



PHD4MD: BRIDGING THE GAP BETWEEN RESEARCH AND CLINICAL PRACTICE

The IRB Barcelona, IDIBAPS, VHIR and CRG have launched a programme that seeks to offer advanced research training for physicians and to strengthen the collaboration between basic and clinical research centres.

The commitment to biomedical research in Spain over recent years is reaping its rewards and now several research centres are among the top and most prestigious centres, both in Europe and worldwide. A solid framework for basic biomedical research has been painstakingly put together and the time is now ripe to join forces with the strong translational research undertaken in the hospitals in order to transfer the knowledge generated into clinical practice. To this end, collaboration between basic research centres and hospitals is essential, as is a focus on multidisciplinary projects involving medical doctors specially trained for this purpose. It is precisely this training that “PhD for Medical Doctors - Phd4MD” is all about—a collaborative programme promoted by the centres CRG, IRB Barcelona, IDIBAPS and VHIR, where physicians in Spain who have already completed their Specialised Health Training (MIR in Spanish) perform cutting-edge PhD research projects.

“It is a challenge for research centres to translate their findings into clinical practice. It is crucial to further basic knowledge, but all this effort makes no sense if there is no benefit for public health,” explains Luis Serrano, director of CRG. “We need to have medical doctors who are willing to collaborate with us and who we can train in order to ensure that our research reaches the hospital setting,” concludes Serrano.

The first call, which is to serve as a pilot programme, will offer four fellowships for medical doctors that wish to be trained in research and do a PhD over three years. The four participating centres will work on outstanding collaborative projects, resulting from an internal call, that involve a basic research group (at IRB Barcelona or CRG) and a translational or clinical research team (at VHIR or IDIBAPS).

The application period closes on 18th May. More info at: <http://ow.ly/KSWC6>. <

CHANGE IN CRG MANAGEMENT: BRUNA VIVES, NEW MANAGING DIRECTOR

After an open selection process led by an external company, supported by a specific internal panel and headed up by the director of the CRG, Luis Serrano, the centre’s Board of Trustees approved the appointment of Bruna Vives as new CRG Managing Director. “Bruna brings

together management, leadership and organisation skills, and has in-depth knowledge of the organisation. All these aspects will allow her to work in the most professional way possible with a clear orientation towards the needs of the centre” explains Luis Serrano, director of the CRG.

Bruna Vives received the baton from Marian Marrodan, who after fourteen years of heading up the CRG management team has definitively contributed

to all aspects of growth at the CRG. She has successfully managed the institute, which while achieving scientific excellence, has also turned out to be a pioneering and innovative management model. Marrodán will continue her links with the centre by collaborating in other management functions with which she has been entrusted.

We wish them both all the best for this new period! <

EDITORIAL



Bruna Vives
CRG Managing Director

Dear Life@CRG readers.

It is now more than one month since I took over the reins as Managing Director from Marian Marrodán. Actually, we recently bid her farewell in a formal farewell ceremony worthy of her commitment to the development of the CRG.

Excellence in research requires dedicated and efficient administration and research support services for the scientific community. After eight years at the CRG working in research funding, EU projects and talent attraction programmes, I feel privileged to be able to contribute towards effective management of the institute so that scientists can focus on doing excellent science. My main focus during the first weeks was on not dropping the ball and ensuring a smooth transition, I thank you all for making it easy for me. My other main internal focus has been to introduce myself to all of you and establish a dialogue with the CRG community. The scientific community has opened the doors of their data clubs to me, the members of the administration and research support areas have been sharing their ideas for the future, and further discussion groups and field visits to CRG laboratories and facilities are scheduled for the coming weeks. All of these activities are first steps, taken with the ultimate goal of engaging everyone, learning from each other and ultimately shaping our institute. And last but not least, I have met many stakeholders outside the CRG in both formal and informal settings. We are seen as one of the reference research institutes and the challenge for us is to stay ahead of the curve.

CRG has a unique blend of cultural and scientific diversity, making it a very special place, but also full of complexity and challenges. I believe that little changes can make a big difference. Throughout this year I want to use a section in Life@CRG to keep you up to date on developments, large and small. I look forward to sharing this exciting journey with you! <

INSIDE

WE'VE GOT IT! BRUNA VIVES COLLECTS THE HR EXCELLENCE IN RESEARCH AWARD

On 3rd March, Bruna Vives together with the first two hundred deans, rectors and other representatives of the universities and research institutes that have implemented the European Charter for Researchers and Code of Conduct for the Recruitment of Researchers, received the HR Excellence in Research Award. To mark the event, the European Commission hosted a conference to celebrate the 10th anniversary of the Charter and Code.

Carlos Moedas, Research, Science and Innovation Commissioner, congratulated these first universities and research institutes that have taken on the Human Resources Strategy for Researchers. He also highlighted their commitment to attracting and keeping the best minds in Europe, essential for remaining competitive.

