a stage with one of 2016’s Nobel Prize winners at the International Symposium on Photopharmacology at the University of Groningen on 16th February.

Although he won the Nobel Prize for chemistry for being the first person to develop a molecular motor, Bernard Feringa – who shares the honour with Jean Pierre Sauvage and Sir Fraser Stoddart – also leads a photopharmacology research line on photoresponsive drugs and interference with biological pathways.

Pau will present his own work on light-regulated molecules at the meeting, where he and Feringa will be two of ten international invited experts in the field. Topics under discussion will be the different approaches used to regulate drug

activity with light, new tools including visible- and red-light responsive molecular photoswitches, and therapeutic targets for photopharmacology.

“In the nineties, there were two approaches to nanotechnology: using instruments like low temperature scanning tunneling microscopes that allowed us to write tiny letters with individual atoms or build so-called ‘quantum corrals’, and using protein engineering to harness natural biomolecules, such as enzymes, that were capable of generating movement,” says Pau, who met Feringa last year at a Lorentz Center workshop on optogenetics. “Then, finding out that ‘molecular motors’ could be designed and synthesized in large amounts in a regular chemistry lab was very exciting, and got many chemists engaged in that revolution.” //



November’s ‘Advancing Gender Equality and Diversity in Science’ event was the high point of 2016’s many Gender and Diversity Committee actions within the HRS4R plan, with more than 50 people in attendance.



## “From Values to Excellence” project

IBEC’s values and competency model paves the way towards a successful future focused on talent

As one of the key actions in IBEC’s Human Resources Strategy for Researchers (HRS4R), as well as in its Strategic Plan, the “From Values to Excellence” project will identify and define values and competencies. Values are crucial to guide the institute towards achieving its mission and vision, as well as showing us how to achieve our objectives. They also help to guide the career choices and decisions made by researchers in their working life.

Four different working groups with 20 participants – from the Directorate to PhD students, representing diverse points of view – met during October and November to identify and define IBEC’s values. Together with significant contribution from IBEC’s

staff, the following values were identified and validated:

**COLLABORATION · CREATIVITY  
PERSEVERANCE · RESPONSIBILITY  
INTERDISCIPLINARITY · RESPECT  
OPENNESS**

Definitions for each of these values will be available soon.

Now that the values have been identified, we can start working on identifying IBEC’s competencies. These are defined as the combination of knowledge, skills, abilities, and behaviours that contribute to excellent individual and organizational performance.

Having a Competency Model at IBEC will help supervisors support the development and professional orientation of their

staff, carry out selection, and give feedback and performance evaluation, as well as being crucial for the forthcoming Mentoring Programme. For researchers, the Competency Model will help identify behaviours that lead to excellence and success, as well as helping evaluate and plan career trajectories.

In October and November 2016 several working groups identified core and specific competencies for each research position (group leader, senior researcher, postdoc and PhD), and in February and March new working groups will work on the job descriptions for these positions. We want to thank all the working groups for the effort and dedication they’ve shown.

– Carol Mari, Head of Human Resources

## IBEC ALUMNI: News, updates and achievements

*In our regular new section, we'll be bringing you news from IBEC's former researchers, students and staff. If you've got a story for the Alumni Section, please let us know!*



## WFIRM Young Investigator Award for Riccardo

### A huge honour at a great biofabrication conference

“I was elated and honored to receive the Wake Forest Institute for Regenerative Medicine (WFIRM) Young Investigator Award 2016 at the International Conference on Biofabrication in Winston-Salem, North Carolina (pictured above).

It was an outstanding meeting, and

the high quality work presented is a clear evidence of the growth of the biofabrication community and the impact it will have on the future of medicine.

The WFIRM is recognized as one of the leading institutions in tissue engineering and regenerative medicine, performing outstanding research for patient healthcare. The WFIRM team led by Anthony Atala has a track of record of several “world’s first” implantation of engineered organs, and their work is truly

inspiring for any researcher in the field.

I am thankful to the conference organizers and to the WFIRM for giving me such recognition at this event. This award strengthens even further my dedication to facilitate the translation of biofabrication and 3D bioprinting technologies, an ambition that I share with my research team lead by Dr. Jos Malda at the University Medical Center Utrecht.”

*– Riccardo Levato, PhD student in the Biomaterials for Regenerative Therapies group 2010-2015. Now a postdoc at the University Medical Center Utrecht.*

## Where are they now?

**Juan Manuel Artés was in the Nanoprobes and Nanoswitches group at IBEC from 2007 to 2012. Now he's a Marie Curie research fellow in the physics department of VU Amsterdam**

JuanMa won the extraordinary thesis award from UB in 2012/2013 for his PhD work, ‘Electrochemical Scanning Tunneling Microscopy and Spectroscopy of the Redox Protein Azurin’. “The best thing about IBEC was to be exposed to a multidisciplinary research environment that promotes research excellence with a vibrant young team,” he says. “There were amazing mentors, and many opportunities to get a solid research training.”

