

MOVERS

Pier Paolo Pandolfi, director, cancer genetics programme, Beth Israel Deaconess Medical Center, Harvard University



1994–2007: Head, molecular and developmental biology lab, and from assistant scientist to endowed chair of cancer biology and genetics, Memorial Sloan-Kettering Cancer Center, New York

1994–2007: From assistant to full professor, molecular biology, pathology and human genetics, Weill Medical College, New York

As a young medical student at the University of Perugia in his native Italy, Pier Paolo Pandolfi discovered the genes underlying acute promyelocytic leukaemia (APL). It was a sign of successes to come for the philosophy student turned medical doctor turned biomedical scientist.

"Many scientists make big discoveries early in their career, but only a subset of those, such as Pier Paolo Pandolfi, continue to make a big impact throughout their entire career," says Lewis Cantley, chief of signal transduction at the Beth Israel Deaconess Medical Center in Boston, Massachusetts. Pandolfi admits that he was lucky early on, enjoying successes that reaffirmed his commitment to scientific investigation. Losing both parents to cancer only deepened his already unrelenting drive.

Luck, however, doesn't explain the success he's continued to have over the past two decades. Lured to Memorial Sloan-Kettering Cancer Center in New York City before his dissertation was complete, Pandolfi continued to excel. He developed mouse models to highlight the importance of genes causing APL, then broadened his focus to study tumour suppressor genes.

Cantley suggests that Pandolfi's publication record of the past 15 years is unsurpassed by any other cancer genetics lab. His top papers have received hundreds of citations.

"What I adore, and what drives my career, is the desire to discover and understand the mechanisms and faulty genes underlying cancer — and then push to cure it," says Pandolfi.

Although Pandolfi calls his time at Sloan-Kettering an incredible learning phase, he will move on this summer. His new role will be director of the cancer genetics programme at Beth Israel Deaconess Medical Center, a Harvard Medical School teaching hospital.

Cantley says that Pandolfi's boundless energy will make him an important part of expanded efforts at Beth Israel to translate basic research into individualized treatments for patients.

Pandolfi hopes to find new targets for therapy by genotyping and phenotyping the cancer of all patients who come through the research hospital, while conducting preclinical work on mice that could lead to clinical trials.

He says his career has been a dream. Even if he hadn't met with early success, he's convinced that his zeal would have led to a fruitful career path. "If you like it and have talent," says Pandolfi, "slowly but surely you will prevail." ■
Virginia Gewin

SCIENTISTS & SOCIETIES

Earth network

Climate change is increasingly interdisciplinary. Many of the challenges we face in Earth system science require not only the integration of complex physical processes into climate system models, but also the coupling of biogeochemistry and chemistry with climate science. And then there's the interplay with policy.

To promote communication, we have formed a Young Scientists' Network (YSN) as a platform to exchange ideas among, for instance, ecologists, atmospheric physicists and economists. It is part of the International Geosphere-Biosphere Programme's Analysis, Integration and Modelling of the Earth System (IGBP/AIMES) project.

We hope to promote a more cross-disciplinary generation of scientists, who will be required for Earth system modelling in the future. We also aim to foster education and outreach.

Importantly, participants from developing countries make contributions using their experience with quickly changing and highly vulnerable environments. They will be crucial for future science projects around the globe.

The YSN was inaugurated at an open Earth system science workshop in June 2005; more than 50 young scientists from 16 countries took part.

Since then, participants have met informally — for example, at meetings of the American Geophysical Union and the European Geosciences Union.

Our most recent workshop focused on how urbanization interacts with biogeochemistry and climate, as cities are major greenhouse-gas emitters. The result was a white paper that synthesizes existing literature, proposes a framework for discussing urban interactions with the global biogeochemical cycles (for example, how urban air pollution affects vegetation growth), discusses gaps in our understanding and proposes solutions.

This year's workshop will focus on land use. We'll try to understand the implications of converting natural land for agricultural or forestry use, and the reverse.

Our website serves as a resource pool for collaborations and enables discussions on workshop topics.

By bringing together young scientists to share resources, information and ideas, we hope to help equip a new generation of researchers to deal with the complexities of climate change. ■

Marko Scholze is a research fellow in the Department of Earth Science at the University of Bristol, UK, and a member of the YSN committee.

POSTDOC JOURNAL

Worst and best of times

I'd always expected that starting a completely new project would be daunting at this stage of my career. My relative inexperience made it likely that I would initially find myself way beyond the limits of my present expertise. And so it has proved: when it comes to South African geology, I'm a blank slate. And although I'm well versed in the concepts, my studies of ancient rock magnetism have so far been focused on measuring rapid deformation at plate boundaries rather than the stately drift of whole continents.

Simultaneously, much more is (rightly) expected of me. I have, after all, been hired for my palaeomagnetic expertise. I no longer have the safety net of a supervisor who's more of an expert than I am. But although I can't help feeling a little bit inadequate when every paper I read highlights a dozen others that I really need to read as well, I also feel excitement and a sense of opportunity. We know so little about what the Earth was like 3 billion years ago — geologists still argue vigorously over whether plate tectonics as we understand them were in operation at all.

So I have a real chance to make a significant contribution with my research. And the enforced expansion of my realm of expertise will also make me a better and, I hope, more employable, scientist. ■

Chris Rowan is a postdoc in the geology department at the University of Johannesburg, South Africa.