The Centre for Genomic Regulation endorsed the Charter and Code in 2008 and received the HR Excellence in Research logo

from the European Commission in November 2013. Within this framework, the CRG adopted the Action Plan 2013-2015, which is in the process of being put into practice. *“The HR Excellence in Research Award has been the catalyst for change. There are still many things to do but we are going in the right direction. We are working hard to ensure the CRG is a good place to work that enables scientists to successfully develop their research”*, states the CRG Managing Director Bruna Vives. <



INSIDE

LUCIANO DI CROCE, MEMBER OF THE EDITORIAL BOARD OF *SCIENCE ADVANCES*

Luciano Di Croce, senior group leader and ICREA Research Professor in the Epigenetics Events in Cancer laboratory at the CRG, has just been appointed a member of the Editorial Board of the new scientific journal *Science Advances*.

Science Advances is an open access journal launched by AAAS (who publish *Science*). It is the first online fully open-access journal from this publish-

ing group. This new publication covers all scientific disciplines, from biology to engineering and social sciences. The aim is to publish quickly to allow new science with potential global impact to be rapidly distributed, discussed and built upon.

As a member of the Editorial Board, Luciano Di Croce will be responsible for overseeing the review process for submissions. As the Editor-in-Chief Marcia McNutt states on the *Science Advances* website, “all the members of the Editorial Board have been selected from an international pool of candidates not only

for their reputations in their own fields of research, but also for their acknowledged breadth in recognising and promoting interdisciplinary collaborations”. <



MIGUEL BEATO AWARDED THE LILLY FOUNDATION PRIZE

The Lilly Foundation has presented the 2015 Biomedical Research Awards to doctors Miguel Beato and Elias Campo, in the preclinical and clinical research categories, respectively, for their contributions to biomedical research of excellence in Spain. The prizes include 40,000 euros each for the researchers and recognition of their careers as leading scientists.

Miguel Beato, senior group leader in the Chromatin and Gene Expression laboratory, has been honoured in the preclinical category for the relevance of his work in the field of steroid hormone control of gene expression. In addition, the jury highlighted Beato’s leadership of the CRG, which has positioned it as “an international benchmark centre, attracting many scientists from across the world, and a driving force in biomedical research in Spain”. <

THE CRG IS IMPLEMENTING AN ELECTRONIC LAB NOTEBOOK PLATFORM

In order to improve experimental data storage and to boost scientific collaborations both inside and outside the research groups, a long-term project has been started. It aims to replace the traditional paper lab notebook with a paperless electronic lab notebook platform.

The CRG is now evaluating several electronic lab notebook (ELN) platforms (Evernote, One Note, Elements, E-Notebook and LabTrack), in order to perform a thorough hands-on pilot study with the two front-runners. This study will be performed by 30 scientists specialised in different areas from the 8 research groups/units of the CRG programmes. To do so, they will use Windows, Android and iOS tablets, as well as wearable devices.

The results of the study are expected to be published in a specialist journal and shared with various EU partners that are also implementing ELNs. In a second phase, the CRG will set up a corporate policy for ELN usage and will deploy and promote it progressively amongst its employees. <



Courtesy of Flickr User Cameron Neylon





XAVIER ESTIVILL, NEW MEMBER OF THE SCIENTIFIC AND EDITORIAL BOARD OF 'GENÉTICA MÉDICA NEWS'

Xavier Estivill, head of the Genomics and Disease group at the CRG, has just been appointed to the scientific and editorial board of the Spanish journal "Genética Médica News".

Genética Médica News is a journal that aims to provide up-to-date information about major scientific contributions to genetics and medical genomics. It brings together news and information on a field involving thousands of laboratories, at a time when technologies are evolving extremely fast. The journal presents news items and articles on a variety of topics related to genetics and medical genomics, from heredity to genetic molecular biology, including diagnosis, treatment and ethics. <

BUSINESS & INNOVATION

PABLO CIRONI PARTICIPATES IN THE ETT BIO CLOSING CEREMONY

ETT Bio (Effective Technology Transfer in Biotechnology) is an EU project aimed at identifying, exchanging and sharing good practises to enable successful and effective technology transfer in biotechnology. Pablo Cironi, head of the CRG Technology and Business Development Office (TBDO),

participated in the Regional Closing Event entitled "New Trends in Technology Transfer". He also chaired one of the workshops, which was focused on technology transfer office models and international trends. <

FOLDX SUITE: NEW FEATURES, NEW WEBSITE AND SUCCESSFUL LICENCES

The FoldX Suite is a software package based on the popular software FoldX3, which was created in the Serrano lab some years ago. FoldX3 is widespread software for protein design, recognised as one of the most powerful tools for improving protein stability and modifying affinity or specificity. FoldX3 has recently been licensed for commercial use to one of the top 5 big pharma companies, as well as to a world leader in diagnostic testing for genetic diseases.