This solid grounding set him up for a successful postdoctoral stage at the University of California in

Davis, where he explored the molecular electronics of biomolecules in DNA/RNA. “I then became interested in the biophysics of photosynthesis, more specifically in the quantum effects found in the early energy harvesting steps occurring in natural photosynthetic membranes,” he explains. “I was awarded a Marie Curie postdoctoral grant to be able to investigate these issues using ultrafast spectroscopies in Amsterdam.”

He’s looking forward to continuing his research path to apply his skills and experience in even more ambitious directions. “As a next step, I hope to be able to combine nanoscience and ultrafast techniques to find some engineering principles behind natural systems that have been optimized during evolution, and propose new devices based on that.” //



## Coming soon: IBEC Alumni Association

Now that IBEC is ten years old, we’ve seen many staff and scientists come and go, and many have gone on to have amazing careers in all parts of the globe. In order to keep in contact with our IBEC alumni, create an international community of ex-IBECers, increase networking opportunities, retrieve talent, and increase IBEC’s reach and influence, in 2017 we’ll be launching our Alumni Association.

Benefits of joining include invitations to free events, workshops and courses, networking opportunities and job boards, opportunities to give seminars, and a yearly alumni meeting.

More details will be coming soon, but in the meantime, please spread the word among your former group members. //

## Training the next generation of advanced microscopy experts

An IBEC group has been awarded AEU funding to coordinate a project that aims to train a new generation of researchers in the science and technology of Scanning Probe Microscopes.

Thanks to the Marie Curie ITN funding, the ten consortium members of the SPM2.0 European Training Network – located in Spain, France, Austria, the UK and Italy – will be able to provide researchers with state-of-the-art multidisciplinary scientific training in the field of Scanning Probe Microscopies, covering basic science to industrial applications, which should enable them to generate new scientific knowledge. The 14 students in the programme will also

receive practical training on transferable skills to increase their employability and qualify them for positions in the private and public sectors.

Advanced microscopy techniques are widely recognized as one of the pillars onto which the research and manufacture of nanotechnology based products is sustained. Scanning Probe Microscopes are currently the advanced microscopy techniques experiencing the fastest evolution and innovation, crossing fundamental barriers. Novel systems already exist that show potentially unparalleled performance in terms of 3D nanoscale imaging capabilities, imaging speed and chemical sensitivity mapping.

“In the science and technology of Scanning Probe Microscopes, Europe is currently in a leading position,” says IBEC’s Nanoscale Bioelectrical Characterization group leader Gabriel Gomila, who will coordinate the €3.6m project. “The main aim of our network is to consolidate Europe as the world leader in Scanning Probe Microscopy technologies and its emerging applications in key sectors such as materials, microelectronics, biology and medicine.”

SPM2.0 is one of 121 projects selected from 1367 applications received in the present call, and one of the few coordinated from Spain. The kick-off meeting was held at IBEC in January. //

## OUTREACH NEWS

### A successful first run for BIYSC

Outreach activities during the second half of 2016 included Fundació Catalunya-La Pedrera’s Barcelona International Youth Science Challenge (right), to which IBEC contributed the project “Instructive Biomaterials for Regenerative Medicine”, coordinated by senior researcher Soledad Pérez. Biomaterials for Regenerative Therapies group leader Elisabeth Engel gave a lecture, ‘Biomaterials, beyond a simple template’, and nine students came to IBEC’s labs to start the hands-on part of the project.

Mentoring as part of the Batx2LAB programme took place in August, when Carlos Pérez from the Integrative Cell and Tissue Dynamics group mentored a student from the Institut Torras i Bages.

In October and November, Elisabeth Engel gave a public talk, “La regeneración de órganos como paradigma de la medicina del futuro”, in Girona and Zaragoza as part of the Fundació La Caixa’s series of events.

In November, IBEC contributed to the Jornades d’Ensenyament de la Biologia i Geologia of the Col·legi Oficial de Doctors, which was organised with the “la Caixa” Foundation and CESIRE, the Generalitat’s education department, and is aimed at for young science teachers. Biomimetic Systems for Cell Engineering PhD students Maria Valls and Jordi Comelles gave a workshop, “Enginyeria de teixits: estudi i muntatge de bioreactors”. Also in November, an audience of nearly a hundred enjoyed a public seminar by IBEC group leader and ICREA

research professor Samuel Sánchez, one of this year’s Setmana de la Ciència events. The year ended with Elena Lantero from the Nanomalaria group’s talk, “Nanotecnologia, una nova arma contra la malària” as part of the series “Dilluns de Ciència” at the Residència d’Investigadors in Barcelona. //



Photo: BIYSC, Fundació Caixa-La Pedrera

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// EIT Health Spain, IBEC, and the Spanish Ministry of Economy and Innovation gave their support to the workshop “**Frailty: A Societal Challenge in Need of Integrated Solutions**” in Madrid in October. Hosted by the School of Telecommunications Engineering at the Technological University of Madrid and Abbott Laboratories, the event welcomed

more than 80 engineers, students, geriatricians and other health care professionals.

