

## The Second Frontier

Welcome to the second newsletter of the ESF Frontiers of Functional Genomics research network programme, or FFG, where you will find details of our forthcoming events, Bertrand Tavitian takes us to a great height for a good look at nano-objects, and Jonas Hälldin tells us of his experiences on an ESF FFG exchange grant to Estonia. Would you be able to meet the challenges of lab life in a different country? Then read on – details of the new call for applications can be found below.

Following our recent call for proposals we have 6 new science meetings to add to our packed events list. In fact, 2008 is going to be our most eventful year yet, with a staggering 17 events. Together with providing support for 20 researchers travelling to different labs across Europe this year alone, this makes the FFG programme one of the biggest within the ESF.

The highlight of our year will of course be the 3<sup>rd</sup> Functional Genomics & Disease Conference which will be held in the heart of the Austrian Alps in Innsbruck on 1-4 October 2008. It is sure to be a stimulating and enjoyable few days so do join us there!

### Apply for science meetings and travel grants

FFG invites proposals from organisers of science meetings to be held in 2009 on topics with a clear connection to the programme. Priority is given to events taking place in countries that financially support the programme and especially those who have not yet hosted a meeting: Denmark, Luxembourg, Poland and Switzerland.

FFG is also offering a number of **Short Visits** and **Exchange Grants** (up to 6 months). Projects must be within the scope of the programme and start during 2008 or 2009. Priority is given to applicants coming from and intending to visit labs in countries that support the programme.

Countries currently supporting the programme are Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Luxembourg, Netherlands, Norway, Poland, Spain, Sweden, Switzerland, Turkey & UK.

**Deadline for submission of proposals is Friday 19 September 2008 17:00 CET.** There will be a further call for proposals in spring 2009. For further information and to apply online go to [www.esf.org/ffg](http://www.esf.org/ffg) or for regular (but not too regular!) updates on events and funding opportunities join our email list at [www.functionalgenomics.org.uk/sections/contact/join.htm](http://www.functionalgenomics.org.uk/sections/contact/join.htm) or contact [cheryl.smythe@bbsrc.ac.uk](mailto:cheryl.smythe@bbsrc.ac.uk).

## Future Events 2008

Angiogenesis in Cancer and Cardiovascular Diseases, Helsinki, Finland 28-29 August

The Computational Challenges of the Next Generation DNA Sequencing, Uppsala, Sweden 14-16 September

Dynamics of Cell Signal Systems, Oslo, Norway 25-29 September

**Functional Genomics & Disease, Innsbruck, Austria 1-4 October**

2<sup>nd</sup> Central and Eastern Proteomic Conference, Jena, Germany 12-15 October

Ortholog Databases, Cambridge, UK 23-24 October

22<sup>nd</sup> International Mammalian Genome Meeting, Prague, Czech Republic 2-5 November

Development of Standards-Compliant Tools for Molecular Interaction Data Management, Hinxton, UK 16-19 November

For scientific reports from all our past events, please go to our website [www.functionalgenomics.org.uk](http://www.functionalgenomics.org.uk).

## 3<sup>rd</sup> Functional Genomics & Disease Conference

Innsbruck, Austria, 1-4 October 2008



The early registration deadline for this exciting conference is nearly here! Student early registration fees are only €95. So if you would like to benefit from the discounted rates, please **register before 30 June**.

There is an outstanding line up of speakers with plenaries from Mathias Uhlén, Giulio Superti-Furga, Steve McCarroll, Ewan Birney, Olli Kallioniemi, Kerstin Lindblad-Toh, Mark McCarthy, Tom Tuschl, Mike Stratton, Patrik Brundin, Nico Katsanis and Mike Snyder.

The symposia sessions are hosted by EC FP6 and FP7 consortia and cover many aspects of functional genomics from systems biology and genome annotation to RNAi and lipidomics.

For further information and to register, please go to [www.esffg2008.org](http://www.esffg2008.org).

## Looking at the very small from the very tall

Bertrand Tavitian

Created by the European Society for Molecular Imaging, TOPIM (Hot **TOP**ics in Molecular **IM**aging) is an annual workshop designed to bridge the gap between classical meetings, open to all but that usually present already published data, and meetings that concern small circles of experts from which stem only general ideas or recommendations. TOPIM has a strong educational motivation, encouraging the participation of students and young scientists, and focuses on research at the interface between *in vivo* imaging and new fields of science.