The group of Luis Serrano, with the support of the Technology and Business Development Office (TBDO), have invested a lot of effort in the launch of the new FoldX Suite, which will be available for download to Academic and Commercial License holders via a brand new webpage (<http://foldxsuite.crg.es>). The suite features two new algorithms that exploit the



power of fragment libraries to gain new capabilities in loop reconstruction (LoopX) and peptide docking (PepX). It also includes a new boost Command Line Interface to improve usability. <

BUSINESS & INNOVATION

FERRER AND THE CRG WORK TOGETHER FOR RETINAL TISSUE REGENERATION

Ferrer and the CRG have entered into a collaborative agreement to further develop and promote technological solutions in the field of retinal tissue regeneration, in particular for the treatment of retinitis pigmentosa, age-related macular degeneration

and other disorders of the retina and optical nerve. The agreement builds on prior work published in a *Cell Reports* paper in 2013 by Dr. Pia Cosma and her team. They showed that transplantation of pluripotent cells, pre-activated ex-vivo with a Wnt pathway activator, can restore vision in mice models of retinal degeneration.

The collaboration agreement came into force upon Ferrer's decision to execute

an option to exclusively licence the rights of two patents covering technology in the field of retinal diseases, namely a 'Method for reprogramming differentiated cells' (WO2009101084) and a 'Methods of treatment of retinal degeneration diseases' (EP11176713). The decision was driven by the successful results of a previous study demonstrating the long-term biological safety of this technology in animals. <

SCIENCE@CRG

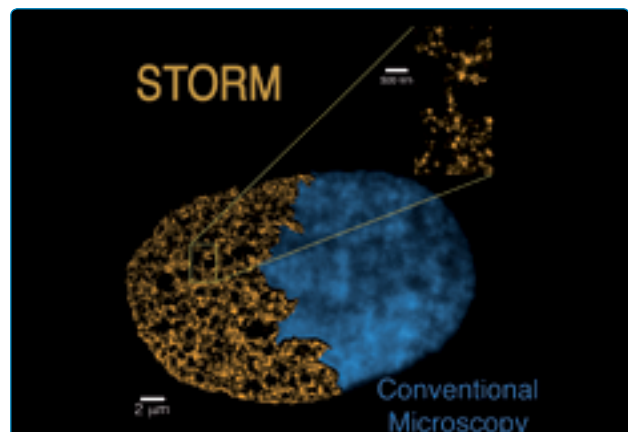
SUPER-RESOLUTION MICROSCOPES REVEAL THE LINK BETWEEN GENOME PACKAGING AND CELL PLURIPOTENCY

Until now it was known that our DNA is packaged by regular repeating units of those nucleosomes throughout the genome giving rise to chromatin. However, due to the lack of suitable techniques and instruments, the chromatin organisation inside a cell nucleus could not be observed in a non-invasive way with the sufficient resolution. Now, for the first time, a group of scientists at the CRG and ICFO, have been able to visualise and even count the smallest units which, packaged together, form our genome. This study, which was published in *Cell* on March 12th, was possible thanks to the use of super-resolution microscopy, a new cutting-edge optical technique that received the Nobel Prize in Chemistry in 2014. In combination with innovative quantitative approaches and numerical simulations, they were also able to define the genome architecture at the nano-scale. Most importantly, they found that the nucleosomes are assembled in irregular groups across the chromatin and nucleosome-free-DNA regions separate these groups.

Biologists and physicists have been working together to take a step forward in chromatin fibre observations and studies. "STORM overcomes the diffraction limit that normally restricts the spatial resolution of conventional microscopes and enables us to precisely define the chromatin fibre structure", states Prof. Melike Lakadamyali, group leader at ICFO. This enabling technique allowed the researchers to go deeper and, by comparing stem cells to differentiated cells, they observed key differences in the chromatin fibre architectures of both cells. Pia Cosma, group leader and ICREA research professor

at the CRG explains, "We found that stem cells have a different chromatin structure than somatic (specialised) cells. At the same time, this difference correlates with the level of pluripotency. The more pluripotent a cell is, the less dense is its packaging. It gives us new clues to understand the stem cells functioning and their genomic structure, which will be helpful for example, in studying cell reprogramming".

This research definitively contributes to the understanding of a novel feature of stem cells and their DNA structure, which is important for maintaining an induced pluripotent state. A joint patent has been filed by ICFO and CRG, who are now exploring business opportunities for marketing the classification of "stemness" state of cells, ie, their degree of pluripotency. This technique could determine with single cell sensitivity the pluripotency potential of stem cells, thus having the capacity of becoming a standard method of quality control of stem or pluripotent cells before their use in cell therapy or research in biomedicine. <



'DNA SPELLCHECKER' MEANS THAT OUR GENES ARE NOT ALL EQUALLY LIKELY TO MUTATE AND CAUSE DISEASE

Copying the large book that it is our genome without mistakes every time a cell divides is a difficult job. Luckily, our cells are well-equipped for proofreading and repairing DNA mistakes. Now, CRG researchers Fran Supek and Ben Lehner have published a study showing that mistakes in different parts of our genome are not equally well corrected. This means that some of our genes are more likely to mutate and so contribute to disease than others.