// In August IBEC Director Josep Samitier was a speaker at the **1st International Workshop on Engineering Living Systems** in Illinois. The meeting was organised by **EBICS** (Emergent Behaviors of Integrated Cellular Systems), a initiative set up by several US universities which

aims to to create a new scientific discipline for building living, multi-cellular machines that solve real world problems. IBEC’s collaboration with the EBICS International exchange program will allow US students to spend time at IBEC while providing exceptional training and the opportunity to network with students and faculty from diverse backgrounds.

## IBEC PEOPLE



In January **Javier Ramón** started a new group, Biosensors for Bioengineering, as IBEC's newest Junior Group Leader. Javier, formerly a senior researcher in the Biomimetic Systems for Cell Engineering group, is one of just six researchers in Catalonia to have been awarded a 2016 Starting Grant by the European Research Council (ERC). With the support for his project 'Diabetes Approach by Multi-Organ-on-a-Chip' (DAMOC), which will last for up to five years, Javier will design a innovative new tool to test drugs for diabetes. As well as improving drug testing approaches, the multi-organ-on-a-chip device will provide new therapies to prevent the loss of beta cell mass and defects in the glucose uptake in skeletal muscle associated with type 2 diabetes.

After positive evaluation by the ISC and the ratification of the Board of Trustees on December 15, IBEC's first four Junior Group Leaders, selected in the 2012 tenure track programme (**Eduard Torrents**, **Elisabeth Engel**, **Pere Roca-Cusachs** and **Xavier Fernández-Busquets**), were all successfully consolidated as Senior Group Leaders as of January 1. The tenure track programme aims to support career development by helping young researchers establish their own independent research lines.



## AWARDS AND HONOURS

Integrative Cell and Tissue Dynamics group PhD students **Laura Casares** and **Agustí Brugués** have been awarded the "Premi Extraordinari de Doctorat" by the Facultat de Medicina of the University of Barcelona for theses submitted in 2014-2015. Together with Xavier Serra-Picamal, who won the same prize for the period 2012-2013, it means that the first three students to defend a thesis under the tutelage of IBEC group leader and ICREA professor Xavier Trepal have all received this competitive award.



IBEC PhD student **Ariadna Bartra** has been awarded a Premi PIONER from CERCA. The former Signal and Information Processing for Sensing Systems group's student's thesis was selected for its "direct applicability and market-minded approach, as well as its impact on improving road safety". Her research was connected to the driver drowsiness alerter developed

by Santiago Marco's group and Ficosa S.A.

**Raimon Jané**, head of the Biomedical Signal Processing and Interpretation group, has been re-elected president of the Sociedad Española de Ingeniería Biomédica. Raimon, who will hold office until 2020, is the sixth president of the society since its foundation in 1978.

IBEC group leaders **Eduard Torrents** and **Elisabeth Engel** received EIT Health Spain Proof of Concept Awards in December. Eduard's project, Novel Antimicrobial Therapy, won first prize in the 'PoC+' category, and Elisabeth won a prize in the 'PoC' category for Dermoglass.

## UPCOMING EVENTS

**IBEC Seminar:** Maria Virumbrales, University of Zaragoza  
*Friday, March 3 at 10:00am*  
IBEC, tower I, floor 11

**IBEC Seminar:** Aranzazu Villasante, University of Columbia  
*Wednesday, March 29 at 12noon*  
IBEC, tower I, floor 11

**PhD Discussions Sessions:** Aida Garrido & Marina Uroz  
*Friday, March 31 at 10:00am*  
IBEC, tower I, floor 11

**10th IBEC Birthday Symposium**  
*Tuesday, June 6 & Wednesday, June 7*  
"Bioengineering for Future Medicine"  
AXA auditorium

**10th Anniversary Gala Celebration**  
*Friday, June 9*  
Location to be confirmed

More events at [www.ibecbarcelona.eu](http://www.ibecbarcelona.eu)

## Articles or ideas, please!

Is your group starting a new project? Perhaps something interesting has happened in your research area, or you've had an interesting visitor. Is there an important change that people should know about, or a deadline? Maybe you'd just like to find out what the IBEC community thinks about something, or you have a request. If you have an idea for *InsideIBEC* or would like to write an article yourself, contact [vleigh@ibecbarcelona.eu](mailto:vleigh@ibecbarcelona.eu).



## IBEC in pictures

Some of the administration team enjoyed a visit to one of the city's new escape rooms in July. The 'patients' from finance, HR and IT split into two teams to complete their mission in the asylum-themed game at **Chicken Banana** in c/Rocafort, and succeeded within 10 seconds of each other. The latest craze to hit the city, escape rooms can be found in almost every *barrio* and offer the thrill of trying to get out of a locked room for an hour with up to 30 other people.



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