TOPIM'08 focused on Imaging of Nano-objects and was held in the Chamonix Valley. It brought together 75 scientists from academia and industry from 14 countries. By assembling experts from disciplines such as biology, physics, chemistry, mathematics, TOPIM'08 adopted a multidisciplinary approach representative of nano-science. The aim was to stimulate extensive exchanges about the conception, the functionalisation and the physico-chemical properties of different nanoparticles, the possibilities for *in vivo* imaging of nano-objects, and the description of different applications in the fields of therapeutic and *in vivo* diagnostics.

Nano-objects with interesting physico-chemical properties for *in vivo* applications were presented, i.e. quantum dots, carbon nanotubes, polymeric nano-sized lipidic rings, gold and diamond nanoparticles, with focus on their *in vivo* applications, in particular the means by which they can be functionalised for imaging.

Throughout the workshop, the main concerns regarding the use of nano-scaled objects during drug targeting, delivery and release covered issues related to improvement of their stability in the biological environment, to mediation of the bio-distribution of active compounds, and to improvement of drug loading, targeting, transport, release and interaction with biological barriers. Among all the exciting discussions, the cytotoxicity of these promising nano-objects or their degradation products appeared to be one of the most important points of this new research area and improvements in biocompatibility the key domain for future research.

27 invited speakers illustrated their efforts to build and functionalise new nano-objects in order to achieve long circulation time, good biocompatibility and low immunogenicity, efficient penetration of physiological barriers, selective targeting, external activation or self regulating drug release. 13 students and young researchers were also given the opportunity to present their research data and provide a more applied view of this research area.

## Estonian exchanges

Jonas Hälldin

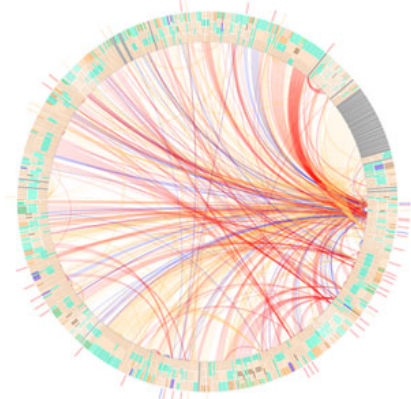
I arrived to Tartu, Estonia in January this year. Curious. Big eyes. Shaky. Three months of post-doc training in a foreign lab funded by an ESF exchange grant. Winter. A town swimming in Christmas decorations and lights. A gigantic Christmas tree on the town hall square. Ice on the river. Ice on the pond close to the lab.

After visits to various public authorities, I started work in Andres Metspalu's lab at the department of biotechnology on gene expression analysis. Since I have been working in the same lab at Stockholm University for more than seven years, it was a big and healthy challenge to do something completely different in a totally new environment - both socially and professionally. And since I have been living in Stockholm all my life and also have my children and family there, the social change was the greatest challenge to deal with. But after a couple of turbulent initial weeks it all turned out very well (my wife and kids are still talking to me without any detectable bitterness!). Regarding the work, it was amazing how easy it was to move from one lab to another, even if it is located in a totally different country. Natural science and research is very international. People in the Estonian lab of course publish in English and speak it more or less fluently. And since the terminology within my field of research is English, or derived from English, the transition of moving from one lab to another, even though they are located in different countries, was easy.

When I left Tartu more than three months later it was spring. A more beautiful, slightly greener town. The pond close to work packed with ducks. No ice on the river.

## Steering committee spotlight

Alfonso Valencia is the Spanish representative on the FFG steering committee and, together with Mike Taussig and Antoine de Daruvar, was one of the founders of the programme. Having completed his BA and PhD in Madrid, he travelled to Heidelberg and Bethesda for post-docs. Back in Madrid, he is now the director of the Structural Biology and Biocomputing Programme at the Spanish National Cancer Research Centre with a group of about 20 bioinformaticians, engineers, computer scientists and biologists. Alfonso is not only a high flyer, but a frequent flyer - travelling the globe sharing his passion for text mining, synthetic biology and structural genomics. When not at 37 thousand feet, he enjoys bringing art together with science (see right and with thanks to [www.moebio.com/santiago/gnom](http://www.moebio.com/santiago/gnom)).



Compiled and created by Cheryl Smythe, FFG Co-ordinator