



### EU funding

## European Money for US Scientists?

Liselotte Højgaard, chair of the standing committee of the European Medical Research Councils (EMRC), put this question up for discussion at the annual EMRC meeting in Stockholm last month. Under current arrangements, researchers based outside of Europe cannot apply for EU funding. The funds of the newly created European Research Council (ERC), for example, are restricted “to any scientist (of any nationality) based in the EU”.

Liselotte Højgaard, head of the department of clinical physiology and nuclear medicine at Rigshospitalet, Copenhagen University Hospital, calls this situation “utterly unfair”, as on the other hand researchers based outside of the USA can apply for NIH funding. In 2007 so far, for example, 188 NIH grants have gone to researchers outside of the USA. A privilege Højgaard has also already enjoyed. “I have personally applied for NIH funding and I have really appreciated it,” she was quoted in *The Scientist*.

Meanwhile, since the discussion began, voices of cautious agreement have been heard. Christian Bréchet, director general of the French agency INSERM, for example, stated that some US researchers should be able to apply for EU funds. “It should

be restricted, however, to projects that will lead to exchanges between US and European researchers or to specific actions where you could really foresee the benefits,” he added.

Colin Blakemore, chief executive of Britain’s Medical Research Council, thinks that it is unlikely that European Commission (EC) funding could be opened up internationally on a purely competitive basis. Nevertheless, he pointed out that Europe could benefit from the establishment of reciprocal funding arrangements with other countries. European funding could be considered, for example, for researchers who can offer expertise or resources that are not available within Europe or in the context of topics of particular importance to European citizens.

Since the majority of the EU programmes are about collaboration, EC officials claim that US-based researchers are already allowed to be included in collaborative research networks funded by the EU. Moreover, the EU is indeed currently discussing widening the accessibility of EU grants to international teams.

Actually this would be one step closer to reality, as Liselotte Højgaard quite rightly states - “because science is global”.

### Paper retraction

## It’s not the Messenger?!... Messenger?!...!

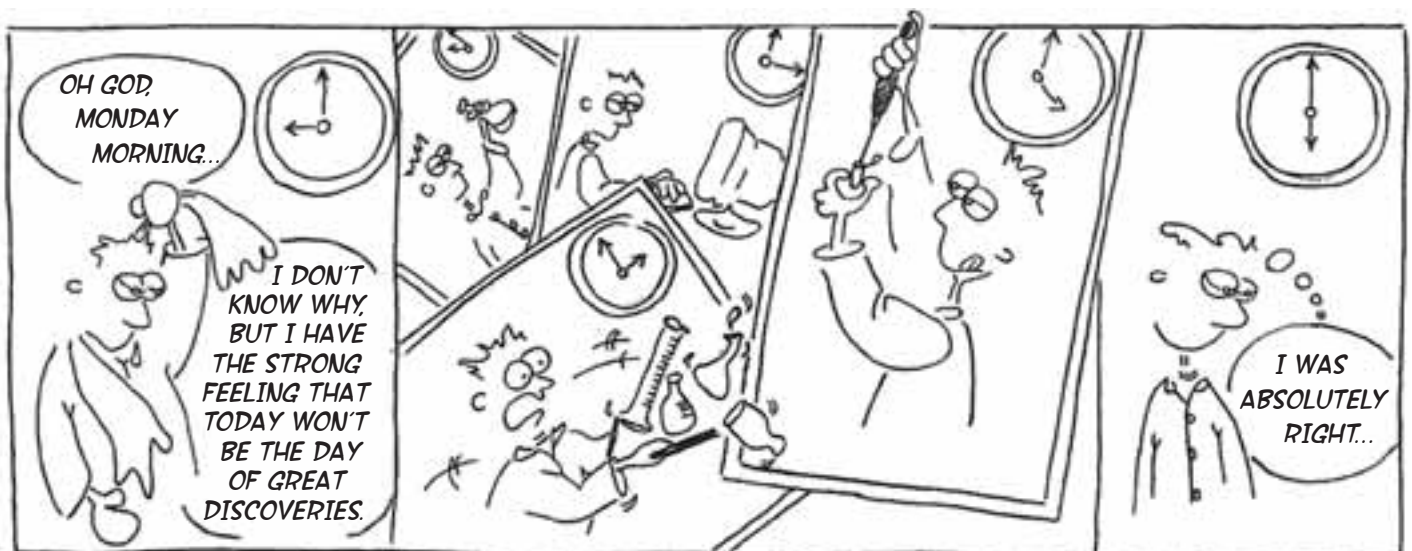
During the last three months 42 year old Ove Nilsson, director of the Centre for Plant Development Biology at Umeå Plant Science Centre, has experienced the absolute extremes of being a research group leader. In February, the professor at the Department of Forest Genetics and Plant Physiology was selected to be awarded the Marcus Wallenberg prize worth 2 million kroner by the Swedish King in autumn. According to the Marcus Wallenberg foundation Nilsson earned the prize “for his path breaking discovery on the regulation of flowering in trees and its translation into tree growth and development.”