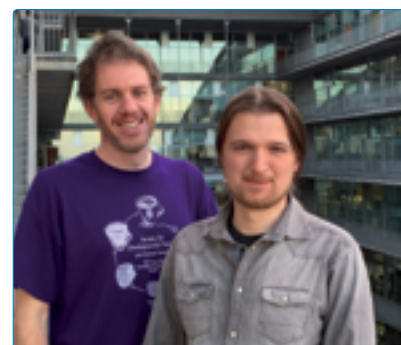
The scientists analysed 17 million 'single nucleotide variants' by examining 650 human tumours from different tissues. These were 'somatic' mutations, the main causes of cancer. Many result from mutagens, such as tobacco smoke or ultraviolet radiation, and others come from naturally occurring mistakes in copying DNA as our tissues are renewed.

Ben Lehner and his team had previously described that somatic mutations are much more likely in some parts of the human genome, thus damaging genes that may cause cancer. In a new paper published in *Nature*, they show that this is because genetic mistakes are better repaired in some parts of the genome than in others. This variation was generated by a particular DNA repair mechanism called "mismatch repair" – a sort of a spellchecker that helps fix the errors in the genome after copying. Lehner and Supek show that the efficiency of this 'DNA spellchecker' varies depending on the region of the genome, with some parts of chromosomes getting more attention than others.

"We found that regions with genes switched on had lower mutation rates. This is not because less mistakes happen in these regions but because the mechanism for repairing them is more efficient", explains Ben Lehner, group leader, ICREA and AXA professor of risk prediction in age-related diseases in the EMBL-CRG Systems Biology unit. The 'mismatch repair' cellular machin-

ery is extremely accurate when copying important regions containing genes that are key for cell functioning, but becomes more relaxed when copying less important parts.

"By studying cancer cells, we now know more about maintaining DNA integrity, which is really important for healthy cells as well", adds Fran Supek, the postdoctoral researcher co-authoring the paper. The accumulation of harmful changes in DNA is a normal process occurring in all human cells every time they divide. Therefore this research not only makes an important contribution to cancer research, but may also lead to insights into ageing and genetic diseases as well. <



SPARK, A NEW PROJECT AIMED AT FIGHTING THE COGNITIVE IMPAIRMENT ASSOCIATED WITH SCHIZOPHRENIA

A public-private consortium led by the biotech company Iproteos, based at the PCB, and comprising the biopharmaceutical company Ascil-Biopharm, the IRB Barcelona, the CRG, and the University of the Basque Country, has launched a project to advance the development of a new neuroprotective drug for treating the cognitive impairment associated with schizophrenia and other mental disorders. The project, called "Spark", has just received a 500,000 euro grant from the Ministry of Economy and Competitiveness, through the 2014 "Retos-Co-laboración" subprogramme call as part of the National Programme for Research Aimed at the Challenges of Society (File. RTC-2014-1645-1).

The drug candidate is IPR019. Its therapeutic activity is based on blocking a protein located in the brain that is related to cognitive impairment. IPR019 is a peptide derivative (small protein) able to cross the blood-brain barrier, a protective barrier around the brain which most of the drugs available in the market cannot cross, that has already shown its efficacy as a cognitive enhancer in in vivo tests. Scientists have found it significantly improves learning and memory capabilities, which make it a revolutionary treatment for central nervous system diseases in which cognitive abilities are severely diminished.

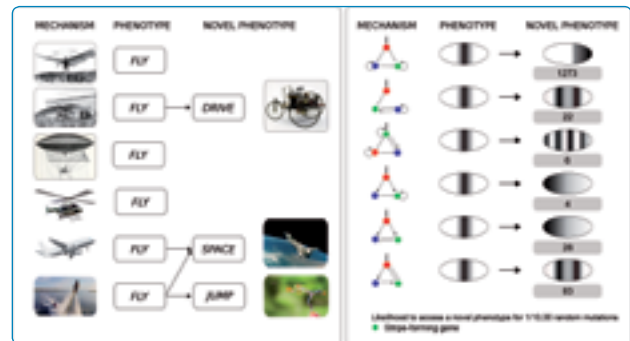
The expected end-result will be an optimal formulation and an administration route for the compound for its use as a drug in patients. This will enable the regulatory preclinical trials to be carried out, followed by the first-in-human trials in 2016, with a future application in health centres. <

EVOLUTION IS SHAPED BY THE UNDERLYING DYNAMICAL MECHANISMS IN OUR GENOME

Alba Jiménez

Evolution is driven by mutations, which can transform the phenotypic traits of an organism into novel ones, with potential beneficial consequences. This diversification of an original trait can cause both modest morphological changes, such as novel pigmentation patterns in the wings of a butterfly, and major evolutionary breakthroughs, such as new body structures – for example the transformation of two-winged insects into four-winged insects. How phenotypes evolve has been studied in many ways, but one feature, the dynamical mechanism, has received little attention.

