

Q&A

Chemist **Krzysztof Matyjaszewski** of Carnegie Mellon University in Pittsburgh, Pennsylvania, is the winner of this year's Presidential Green Chemistry Challenge academic award.



How did you get into this field?

My basic area of research is polymer chemistry, which intersects in many important ways with green chemistry. The challenge is to find clean substitutions for more toxic chemical processes that cost the same or less. The ideal situation is replacing something toxic with something environmentally friendly — such as replacing a toxic metal in a catalytic compound with a vitamin that biodegrades.

What research problems do you work on?

We focus on three areas: working towards cleaner, more effective catalysts; creating degradable materials by controlling macromolecular structures; and working at the interface of biochemistry and materials science to create smart polymers that safely deliver agents to specific sites.

Do green projects have enough funding?

Funding support is important, but more

important is the balance between how much something costs and how important it is. Sometimes, if you want to make something more environmentally friendly, it is more expensive.

How important has a mentor been to you?

Always, you rely on mentors. Years ago in Poland I started working with a professor who impressed on me the need to approach a problem in a systematic manner, but never to close your mind to possibly important avenues that could be hidden in the details.

How did you get from Poland to Pittsburgh?

I was a postdoc in 1978–79 at the University of Florida. I returned to Poland expecting change when [the trade union movement] Solidarity happened. But that hope was not realized. I spent a year in Paris. A professor leaving Carnegie Mellon told me I should apply for his position, as it had good funding and support in a nice city. Pittsburgh is a very good example of the green spirit.

It was one of the most polluted US cities; now it is one of the cleanest.

What's your approach to advising students?

Even though I generally have 10–15 graduate students and 5 postdocs, I try to interact with each on a one-to-one basis. We also have group meetings weekly and meet twice a year with our industry consortium members. Sometimes even a first-year graduate student can teach someone from industry how to do something better.

What's the importance of exposing graduate students to industry?

Maybe half will go to industry. So I hold regular group meetings, like in industry, to discuss progress on longer-term objectives. I also teach them to consider more than one part of the problem: not just synthesis but also characterization and the search for potential applications. ■

Interview by Paul Smaglik

IN BRIEF

Call for cluster funding

A report by the Center for American Progress, a think tank in Washington DC, calls for Congress to fund the development of regional innovation clusters similar to California's Silicon Valley. This will create jobs and maintain US competitiveness despite limited state resources, it says.

Issued last month, 'The Geography of Innovation' proposes a competitive matching-grants programme to fund training, research centres or business incubators that focus on priorities such as energy technologies. Representative Jared Polis (Democrat, Colorado) touted the report on 6 October, advocating federal support for regional partnerships to enhance economic efficiency and growth.

Psychology overhaul

US psychologists need an accreditation system that verifies their science acumen, according to the US Association for Psychological Science (APS).

A report by the association says that clinical psychologists too often are unaware of validated treatment methods. It assails the American Psychological Association's current accreditation system as a "one size fits all" approach that lumps together disparate subfields. The APS advocates an accreditation system that, for instance, gauges whether incoming students have science and maths skills, whether faculty members have published science-based research and whether students apply clinical knowledge in presentations and publications.

Genomics gets a boost

The US National Institutes of Health recently announced \$45 million in grants to fund new genome-science centres in Wisconsin and North Carolina, as well as existing centres in California and Maryland. The grants will be used to develop genomics tools.

The Wisconsin centre will receive \$8 million over three years, and will team up with the Medical College of Wisconsin and Marquette University, both in Milwaukee, and the University of Wisconsin-Madison. Over the next five years, the three centres at the University of North Carolina in Chapel Hill, the University of Southern California, Los Angeles, and the Johns Hopkins University in Baltimore will receive \$8.6 million, \$12 million and \$16.8 million, respectively.

POSTDOC JOURNAL

Heart matters

My new role as a freelance writer has brought some interesting assignments, including interviewing students and writing their profiles for a university postgraduate handbook. Although their responses proved fascinating, it also made me question my recent decision to leave academia.

As I delved into their childhood dreams and aspirations, I saw many parallels to my own life and career that made me nostalgic for my previous life. I miss research and the social interactions of a busy

lab — discussions with my three-year-old son only go so far! I was even compelled to undertake late-night searches for tenure-track positions.

But real life soon made me realize the advantages of my chosen path. My stepmother is still recovering from a heart attack that occurred five days into her holiday when she came to visit us in Colorado. During the past week at the hospital, I have been thankful for the extra time and flexibility that freelancing gives me to spend with my family. Such time is precious and transitory — my parents

are getting older and my son is growing up fast.

For me right now, academia just doesn't seem flexible enough to accommodate the family life I strive for. But I am in awe of the countless women who do juggle career and family with prowess. And I wish every success to my interviewees as they embark on their research careers. ■

Joanne Isaac was a postdoc in climate-change effects on biodiversity at James Cook University, Townsville, Australia. She is now in the United States so that her husband can complete a postdoc.