Most crucial for the jury’s decision was a 2005 *Science* paper by Nilsson’s group, which the *Science* editors later included in their annual “Breakthroughs of the Year” list. The paper describes how the mRNA of the FLOWERING LOCUS T (FT) gene is being transported from Arabidopsis leaves to the shoot apex. In the apex cells the corresponding FT protein is synthesised from the mRNA, which subsequently triggers flowering. The authors, therefore, concluded that the FT mRNA is an important component of the elusive “florigen” signal.

In April 2007, however, *Science* published the retraction. Nilsson’s group had found that first author Tao Huang, a Chinese guest researcher, had deliberately tampered with the data. “Certain data points were removed, while other data ▶▶

BY RAFAEL FLORÉS

## PAUL THE POSTDOC



## Recently Awarded

► **Marc Feldmann** of the Kennedy Institute of Rheumatology in London received the lifetime achievement award at this year's **European Inventor of the Year Awards**, which are instituted by the EU Commission and European Patent Office. In the 1980s Feldmann and his colleagues discovered that increased cytokine counts constitute the main cause of the body's aggressive reaction in autoimmune diseases such as arthritis. Furthermore, they found that all the different cytokines could be stopped by blocking one kind, Tumour Necrosis Factor alpha (TNF- $\alpha$ ). Since the method was patented in 1995, TNF- $\alpha$  inhibitors have become the therapy of choice for stopping the inflammatory and tissue-destructive pathways of rheumatoid arthritis and other autoimmune diseases. However, Feldmann's discoveries are not exactly a European success story, though. Much of the financial benefit from them has since been seen on other continents. "At the time European companies were reluctant to get involved," recalled Feldmann. "They had not yet understood the importance of taking risks, and what they can lead to."

► The Hamburg Körber Foundation is awarding this year's **Körber Prize for European Science** to chemist **Peter Seeberger** from the ETH Zurich. Working at the interface between biology and chemistry Seeberger and his team developed a "sugar machine", which automatically synthesises carbohydrates. The instrument efficiently reduces the production time for a single complex sugar from months or years to less than one day, thus significantly speeding up basic research and the development of new diagnostic tools and synthetic sugar-based vaccines. Using their automated oligosaccharide synthesiser, Seeberger and his colleagues succeeded not only in chemically producing glycans of pathogens but also in developing a number of vaccine candidates, which have already demonstrated their effectiveness in animal experiments. The most promising one so far is a malaria vaccine that is to be tested on humans for the first time next year.

► points were given increased weight in the statistical analysis," Nilsson et al. wrote. "When all the primary real-time RT-PCR data are subjected to correct statistical analysis, most of the reported significant differences between time points disappear."



Incidentally, three weeks later *Science* published the results of two groups from Germany and Japan clearly showing that it is indeed the FT protein, which is transported from the leaves to the shoot apex. Nevertheless, Tao Huang, who left the Swedish university soon after publication of the *Science* paper, stood by his results and refused to retract the paper. "Chinese researchers are under a lot of pressure from their country and are expected to produce a maximum amount of results in order to get a job," Nilsson was quoted as telling *Dagens Nyheter*.

In addition to the formal retraction, Nilsson issued apologies to other researchers. "This is among the worst things that

can happen to a research leader. But I am grateful that we detected this ourselves," he wrote.

Denmark

## Protein Power

The University of Copenhagen must feel like a jackpot winner. Last month the Novo Nordisk Foundation announced that it would provide 600 million kroner – the largest ever donation to Danish research – to build a new centre for protein research at the university's Faculty of Health Sciences.

After opening in 2008, the Novo Nordisk Foundation Center for Protein Research will run a high throughput facility to express, purify and analyse proteins. The focus will be on proteins implicated in human disease which therefore might serve as targets for diagnostics or therapeutics.

Five research teams will work in this "advanced equipment park". One of these will be led by Matthias Mann, a pioneer of mass spectrometry-driven proteomics from the Max Planck Institute of Biochemistry in Munich. He will not quit this position but rather run independent groups at both institutes. Another lead investigator is Søren Brunak, who is currently running one of the largest bioinformatics departments ►►

## What's Your "Watson Number"?

*It was meant to be just a funny game and the members of the American Society of Pharmacology and Experimental Therapeutics (ASPET) played it with a passion at the Experimental Biology meeting in Washington, DC.*

*The "game" is based on the theory of the "Six Degrees of Separation" which refers to the idea that anyone on the planet can be connected to any other person on the planet through a chain of acquaintances that has no more than five intermediaries.*

*Why not apply the same principle to connect scientists through chains of co-authorship, thought David Bylund of the University of Nebraska in Omaha. So he asked his pharmacology fellows, "How closely are you related to John J. Abel, who isolated adrenaline more than 100 years ago and is regarded as the field's founder?"*



*That meant, all co-authors of Abel's papers were assigned an "Abel number" of 1, anyone who co-published with one of these co-authors got an "Abel number" of 2 and so on. According to personal accounts many meeting attendees were finally sporting large badges proudly proclaiming their individual "Abel numbers" – even*

*if these expressed only connections rather than scientific prominence.*

*Nevertheless, low numbers were still perceived as conveying some stature. Therefore, the author of these lines couldn't resist trying to find out his own "Watson number" indicating his "relationship" to James Dewey Watson, the famous co-discoverer of the DNA double helix structure. It was a "5".*

*(And how many of you readers are going to jump up and start determining your "Watson numbers"?)* RALF NEUMANN

► in Europe at the Technical University of Denmark in Copenhagen.