In a new study published in *PNAS*, the Sharpe lab used computer modelling to study the mechanisms employed by small gene regulatory networks to achieve a particular desired phenotype. Their model phenotype was a specific multicellular gene expression pattern: a single band of gene expression in the centre of a field of cells. In this study, the group hypothesised that the different mechanisms that could be involved in building a stripe during development, would also display differences in their evolvability, in other words their capacity to reach novel phenotypes.



The results confirmed this hypothesis, and illustrated that evolvability could vary in two ways. Firstly, some mechanisms were simply more capable of arriving at new phenotypes than others. But secondly, even for two mechanisms with a similar ability to innovate, the new phenotypes accessible could be quite different. The key conclusion from this work is that the dynamical mechanism used to build an organism impacts on its evolution. In other words, to understand which new phenotypes could evolve from a given species we have to consider much more than just the existing phenotype – we must also consider the dynamical principles by which the gene networks created that phenotype in the first place.

This new study provides strong theoretical proof that the dynamics of a gene circuit do indeed constitute a specific type of developmental constraint on the search for new phenotypes. <

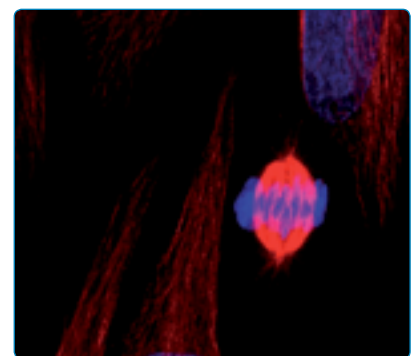
RESEARCH PROGRESS INTO CELL DIVISION THROWS LIGHT ON MICROTUBULE FORMATION

Lidia Montes

Humans renew tissues by dividing cells through a process known as mitosis. When a cell enters mitosis, the nuclear membrane disappears and microtubules, filaments that make up the structural framework of the cell, reorganise themselves into a new structure called the mitotic spindle. The mitotic spindle segregates the two copies of the chromosomes in such a way that each daughter cell receives identical genetic information. The microtubules that make up the mitotic spindle arise in the centrosomes, located close to the chromosomes. Chromosomes play a fundamental role in the function of the mitotic

spindle, as indicated by numerous studies explaining the mechanisms by which microtubules are formed in centrosomes. Nevertheless, the mechanism by which the chromosomes bring about the formation of microtubules during mitosis was not known until now.

A study published in the journal *Current Biology*, carried out by researchers from the CRG and led by Isabelle Vernos, group leader and ICREA research professor, has revealed how the specific chromosomal microtubules form during mitosis. The study represents another step forward towards the possible development of anti-tumoural treatments, precisely because it is a process that only occurs only during cell division: “Microtubules are one of the targets in anti-tumoural therapies because if there are no microtubules in the cell, it cannot divide. If it cannot divide, then the tumour



cells and the tumour cannot get any bigger either. If we could specifically prevent the formation of mitotic microtubules we would have another, more selective tool for attacking the dividing tumour cells” explains Sylvain Meunier, CRG researcher and one of the authors of the work. He emphasises that if the treatment targets were the specific mitotic microtubules, the treatment would affect only dividing cells and not the rest of cells in which microtubules may also have relevant functions. <

CITIZEN SCIENCE

LUIS BEJARANO

At the end of January, the CRG and the “la Caixa” Foundation launched the “*Saca La Lengua*” project, that literally means “Stick out your tongue”. It is the first citizen science project from our institute, and is aimed at studying the mouth’s microbiome and its possible relationship with lifestyle.

After travelling 7,000 km across Spain, taking *Saca La Lengua* to more than 2,000 school children, we are now collecting the experiences of Luis Bejarano and the other participants in the project.

Communications: What was this experience like?

Luis Bejarano: It is something totally out of the ordinary. You have to teach and draw people in at the same time. You need to win over the kids and constantly keep their attention.

C: You have travelled across most of Spain. Have you noticed any differences between regions, or big cities and rural areas?

L.B.: I didn’t notice any regional distinctions but, yes, there are differences between the most urban zones, particularly big cities, and the little towns.

Although at first the young people in the cities seem more outgoing, the kids in the countryside ask more questions and are more curious. At times they had me on the ropes! There are other factors, too, that highlight big differences. For example, the ages of the children, and the teaching team behind them.



a CRG scientist who has been travelling across Spain for the *Saca La Lengua* project

C: What was your daily routine like?

L.B.: I got up at 6.30 to get to the school on time.

Once in the school, I gave a talk and led the saliva extraction and data collection. That took me all morning. Also, I travelled with a centrifuge so I could deal with the samples on the spot. After lunch, I drove back and prepared the material for the next day (tubes, labels, contacting teachers and talking to the press).

C: What a lot of work! Was it stressful for you?

L.B.: It wasn’t stressful but it was pretty labour-intensive. I only suffered if I didn’t get to the school on time, especially in the big cities. It is not easy to handle and successfully park such a big van!

