Specialists with Team Spirit

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Prof. Rafal Dunin-Borkowski, a British physicist, was appointed director of Microstructure Research (PGI-5) and the Ernst Ruska-Centre for Microscopy and Spectroscopy with Electrons (ER-C) in April 2011. Together with his wife Beata, he came to Jülich via the United Kingdom, the USA and Denmark. Their two daughters, who are 10 and 14 years old, speak English and Danish and have now learnt German – in addition to Polish, their mother's first language.

Dunin-Borkowski's international career is one of the reasons why he appreciates working at Forschungszentrum Jülich so much. "We have excellent equipment and we offer many of our employees a long-term perspective. This is an enormous advantage, particularly for an institute such as ours." The operation of its extremely complex facilities, such as the unique PICO electron microscope, requires a staff of highly specialized experts.

Dunin-Borkowski's colleagues at the institute develop novel characterization techniques to help understand material properties on the atomic level. ER-C, which is jointly operated by Forschungszentrum Jülich and RWTH Aachen University, is a centre of excellence in atomic-resolution electron microscopy and spectroscopy, as well as a user facility that is open to users from all over the world. "I focus on maintaining the very high standard of work at PGI-5 and ER-C," says Dunin-Borkowski. He is also planning to strengthen cooperations.

INFO

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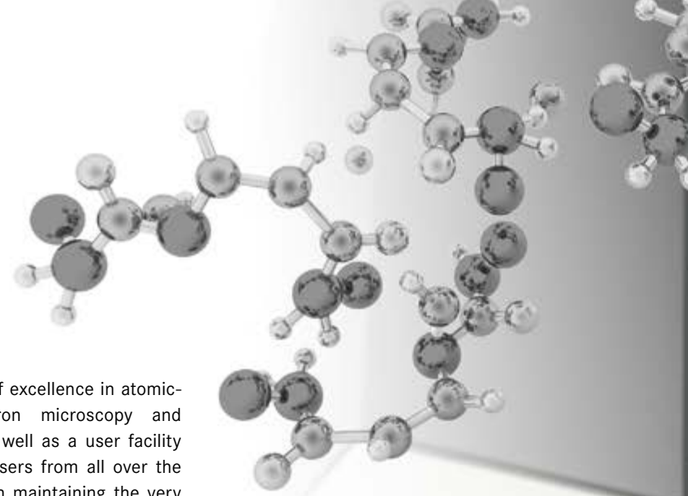
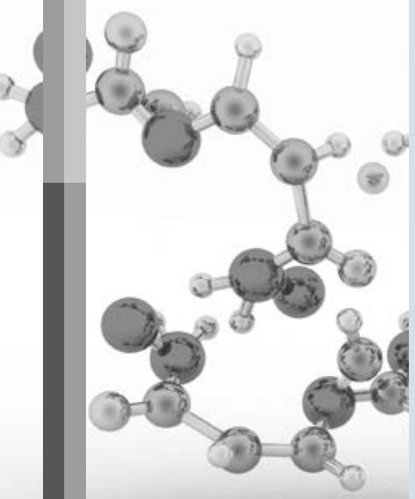


Prof. Rafal Dunin-Borkowski heads Microstructure Research (PGI-5) and the Ernst Ruska-Centre, which is home to the unique PICO electron microscope.



How would you explain your job to a 7-year-old?
We use microscopes that are the size of large rooms to see individual atoms in materials and how these atoms are arranged. The images tell us, for example, how to make the materials stronger or tougher. Often we are the first people to ever observe the beauty of how a particular material looks or how a chemical reaction takes place at the microscopic scale.

What did you want to become when you were seven?
I'm not sure I remember. Perhaps an architect.

When did you realize what career you wanted to pursue?
I was interested in many subjects but then focused on physics and materials science because I wanted to understand the details of the world around me in new ways, because examinations in these subjects relied more on thinking through interesting problems than on memorizing facts, and because of the influence and enthusiasm of several of the scientists I was taught by.

Who or what – apart from yourself – would you have liked to be?
An explorer, an ultramarathon runner, someone with musical talent and a better theoretician.

Which contemporary scientist do you admire most?
Max Perutz, John Maxwell Cowley, Michael Faraday and Marie Curie.

In your opinion, what was the greatest discovery or invention?
Fire, antibiotics and calculus.

Which public figure would you like to have dinner with?
Noam Chomsky.

Which compliment were you particularly pleased with in the recent past?
I'm not so interested in compliments. I prefer to be pleased with my own productivity.

What characteristics do you appreciate most in others?
Selflessness, interest and energy.

What characteristics do you dislike in people?
Negativity, unreliability and dishonesty.

What are your most noticeable characteristics?
Persistence and optimism.

What makes a good leader?
Empathy and leading by example.

What book is currently on your bedside table?
A copy of the Hunger Games that my daughter has been encouraging me to read for several weeks.

Where can you be found on a Sunday afternoon at 15:00?
In a different place every Sunday. As a family we lived in many countries and continue to visit different friends and locations very often. No day or week is the same.

What is your favourite climate?
Any temperature and weather so long as it's comfortable to sit outside. I liked living in Arizona in the dry heat.

What is the place you find most beautiful – apart from home?
The summit of a high mountain in clear weather.

What is the motto you live by?
No effort too great. No detail too small.

We use the same questionnaire for each issue of intern *to interview new professors or institute heads. The answers – which consist of direct quotes we do not modify – are as diverse as the interviewees themselves.*