

TURNING POINT

Charalampos Kalodimos

C. KALODIMOS *A biophysicist at Rutgers University in Piscataway, New Jersey, Greek-born Charalampos Kalodimos is the first person to win two key young-investigator awards: the Biophysical Society's 2011 Michael and Kate Bárány Award in September, and the Protein Society's award last year.*



Are you a natural-born scientist or a convert?

I didn't know I wanted to be a scientist until my first year of graduate studies at the Curie Institute in Paris. There, for my PhD, I began working in bioinorganic chemistry, modelling the binding sites of haemoglobin and myoglobin. I became mesmerized by the notion that, as a scientist, you can be the first person to discover something. But to do so, you must excel at two things: finding interesting questions, and strategically designing approaches to address those questions.

What was your crucial early-career decision?

As a postdoc, I decided to join Robert Kaptein's lab at Utrecht University in the Netherlands. He was one of the pioneers of structural biology, helping to develop the tools we use to determine the three-dimensional structure of biomolecules. Joining his lab was so important because I was introduced to biomolecular nuclear magnetic resonance (NMR). Using NMR, we worked to resolve interesting biological phenomena, such as protein–DNA interactions and DNA regulation. It was an exciting environment because I had the freedom to pursue any kind of question. I learned that what I really like is figuring out the structures controlling how molecular systems work. We tend to use NMR imaging because it is so powerful.

Has your career benefited from tackling several research projects at once?

I am always conducting exploratory research and writing grants to get the next project funded. Sometimes it can take 3–4 years to get enough preliminary data to get the funding. Although some mentors cautioned me that this strategy might be too risky, it worked for me. I think it's just as risky if researchers focus all their resources on getting one project to work. What was the worst thing that could happen? I had a pretty nice back-up plan — I would go back to Greece and live by the sea.

Why the United States for your first tenure-track position?

Although the scientific infrastructure is good in Europe, junior faculty members are

not completely independent at most places. You start off with small budgets. What I like here is that you get more freedom early in your career and get a good start-up package. If you fail, there is no one else to blame. If you do great, you get all the praise. It's very competitive, but I like that. Everything is fair. The only thing that matters is if you do good science. This is the place to be at a young faculty level. I travel to Europe a lot, and I advise young researchers to move to the United States to go after their dream.

Are the awards a career turning point?

It's great to have your peers recognize and appreciate the work you have done. What motivates me the most is knowing I was nominated for the Bárány award by Lewis Kay at the University of Toronto, Canada, and Ad Bax at the US National Institutes of Health, who pioneered NMR tools. In that sense, these awards have only pushed me to work harder as we spend the next five to ten years continuing to investigate large protein complexes, which are still quite challenging — their size and complexity make them difficult to purify.

Have you been tempted by any offers to go elsewhere since winning these two awards?

I'm happy at Rutgers, but if there is any chance that I can be more productive elsewhere in the United States or Europe, then I would certainly consider that. Never say never.

Do you thrive on competition?

Absolutely, 100%. As a scientist investigating biological questions, I invest a lot of time and energy in my work. Knowing that someone else might get to the answer first provides extra motivation to keep pushing harder to get there first. Competitiveness is absolutely required in science. I thrive in that environment. ■

INTERVIEW BY VIRGINIA GEWIN

GRANTS

British funding change

Some UK research funders are opting to give larger and longer-term grants to fewer awardees than before. The government-funded Engineering and Physical Sciences Research Council in Swindon is restructuring its grants on the basis of research showing that larger, longer grants result in a higher publication and citation rate, says spokeswoman Victoria McGuire. And the Science and Technology Facilities Council, also in Swindon, has merged two of its grant mechanisms into a single scheme to provide better long-term support, says spokeswoman Julia Maddock. The Wellcome Trust, a charitable foundation based in London, has created two types of larger grants of up to £425,000 (US\$661,000) a year for up to seven years, which will have fewer recipients than its traditional schemes.

IRELAND

Biomedical recruitment

The Biomedical Diagnostics Institute (BDI), an academic–industrial partnership based at Dublin City University, has received a five-year, €19-million (US\$25-million) grant that will allow it to recruit up to 40 postdocs and PhD students in surface chemistry, photonics and microfluidics. This is the BDI's second round of funding from Science Foundation Ireland (SFI), a government funding body hit hard by budget cuts this year, and it will support research and development of prototype diagnostic devices. BDI director Michael Berndt says that the institute is diversifying its projects and collaborations to secure outside funding because further SFI support is uncertain.

EUROPEAN UNION

Youth fires innovation

More funding and job openings could arise for early-career scientists in the European Union if an EU council's recommendations are taken up. The Competitiveness Council — which reviews EU economic affairs, industry and scientific research — concluded at a 26 November meeting that young researchers help to stimulate innovation and create a science-based culture, and urged the EU to find ways to attract and retain them. It said researcher mobility is important and must be ensured through retention of pension rights and other benefits. In February 2011, EU nation leaders will discuss economic reform.