C: What were best and worst things about your adventure?

L.B.: The best thing was the fantastic experience. The worst thing was spending so much time away, out of contact with my friends. Although I made new ones. I didn’t spend my expenses budget because I was always invited to dinner!

C: Have you brought any anecdotes back with you?

L.B.: In the talks I spoke about what the daily life of a scientist is like. I remember the kids asked about everything, even how much money I earn.

I also had some surprises related to the project. For example, when they were filling in the information questionnaire, someone asked me if rabbits and hens are pets as they have some living in their gar



den. Surprisingly, only one boy managed to swallow the mouth rinse solution.

C: What do you think we have given to the students who took part?

L.B.: The sensation of being part of something important, of decisively contributing to 21st century science. Also a knowledge of the microbiome and, particularly, the world of science and the life of scientists.

C: Why did you agree to take part in *Saca La Lengua*?

L.B.: Personally, for the challenge of something different, for field work, which is not that usual for a molecular biologist. A biological “lab coat” and “boot” fusion. Also the trip, to present our work and the research at the CRG.

C: What are you going to miss?

L.B.: (Laughing) “Amparito”, the voice of the blonde in the GPS! No, seriously, I’ll miss the fact of being somewhere knowing I am independent, and going from place to place getting to know interesting people and discovering incredible spots! <



CITIZEN SCIENCE



Annick Labeeuw, *Saca La Lengua* project manager, CRG

Citizen science in biomedicine is not very typical and achieving the *Saca la Lengua* project is real challenge on all levels: scientific, communicative and participatory. As an expert in dissemination, I am really happy to face the challenge so more people actively take part and get a broader and more

positive view of science and research. I am also convinced that it will be equally rewarding for the science itself. A true win-win scenario. It is fantastic to be involved in this paradigm shift and in the collective building of knowledge where everything adds together and has a huge multiplying effect. <



Núria Andreu, technician, CRG Genomics Unit.

For me this project is a challenge on several levels. On the one hand, there is the challenge to explain daily life in our laboratory to the general public: revising technical content and training teaching staff is something new for

me. On the other hand, on a technical level, it is different to work with so many samples in our service, and the tight schedule is somewhat worrying. <



Toni Gabaldón, scientific director of *Saca La Lengua* and CRG group leader.

For me, *Saca la Lengua* means an about turn. I am used to presenting scientific results to society after the research has been done, and always filtered through a journalist. The fact of involving society and establishing this di-

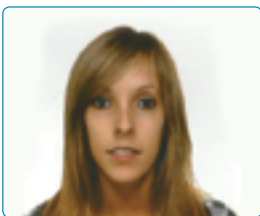
rect dialogue from the off has been a radical change for me. We hope they'll still be interested when it is time to handle and analyse the data at the bioinformatics level. <



Javier Hidalgo, head of the "Science in Society" programme of the "la Caixa" Foundation.

At the "la Caixa" Foundation's "Science in Society" programme we are putting in a huge effort to make people aware of the latest advances in science and also, as with the *Saca La Lengua* project, to involve all of society in the processes

generating scientific knowledge. Experiments like this in which scientists need young people to help with their investigation are crucial to establishing this nexus or connection between research, education and society. <



Lucia Eroles, participating teacher, Hogar Buen Consejo School (Madrid)

Participating in *Saca La Lengua* has been a fantastic experience. For the students it has been a unique opportunity, very positive and enriching. We will continue working with the material that you have offered us and we want to say

how pleased we are with the work of Luis Benjarano. He is a great communicator who connected really well with the students (and that is far from easy). In the future, please, get in touch with us again! <



TRAINING

CAREER DEVELOPMENT – HANDS-ON PROJECT MANAGEMENT AT THE CRG INTERNATIONAL AND SCIENTIFIC AFFAIRS DEPARTMENT

Joana Ribeiro

Originally a laboratory technician with a PhD in Biomedical Sciences, I recently started to explore alternative careers in science. To find what opportunities there are related to research support outside a laboratory setting, I networked widely and hunted for career stories in science blogs. The next step was looking for informal training in these positions to experience some of the responsibilities and challenges the professionals in these jobs face every day. Thanks to the support of my group leader Gian Tartaglia, I was able to join a CRG career development initiative offered by Michela Bertero, head of the International Scientific Affairs (ISA) department. ISA gave me the opportunity to manage a short-term project while gaining hands-on project management and scientific administration

experience. In the ISA department I discovered a team with a blend of management, communication, and organisational skills. This team supports CRG scientists in building and exploiting international partnerships, manages collaborative research projects, and provides training opportunities. Together with Sonja Reiland, project manager in the ISA team, I organised a scientific writing workshop for PhD fellows from the European training network FLiACT. This internship was very rewarding as it connected me with different aspects of a project, namely planning and implementing an event, managing resources, coordinating different working groups, and final reporting. Along the way I also faced challenges like setting up an efficient communication strategy for an international network. Most importantly, while organising a valuable workshop for the FLiACT fellows' careers, I learned new competencies and grew professionally.

