Leiden University

Evolutionary Biologists Fired

Darwin wouldn't be amused. Worldwide, evolutionary biologists are celebrating the double anniversary of their great mastermind and are enjoying the raised profile of their field. At the same time, however, nine evolutionary biologists at Leiden University have come under attention of a completely different kind: they have been fired!

Without doubt, this was not what Dutch science minister Ronald Plasterk, a molecular biologist himself, had in mind last year when he shifted 100 million euros in research funding from the annual budgets of the universities to the NWO, the main grant institution in the country. In fact, he had hoped to raise the Netherlands' overall research quality by moving and forcing scientists to compete for grants. But he must have been aware that these changes in funding would inevitably affect the operational expenses of universities.

In Leiden, in the face of meagre financial buffering the budget cuts led to the dismissal of the following nine evolutionary biologists, working in the departments of Theoretical Biology and Animal Ecology of Leiden's Institute for Biology: Jacques van Alphen (Marie Curie Professor of Excellence), Tom Van Dooren, Frietson Galis (President of the European Society for Evolutionary Developmental Biology), Sacha Gultyaev, Patsy Haccou (Executive Vice-President of the European Society of Evolutionary Biology), Ken Kraaijeveld, Femmie Kraaijeveld, Hans Metz (retired, but still very active) and Rino Zandee. Their labs and offices shut down on March 1st.

The nine victims claim that they still haven't been given a satisfactory explanation as to why they were chosen and all other fields like, for example, molecular biology remained untouched. Frietson Galis told *The Scientist* that by concentrating on this one group only, the dismissals will wipe out Leiden's expertise and research in theoretical biology and advanced population modelling. "It's not possible anymore to have masters and PhD students who work at the population level, but that's necessary to study natural selection."

Of course, the nine are not willing to go quietly and have already hired a lawyer. Frietson Galis wrote in a comment to *Nature*, "The two groups that have to disappear, Animal Ecology and Theoretical Biology were financially sound, unlike several of the groups that can stay. In addition, 3 of the 6 innovation fellowships of the NWO awarded to the Leiden Biology Institute have been to Animal Ecology, with 2.5 to another evolutionary group and only 0.5 to molecular biologists. Furthermore, a Marie Curie chair of excellence has been awarded to a staff member of Animal Ecology. The fact that the choice was not based on financial and scientific criteria is one of the reasons for the legal complaints."

In addition, the research community has also come to their aid: Isabelle Olivieri of the University of Montpellier 2, President of the European Society for Evolutionary Biology, initiated an online petition to protest against the layoff which has already collected almost 3,600 signatures (*http://evodevo.eu/petition/*). The Royal Netherlands Academy of Arts and Sciences has also voiced its concern about the decision.

The numerous Darwin Year events throughout this year are likely to give the interest in evolutionary biology an additional boost. Celebrating Darwin in Leiden, however, might now seem like a bad joke.

In the meantime, another victim has emerged from the Dutch budget cuts. Utrecht University is determined to close down its Endocrinology & Metabolism and Toxicology & Neurobiology departments. University officials justified the decision by citing the considerably lower research performance of these departments when compared to their colleagues at Amsterdam and Nijmegen universities.

Austria's research budget

Sharp Cuts

Austria's most important funder of basic research, the FWF, faces a possible reduction of some 40 percent of its budget. In 2008, the FWF's annual budget was 179 million euros; for 2009 a nine percent increase was promised. At the end of January, however, FWF president Christoph Kratky was ▶▶

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BY RAFAEL FLORÉS

▸▸ informed that his organisation should prepare to lose about 70 million euros due to the surprising withdrawal of two of its four budget components. The final budget would be negotiated in April, binding commitments, however, couldn't be expected until the end of May. Should these budget holes be unfilled, then the FWF would become virtually paralysed. It could operate existing operations alone but starting new projects would be impossible. This way, important programmes envisaged for 2009, such as the Excellence Initiative, would have to be put back in the drawer.

