

AWARDS

Guidance in adversity

The Italian winners of this year's Nature mentoring awards found a way to inspire in a sometimes difficult funding environment.

BY ALISON ABBOTT

Science news from Italy tends to be negative — too little research money and too much cronyism. But *Nature's* annual mentorship competition, which rotates through different regions and this year featured Italy, shows how scientists have found ways to nurture PhD students and postdocs despite these challenges, and to help them to flourish in great careers of their own.

On 25 November, Italian President Giorgio Napolitano presented the 2013 *Nature* Awards for Mentoring in Science to chemist Vincenzo Balzani of the University of Bologna and theoretical physicist Giorgio Parisi of the Sapienza University of Rome, who between them shared the lifetime-achievement award, and to neurobiologist Michela Matteoli of the University of Milan, winner of the mid-career award.

"We received a surprisingly large number of very strong applications," says judging-panel chairman Luciano Maiani, former director of CERN, Europe's particle-physics laboratory near Geneva, Switzerland. (There were about 60 nominations.) "That showed us that with the right attitude, a good scientist can succeed, even if the general conditions of his or her country are challenging."

According to the former trainees who nominated them, the winners share characteristics such as energy, enthusiasm, a consistently positive attitude, an open-door policy and round-the-clock availability for advice. Each is internationally respected, with broad research interests and a history of training unusually large numbers of young scientists.

Each has also striven to hit the right balance between providing constant personal attention and allowing lab members to conduct independent scientific inquiry. Nominators say that their mentors treated them as individuals — working out where their talents and interests lay, and guiding them to the most suitable projects, and then on to the most appropriate careers.



PUBLIC PASSION

Balzani's interests run from photochemistry to solar-energy-driven molecular machines — he helped to pioneer the field of artificial photosynthesis. His

protégés recall his constant smile and his concern about the role of science and the scientist in society. For most of his professional life, he has campaigned for the use of science to further peace and to reduce poverty, working the topic into his courses and public lectures.

Each year, Balzani gives dozens of talks in schools and cultural centres, usually about sustainable energy. "These activities were a source of inspiration to many generations of students," says former postdoc Luisa De Cola, who now holds the chair in supramolecular and biomaterial chemistry at the University of Strasbourg, France.

De Cola remains grateful that, despite a busy schedule, Balzani spent extensive time with her to bring her up to speed on cutting-edge topics in photophysics and photochemistry when she arrived in his lab in 1986.

She says it was essential to her development as a scientist. "And I never heard him protest about the financial situation and the lack of sophisticated equipment," she wrote in her nomination. "Instead he encouraged us to have brilliant ideas and realize them with simple experiments, reminding us how lucky we were to actually get paid for doing a job we loved."



SELFLESS ENTHUSIASM

Parisi's research includes complex systems analysis applied to areas such as neural networks and the flight dynamics of the flocks of starlings that swirl in the Roman sky at dusk. His nomi-

nators were inspired by the exceptional breadth of his knowledge of physics and by his openness to discussing any idea, even engaging in a wild brainstorm. They were also excited by the way he treated everyone, even the humblest student, as a peer. "He was the perfect mentor, because he was always encouraging and enthusiastic about our research," wrote Francesco Zamponi, who earned his doctorate with Parisi in 2005 and is now at the École Normale Supérieure in Paris. "Even when we were stuck, he never lost confidence that we would eventually solve the problems."

Enzo Marinari, a physicist at the Sapienza University of Rome, recalls the intensity and excitement of working with Parisi as a graduate student in the early 1980s. The biggest computer

in the region at the time was at the National Institute of Nuclear Physics' National Laboratories at Frascati, 20 kilometres away. "Giorgio would drive me back to town at night, sometimes in pouring rain, steering in the absurd Rome traffic with his left hand and writing equations in the condensation on the wind-screen with his right hand," he says. "We survived — and that's what I call real mentoring."



PERSONAL SUPPORT

Matteoli was involved in showing that brain cells called glia have an important role in neurotransmission. She also helps young scientists to identify their skills, whether

research-related or not. "Some people are clearly destined for academia, while others have entrepreneurial skills which it would be a shame not to take advantage of," she says.

When Fabio Bianco, a PhD student with her from 2001 to 2005, proposed setting up a spin-off company, Matteoli put aside her knee-jerk fears of entering industry and became a co-founder of Neuro-Zone, a now-thriving venture that offers cell-based assays for drug screening. And when Claudia Verderio — overwhelmed by family pressures with three small children — was ready to abandon science, Matteoli, who has two children of her own, could not stand to see her former postdoc's talent lost. She offered moral and financial support, encouraging the grant-less Verderio to set up an independent line of research within Matteoli's own lab. Verderio is now a senior scientist at the National Research Council of Italy's Institute of Neuroscience in Milan. "Michela is a role model for the successful woman scientist," she wrote. "She made me realize that research is one of the most rewarding jobs I could do."

Electrophysiologist Steven Condliffe was torn between accepting a faculty position at the University of Otago in Dunedin in his native New Zealand and staying longer as a postdoc with Matteoli. "Michela encouraged me to accept the position, even though it would have been in her own interests for me to stay," he wrote in his nomination. "I used to think that to reach a certain level in science required a ruthless, selfish approach — Michela showed me different." ■