Note: The CRG communication and ISA departments continue offering short internship opportunities to residents at the CRG. If you are interested, please get in contact with the Training Unit, training@crg.eu. <

ALUMNI

JIA-MING CHANG



“I studied computer science for my Bachelor’s and Master’s degrees at the National Tsing Hua University in China. I remember that, during my interview at the CRG, I was so impressed, facing the sea from the 5th floor (you know, the beer session place). Then, I spent a few days in Barcelona as a tourist. At that moment, I realised I wanted to be more than a tour-

Postdoctoral researcher at the Institute of Human Genetics, CNRS in Montpellier

www.igh.cnrs.fr/equip/cavalli/

ist. So I came here. My stay at the CRG and in Barcelona was amazing!!! Although five-years is a bit long for a PhD, it is too short for a stay in Barcelona.

This city and its environment completely captivated me. Summer now makes me yearn for beach volleyball. I was the champion of the disaster league. You know, FCB is going to the semi-final of the Champion’s League. All I can do now is sit in front of the computer and watch the match alone.

I like the city and my stay was fantastic because of all these memories, but I also enjoyed the scientific environment of the CRG. I remember rushing around from

one seminar to another. They were all so interesting: a dream for a restless student! You can discuss science everywhere and anytime in meetings, group retreats, and so on. A three-month internship at the EBI allowed me to apply my research (of course, T-Coffee) in a practical application.

Now, I am a postdoc at the Institute of Human Genetics in Montpellier (France) and my research is not quite related to my PhD thesis. However, in some way, the broad training environment helped me get the position. I am not sure I can give any advice to students or postdocs. However, for PIs, yes. Beer sessions are good for the health. :P “ <

CRG & SOCIETY

CRG AT THE IV BIOLOGY TEACHING MEETING

On March 7, under the title “Il·lusiona’t amb la biologia”, get excited about biology, the Catalan Biology Society held the IV Biology Teaching Meeting. The purpose of the meeting is an exchange of experiences between biology teachers, with the aim of making them aware of all the exciting activities available in the field of biology, both from the point of view of the institutes that organise them and the teachers and students

who take part. Annick Labeeuw, from the CRG Communications Department participated in the round table between centres that organise exciting activities for school children.

Once again, the CRG’s innovative educational offer was recognised, along with the desire of the team responsible to keep on making it better. The roundtable resulted in a lively discussion on the limitations faced by both research centres and teachers when proposing educational activities. As well as this, the conference addressed issues such

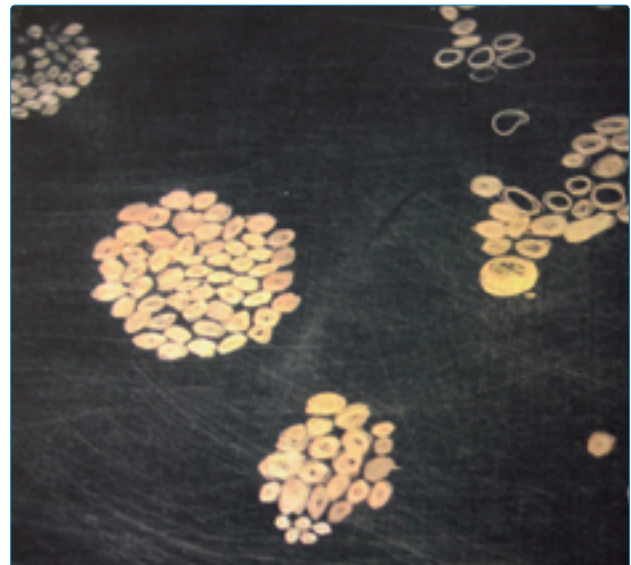
as: “How can our teaching staff encourage adolescent students when it comes to biological sciences?”, “What strategies do we apply when training the biologists who, very soon, will have to meet the demands of a society increasingly dependent on the application of new scientific discoveries?”, and “How do we light the spark for science, promote curiosity and stimulate interest in research among young people?” <

‘THE ART OF STEM CELLS

Veronica Raker

During the 4th Annual Meeting of the 4DCellFate project (from the Di Croce lab), we had an exclusive exhibit of pictures based partly on images of cells from the project. The engravings are the work of Ana Cid, a Barcelona-based Spanish artist, who has recently been greatly inspired by images produced by biological research—images that we as scientists view mainly as a means-to-an-end for obtaining our results. It is striking, however, how easy it is to appreciate the aesthetic beauty of functional images once they have been re-interpreted.

Ana’s work was on display throughout January and February in the PRBB hall. If you missed it, please, feel free to check out her work on her website www.acid-factory.com. <



YOUNG SCIENTISTS IN THE PROTEOMICS UNIT

In March, 50 boys and girls in their 4th year of primary school at CEIPM Tres Pins in Barcelona visited the Proteomics Unit at the CRG and UPF. As part of an activity organised by the PRBB, the school kids got to know the park, interviewed a researcher at the Institute of Evolutionary Biology (IBE), observed zebrafish accompanied by a technician from the PRBB animal

house, and finally visited the Proteomics Unit (CRG-UPF).