The reactions of Austrian researchers weren't long in coming. Instantly they crept out of the shadows and participated in several open letters. In addition, the 'Research is the Future' petition collected more than 10,000 signatures in under a month and was handed to Austria's Chancellor, Werner Faymann, Finance Minister, Josef Pröll and Science Minister, Johannes Hahn on March 3rd.

The tenor is the same in each document. "Particularly during the last two decades, Austria has experienced an internationally acclaimed scientific boom," writes, for example, Jörg Schmiedmayer on behalf of the Wittgenstein Award winners. A thriving science environment, however, is easy to destroy, he continues. "In fact, a *de facto*-halving of the FWF budget would be a frightening step in this direction."

The figures confirm his initial statement. Between 2000 and 2006, the share of expenditure on research and development (R&D) increased from 1.77% to 2.55% of Austria's gross domestic product (GDP). This accounted for Europe's peak value of 44.4% growth (the EU27 average is a 14.8% increase). The EU, therefore, included special praise for Austria in its recent *Key Figures* report. Austria, the report says, has shown how, despite an existing high level, a further increase in R&D intensity was possible. In addition, the report confirms that, not least due to this fact, Austria has come further than others in opening up its research system to attract foreign researchers.

Schmiedmayer adds that for the survival of the young Austrian research landscape, the conservation of an open, competitive and quality-driven scheme of science funding is particularly important. "Especially in a crisis situation such as now, clear and competitive research funding, as guaranteed by the FWF, is essential and certainly constitutes the most efficient use of resources."

Therefore, until the budget situation is clear, the call of FWF president Kratky prevails, "I would ask you not to be too much impressed by this confusing and unsatisfactory situation, and to continue to make submissions to the FWF. Your applications are going strengthen us in the argumentation towards the necessity of competitive funding for research projects!" -RN-

My Mouth is Different

Individuals vary remarkably in the microbial colonisation of their oral cavities.

Spit into my tube and I'll tell you who you are and where you come from. That was one of the main expectations that motivated a team led by Mark Stoneking at the Max Planck Institute for Evolutionary Anthropology in Leipzig to analyse what they entitled "Global diversity in the human salivary microbiome" (*Genome Research*, Epub ahead of print). Their hope, however, that the composition of mouth microbe populations would turn out to be a useful geographic and anthropological marker wasn't fulfilled by their results: clear geographic patterns were surprisingly low given the considerable differences in diet, culture, environment and other factors in different parts of the world. "In fact there seemed to be as much or more variation between individuals from the same place as between individuals from different places," Stoneking noted.

His team used Sanger sequencing to assess 16S rRNA from saliva samples taken from 120 individuals around the world, sampling two individuals each from North America, South America, Western Europe, Eastern Europe, Africa and Eastern Asia. After comparison of the 16S rRNA sequences obtained, with those in databases they were able to identify 101 known bacterial genera, of which 39 were not previously reported from the oral cavity. In addition, they found 196 sequences that didn't match any in the database. These fell into about 64 clusters adding to a total of 103 genera that had not been reported in human saliva before.

More than 70 percent of the sequences found represented eight genera — Streptococcus, Prevotella, Veillonella, Neisseria, Haemophilus, Rothia, Porphyromonas and Fusobacterium. The most common genus was Streptococcus, which represented nearly 23 percent of sequences detected.

About 45 different genera were present in each location. The most significant geographical variation is that people from the Congo have a higher percentage of Enterobacteria than everyone else. The only other significant difference is that there tend to be fewer Prevotella in people from Louisiana.

The diversity between individuals is remarkable. Each person has between six and thirty different species of bacteria in their mouth, meaning that 13,5% of the total variance in the composition of genera is due to differences among individuals.

Nevertheless, Stoneking and Co. haven't yet given up their primary goal. "This conclusion of an overall lack of geographic structure extends only to the pool of 16S rRNA sequences and the bacterial genera identified from them," they write. "Sequence variation within particular bacterial taxa may very well exhibit geographic structure that would provide insight into human population structure, relationships and migrations." As, for example, has already been observed for the stomach bacterium *Helicobacter pylori*. -RN-

(More research results from European labs on pp. 30-35)