

The Fifth Frontier

Welcome to the latest newsletter of the ESF Frontiers of Functional Genomics research network programme - FFG.

Following our recent call for proposals we have news of new events in functional genomics for 2009. And do remember, if you can't attend one of our meetings in person, you can always read the meeting report at our website. Or perhaps you have an idea for a meeting – then send us your proposal before the 25th September.

In this newsletter, two scientists share their experiences of our programme exchange grant scheme: Tiit Nikopensius travelled from a dark Estonian winter to Bonn to carry out MALDI-TOF genotyping to follow up some genome wide association studies, and for Marta Hoffman-Sommer it took her from yeast cell biology in Warsaw to mathematical modelling in Berlin. Both benefited from learning new things - scientifically and culturally. Also in the Fifth Frontier, Henning Hermjakob reports how he brought together people and molecules within the PSICQUIC concept. It's pronounced "psychic", but fortunately it uses solid computing rather than extrasensory power! Finally we find out more about our Polish steering committee member and her 50 year passion for yeast.

Apply for science meetings and travel grants

FFG invites proposals from organisers of science meetings to be held in 2009 or 2010 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 2009 or 2010. Priority is given to applicants coming from and intending to visit labs in countries that support the programme.

Short Visit Grants will now also cover support for attending practical courses (but unfortunately not workshops or conferences), in the area of functional genomics.

The deadline for submission of proposals is **Friday 25 September 2009 17:00 CET**. There will be another call for exchange grant proposals at the end of the year and for science meetings in spring 2010. For further details and to apply online go to www.esf.org/ffg or for regular updates on events and funding opportunities contact cheryl.smythe@bbsrc.ac.uk or join our email list at www.functionalgenomics.org.uk/sections/contact/join.htm.

Future Events 2009

Quest for Orthologs, Hinxton, UK, 3-5 July

Computational Methods for RNA Analysis, Benasque, Spain 26 July – 8 August

Summer Institute for Statistical Genetics, Liege, Belgium 31 August – 9 September

14th European Congress on Biotechnology, Barcelona, Spain 13-16 September

2nd Central and Eastern Proteomics Conference, Budapest, Hungary 6-9 October

Quality Control in Proteomics Workshop, Hinxton, UK 25-27 November

For scientific reports from our past events, please go to our website www.functionalgenomics.org.uk.

Yeast meets west

Marta Hoffman-Sommer

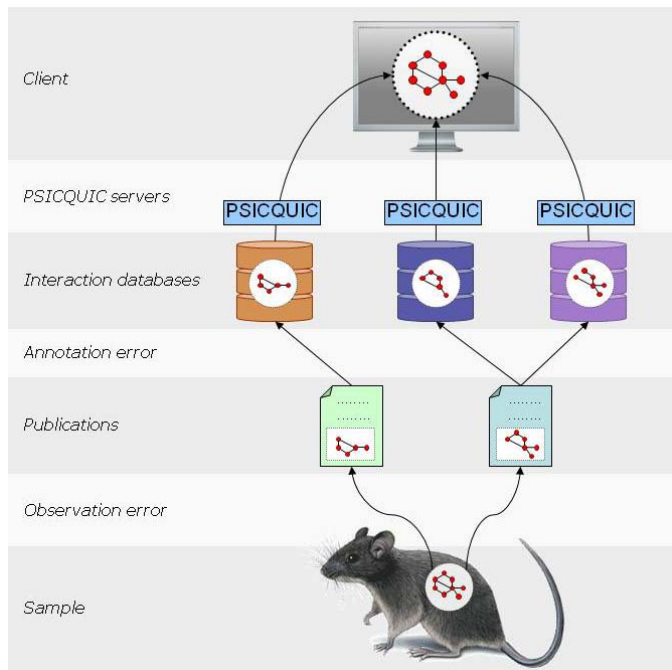
I arrived in Berlin in October. As an ESF Exchange Grant holder, I was leaving my group in Warsaw and going to work for 4 months in the group of Edda Klipp at the Humboldt University. The research field was completely new to me: I was a trained biologist, with a PhD in yeast cell biology, and here I was supposed to build a mathematical model of the yeast MAPK signaling system. All my previous knowledge of modeling was from a 3-week course earlier that year. Would I manage? How far would I get in 4 months? The group I joined in Berlin was very large – more than 20 people – and the atmosphere there was great. There was always someone ready to answer all my questions. Thanks to them, I really managed to learn a lot during the relatively short time available. And since members of the group work on different topics and use different methods, I also learned things not related to my own project – I got an idea about many aspects of mathematical modeling in biology that were completely new to me. At the same time, I could help others in the group by explaining biological concepts; this surprised me at first, since after 7 years of working in an experimental yeast group, I seemed to have forgotten that some people were not familiar with yeast biology, and that I myself had some knowledge that I could share.