The remaining three team leaders are still to be named. However, Ulla Wewer, Dean of the Faculty of Health Sciences, is already sure today that the centre will produce nothing less than “world class research”.

### Small RNA research

## Be Quiet Now!

Scientists from seventeen laboratories and companies from nine European countries are forming a new research consortium for studying the mechanisms of gene silencing by small RNAs and how they could be employed as therapeutic tools. The European Commission will fund the four-year project with 11.8 million euros under the Sixth Framework Programme. The name of the project is SIROCCO which stands for “Silencing RNAs: Organisers and coordinators of complexity in eukaryotic organisms”.

The first step of SIROCCO will be to characterise the full complement of micro

RNAs and small interfering RNAs in animals and plants in terms of how they are produced and processed, how they are transported and how they target specific genes and RNAs for silencing. At the same time, consortium members will try to assess small RNA regulatory networks and their interaction with other cellular control mechanisms.



“For example we need to ensure that an RNA targeted against gene X will only silence gene X and nothing else,” explains David Baulcombe, the leading partner of SIROCCO in the Sainsbury Laboratory at the John Innes Centre, Norwich. “When we can do that we will be able to use RNA as a drug without side effects. We also need to understand more about the role of silencing RNAs in normal growth and development. That information will then allow us to use the presence of silencing RNAs to diagnose disease states in a cell.”

### Letter to the Editors

## Women are better Referees

Dear “Owl” -- I enjoyed reading your article “The Ideal Referee” (*Lab Times* 2/ 2007, p. 14). I have just one small quibble. How do you know that your ideal referee was a “he” (“He epitomised exactly...”) ? I raise the question because, as an editor for *Archives of Virology*, I find that women are on the whole much better referees than men. They reply more consistently to requests to review, they are more likely to be on time and more often make constructive and useful suggestions for improving manuscripts. They are much less likely to produce a report like “referee #1” or to dash off a review without having read the manuscript.

I would be interested in hearing your comments.

**Tim Skern**

Max F. Perutz Laboratories, Medical University of Vienna, Austria

## Worm's Nerves

Whether on the belly or on the back side – a centralised nervous system apparently evolved only once.

**H**ave you ever wondered what a worm thinks? No? Well, if you have, it is of more interest to know “how” rather than “what”; at least if the worm you are thinking of is the common ancestor of today's animals, vertebrates as well as invertebrates.

Both lines go back to the same evolutionary roots, termed the Urbilateria, which lived about 600 million years ago in the ocean.

What the nervous system of this ancestor might have looked like – if he genuinely possessed one – has puzzled scientists for centuries. As the complex nervous systems of vertebrates on the one hand and insects and worms on the other show substantially different architectures, scientists have so far thought that both evolved independently after splitting up into the two lineages. The vertebrates' central nervous system

(CNS) is constituted by a dorsal nerve cord; their heart and other organs are located ventrally. In arthropods the situation is generally the opposite way round. They have a rope-ladder-like chain of nerve cell clusters on their belly side; and the heart lies on the back. In some invertebrates the nerve cells are diffusely distributed over the body.

Alexandru Denes and Detlev Arendt and colleagues from the European Molecular Biology Laboratory (EMBL) in Heidelberg recently discovered that the traditional opinion on the nervous system development probably needs to be revised (*Cell*, Vol. 129(2), p. 277). They studied the molecular patterns of the nervous system during embryonal development in the model organism *Platynereis*

*dumerilii*. This marine annelid worm is considered a “living fossil” as it lives in the same environment as the last common ancestors of worms and vertebrates and has preserved many ancestral features in its anatomy and development, amongst others a prototype invertebrate nervous system. Comparing their results with the known situation in vertebrates, the scientists revealed that the molecular



anatomy of the developing CNS shows general similarities. They found that *Platynereis*' neuroectoderm is subdivided into progenitor regions, which match corresponding domains in the vertebrate neural tube. In both the annelid worm and vertebrates, it is these regions that give rise to neuron types with similar molecular fingerprints which even later on also form the same neural structures. Similar to

vertebrates, the orientation of these neural structures seems to be defined by a Bmp (bone morphogenetic protein) gradient.

The study suggests that the remote common ancestor of vertebrates and invertebrates already had a centralised nervous system and thus supports a common origin of nervous system centralisation for both lineages. It just remains to be investigated as to why the early vertebrates turned themselves into an upside down orientation of their neural anatomy compared to their ancestors and how exactly the inversion occurred.

SUSANNE DORN

(More research results from European labs on p. 34-37)