Cristina Chiva and Eva Borràs showed them the new facilities of this unit, on the 4th floor, and explained some basic concepts about proteins to the young people. The kids learnt, for example, what proteins are, what their structure is, their function, and why it is important to study them.

In the classroom, the boys and girls thought back about the visit and ex-

pressed it in drawings. Some are particularly unusual regarding the perception that children have about the world of research! <



WELCOMES

We warmly welcome:



Julia Ponomarenko joined the CRG as Head of the Bioinformatics Unit. Dr. Ponomarenko graduated from Novosibirsk State University and completed her PhD in Biology at the Institute of Cytology and Genetics in Russia. She has 15 years of experience in planning, organising and conducting biomedical research, leading large multi-disciplinary teams of scientists and programmers developing complex bioinformatics solutions. Before coming to the CRG she was working as Project Investigator at the University of California, San Diego, US.

Sebastian Baumann (Cytoskeleton Dependent RNA Distribution Mechanics) Barbara Pemaute and Laura López (Transcriptomics of Vertebrate Development and Evolution), Bernat Serra and Roger Olivella (Proteomics Unit), Alexandros Nikolaou (Grants Office), Álvaro Castells (Reprogramming and Regeneration), Alicia Broto (Design of Biological Systems), Fátima Idrissi and Virginia Robles (Organelle Biogenesis and Homeostasis), Nicola Brownlow (Coordination of Cytokinesis with Chromosome Segregation), Catalina Romero (Genome Architecture), Alexandra Rizou (Legal Department), Luis Bejarano and Laura Prat (Communication and PR Dept.), David Morrow (Tech Transfer), Cecilia Coimbra (Computational Biology of RNA Processing), Georgina Garrido (Microtubule Function and Cell Division), German Patterson (Cellular and Systems Neurobiology), Marc Garcia (Epigenetic Events in Cancer), Lara de Llobet (Chromatin and Gene Expression), Juan Carlos Company (Bioinformatics Unit), Laura Vives (Genomics Unit), Hikaru Kobayashi (Mechanisms of Cancer and Aging) and Joel Segovia (Management).

FAREWELLS

Our best wishes to:



Heinz Himmelbauer has been leading the CRG Genomics Unit since 2008. He left Barcelona and the CRG on March. He has moved to the Vienna Institute of Biotechnology, within the University of Natural Resources and Life Sciences in Vienna, where he holds a full professor position.

Dina Silva Cramer (Design of Biological Systems), Neus Romo and Frederic Lluís (Reprogramming and Regeneration), Jean-François Taly (Bioinformatics Unit), Blanka Wysocka (Communication and PR Dept), Laura Buxó and Montserrat Serra (Organelle Biogenesis and Homeostasis), José Arco (Management), Thomas Gener (Cellular and Systems Neurobiology), Ivan Junier and Gaetano Verde (Chromatin and Gene Expression), Darek Kedra (Comparative Bioinformatics), Romain Derelle and Inna Povolotskaya (Evolutionary Genomics), Mauricio Moldes (EGA), Natalia Czerniak (Biomechanics of Morphogenesis), Oliver Drechsel (Genomic and Epigenomic Variation in Disease), Kamil Makowski (Regulation of Alternative pre-mRNA Splicing during Cell Differentiation, Development and Disease), Samuel Reid (Sensory Systems and Behaviour) and Adam Klosin (Genetic Systems).

DIARY

19-22/05/2015 – European Light Microscopy Initiative

15th International ELMi Meeting
Hotel Melià Sitges, Sitges, Barcelona (Spain)
www.elmi2015.eu

25-27/05/2015 – Meeting

Quest for Orthologs 4
PRBB Auditorium, Dr. Aiguader 88, 08003 Barcelona (Spain)
<http://genome.crg.es/~tgabaldon/QfO4/index.html#>

14-19/06/2015 – Courses@CRG

Practical Summer Course: Modeling for Systems Biology
CRG, Dr. Aiguader 88, 08003 Barcelona (Spain)
www.crg.eu/SB_Summer_Course_2015

29/06-03/07/2015 – Courses@CRG

Advanced Proteomics Course for Molecular Biologists and Clinicians
CRG, Dr. Aiguader 88, 08003 Barcelona (Spain)
www.crg.eu/proteomics_course_2015

13-19/09/2015 – Courses@CRG

Introduction to C. elegans
CRG, Dr. Aiguader 88, 08003 Barcelona (Spain)
www.crg.eu/event/coursescrg-introduction-celegans

17-22/10/2015 – EMBO Conference

Exploring the Genomic Complexity and Diversity of Eukaryotes
Hotel Eden Roc, Port Salvi 57, 17220 Sant Feliu de Guixols (Spain)
<http://events.embo.org/15-eukaryotes/>