The winter in Berlin proved a pleasant experience in every way. I thought I would be going home to Warsaw every now and then, for a weekend. But it turned out the other way round: instead of me going to Warsaw, it was my husband coming to Berlin – it was so much more interesting to have a weekend together there, visiting the city or spending time with friends. And though it would have been tiring if it lasted much longer, 4 months were actually fun for both of us.

Networking networks

Henning Hermjakob

A select group of molecular interaction software developers met last November at the European Bioinformatics Institute for the "Development of standards-compliant tools for molecular interaction data management". The training workshop, co-organised by the HUPO Proteomics Standards Initiative (PSI) and the ESF, united 17 software developers from major interaction data resource providers with the aim of developing open standards and software for management of molecular interaction data.



The PSICQUIC Concept
With kind permission, Rafael Jimenez, EBI

The workshop focused on PSICQUIC, a standard interface for computational access to molecular interaction databases. This interface allows software to build an up-to-date view of molecular interaction data around a topic of interest, constructed "live" from contributions of multiple resources. As an example, a network visualization system like Cytoscape (www.cytoscape.org) could show the interaction network around the target "BRCA2" with 5 interaction reports from IntAct (www.ebi.ac.uk/intact), 3 from MINT (mint.bio.uniroma2.it/), and 4 from DIP (dip.doe-mbi.ucla.edu/dip/). Multiple reports of an interaction going back to the same publication can be resolved using the iRefIndex system (irefindex.uio.no/wiki/iRefIndex), and the approach can comfortably integrate data from commercial providers, who might only make their data available to paying customers. Most importantly, however, information can always be provided up-to-date, rather than delayed due to different release cycles of interaction data resources.

In the workshop, the PSICQUIC definition was finalised, and existing prototype software developed further and adapted to the needs of participants. As a result, several PSICQUIC implementations are already available, and a manuscript is in preparation. Participants are staying "networked", and a follow-on workshop is planned.

GWAS in blossoming Bonn

Tiit Nikopensius

I left Tartu in early January as an ESF Exchange Grant holder, to make a "leap of faith" to reach my destination – Bonn, the former capital of West Germany. Nordic winter with seemingly eternal darkness was left behind. The most recent finding(s) from GWAS conducted by researchers at my host institution – the University of Bonn, led by Prof Markus Nöthen – warranted replication samples to be analysed in order to confirm genome-wide significant associations from the discovery study. And here I was – on the left bank of the Rhine – crossing the border with DNA from our case-control sample, anticipating a positive outcome from this new challenge in my scientific career. During my stay everything in the lab worked out well – a warm welcome and stimulating working environment gave me extra motivation. Researchers in human genetics communicate in English, so language barriers were not a matter of concern. I was completely integrated as a member of the research team and was invited to join the special events in the lab and public holidays like the famous Rhine carnival celebration. So, with the excitement of successful results in the lab and discovering tourist attractions and local cuisine in the lovely city of Bonn (and Cologne), there were no signs of getting home-sick, especially with the appearance of the first Bonn blossom which is a stark contrast to the terrible Siberian mid-March weather in Estonia. By the time of my return a draft manuscript with the best replication result was "in the bag". Discussions with distinguished scientists gave rise to new thoughts and opened new perspectives to start new intriguing projects and to establish further collaboration upon common interests and priorities in medical genetic studies.

Steering committee spotlight

Joanna Rytka is the Polish representative of the FFG steering committee. She has two passions in her life – people and yeast and she even describes the latter as "nearly human – they just don't have a liver and brain"! Over her 50 year career, she has witnessed, and been part of, the birth of yeast genetics and genomics, with her group contributing to the first ever genome sequencing project and has found constant inspiration from Piotr Slonimski who sadly died earlier this year. Like all scientists, she has had some surprises in the lab – her first was when she travelled from the lab where she carried out her PhD in Warsaw to work in Cornell as a post-doc with Gerry Fink. There she discovered a machine that made ice; she no longer needed to make it using an ice cube tray and hammer as she was used to back home! Her next was coming across disposable pipettes – again unheard of in Warsaw at that time. In 1970 she returned to Poland to the Institute of Biochemistry and Biophysics, purchased an ice machine and some disposable pipettes and has happily worked there ever since. Presently her lab is engaged in a project of sequencing and functional analysis of the *Paramecium tetraurelia* genome and she is bringing the world of yeast to the beautiful Masurian Lake District in Poland in 2011 for the 25th International Conference on Genetics and Molecular Biology of Yeast.

Compiled and created by Cheryl Smythe, FFG Co-ordinator