Big introductions

Europe’s Starting Grants are ideal for young researchers with big ideas and what it takes to bring them to life.

BY QUIRIN SCHIERMEIER

On a mid-April afternoon in 2012, Francesco Ricci boarded a plane in Rome in a highly anxious state — but not because he was afraid of flying. He knew that the ten-minute presentation he was giving the next day in Brussels could propel his career into orbit. All he had to do was to persuade a panel from the European Research Council (ERC) to fund his application for a Starting Grant.

A postdoc in the chemistry department of the University of Rome Tor Vergata, Ricci had spent the greater part of two months working on his proposal to develop DNA-based nanodevices for diagnosis and treatment of cancer. After he was invited to Brussels, he prepared his talk and rehearsed it time and again in front of colleagues, encouraging them to ask the trickiest questions they could think of. He knew that his chances of success at winning a grant hinged on him giving an effective presentation.

In the hall the next day, where a dozen hopeful applicants waited to be called, a tense silence prevailed. “You try to figure out if the others are better scientists than you and what their projects might be about,” Ricci says. “You know that it’s possible that fewer than half of the people in the room will get a grant.”

The chance to win a €1.5-million (US$1.9-million) Starting Grant is a thrilling prospect for young scientists — and for a postdoc in Italy, where funding and career opportunities for young scientists are notoriously poor, it can be the chance of a lifetime. An ERC grant — whether a Starting Grant or a Consolidator Grant for researchers at more advanced stages — means a good couple of years during which winners do not need to worry too much about funding. That is a rare luxury in today’s research environment, and one that can empower research output and scientific reputation.

Launched in 2007 as the European equivalent of the US National Science Foundation, the ERC has quickly turned into the flagship funding programmes of the European Union (EU). More than €13 billion is earmarked for the agency in the EU’s €80-billion Horizon 2020 research programme — the region’s biggest science-funding and innovation programme ever, launched in January. The Starting Grant programme, aimed at promising EU-based early-career researchers of any nationality, appeals to young scientists because the application rules are straightforward and it favours basic science. But it is highly selective, and success demands time, effort, rigorous preparation — and, perhaps, a bit of luck.

More than 4,500 ERC grants — including 2,330 Starting Grants — have been awarded since 2007. Typically, the ERC invites two to three times as many applicants as will receive funding to give a presentation. The success rate rose from around 3% in the first call to about 15% in 2010, but fell back down to just 9% last year, owing to a sharp increase in the number of applications.

This year, almost 3,300 scientists applied, and around 330 will be selected for funding. The next call opens on 7 October and will close on 3 February 2015 (deadlines are strictly enforced). The €430 million reserved for this call — about one-quarter of
the ERC’s budget for the year — will be distributed among roughly 330 people. The amount to be disbursed is slightly larger than last December’s initial estimate of €411 million because it expects an equally high number of applications next year and it aims to keep the success rate consistent from year to year.

Ricci’s 10-minute presentation went well — and so, he felt, did the subsequent question-and-answer session with panel members. Yet he did not make the cut: an e-mail in July told him that his project had not been recommended for funding.

He was disappointed but did not give up. The reviewers’ comments were not altogether discouraging, so the following year he submitted a slightly altered proposal that emphasized the medical potential of his research. That May, he returned to Brussels. He was even more nervous than in the previous year: it was his last chance, because applicants can reapply only once. This time, he felt that the presentation and subsequent question-and-answer period went less smoothly, but his persistence was rewarded: after an anxious two-month wait, he learned that his project had been funded.

OPEN TO ALL
The ERC supports researchers, irrespective of nationality, age and gender, who will be employed at, or affiliated with, host institutions in the EU or associated countries (including Iceland, Israel, Norway and Turkey) to conduct their research. The Starting Grant is one of three that it offers; the others key) to conduct their research. The Starting Grant, you must follow specific guidelines. Here is a summary of what you should be listed in the early-achievements section of the application.

Applicants for starting grants must have completed their PhD or equivalent 2–7 years before the call (time taken off for maternity or paternity leave, clinical training, long-term illness or national service are not part of the count) and must have published at least one paper without co-authorship of their PhD supervisor. There is no co-financing required from host institutions, and award recipients do not have to team up with other groups or companies, as in most other EU research programmes. There are also no thematic priorities: scientists in any field, including the social sciences and humanities, are equally eligible for funding.

The foremost criterion, says José Labastida, the ERC’s science director, is a unique research idea that has the potential to substantially advance the knowledge in a given field. Reviewers also want to know that a candidate has what it takes to get the work done. “Apply for an ERC grant only if you have a really new and ambitious idea and you can demonstrate that you have the potential to pursue it with a team of your own,” Labastida says. “A proposal that smells of incremental research, or just more of the same stuff that you have been doing before, is not going to fly.”

It can be challenging for scientists in the early stages of their career to start thinking that big. Taking on full ownership of a project — for many, a completely new experience — is no easy task.

Candidates should also make sure that their CV and summary — submitted along with a full project description — meet the ERC criteria (see ‘The nuts and bolts of your application’). During the first judging stage, reviewers will look only at these components. “The majority of reviewers on the panel will not be experts in your specific line of research — so send the key message to a wide audience and leave the details to the full proposal,” says

THE RIGHT CV

The nuts and bolts of your application

To apply for a European Research Council Starting Grant, you must follow specific guidelines. Here is a summary of what you need to do — and not do.

● Your CV should be written in English and not exceed two pages.

● It should give a complete account of your academic record, including the years of your master’s (if applicable) and PhD programme and the name of the university (or universities) and department (or departments) that awarded them.

● It should also include your full name and date of birth, and ought to include the URL for a current personal website, although this is not obligatory.

● It should document previous and current academic positions, fellowships and awards, teaching activities, institutional responsibilities, memberships in scientific societies and any major collaborations.

● It should clearly explain any educational or employment gaps, or unconventional career paths.

● All ongoing and submitted grants and funding can be detailed on a separate page.

● It should list only five representative publications. Any other relevant papers should be listed in the early-achievements track-record section of the application.

A model CV and application forms are available at go.nature.com/hjn9vv. 0.5.

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Compelling and intelligible writing make a difference when reviewers flooded with applications are trying to make their choice — and honest feedback from colleagues can really help, says Kristin Tessmar-Raible, a neurobiologist at the University of Vienna in Austria. Tessmar-Raible was awarded a Starting Grant in 2013 for investigating how the waxing and waning of the Moon governs animals’ monthly inner clocks. The wording of the headline and sentences and the order of paragraphs and tables can be vastly improved by input from friends, colleagues and professional proofreaders, who can all offer tips on how to make a synopsis catchy and a full proposal concise and well-structured, she says. In addition, national ERC help desks in all EU countries offer grant-writing assistance, and some also offer interview-training courses.

Less is often more. “Avoid unnecessary information in a CV that might only conceal the things that really matter,” says Ricci. Likewise, he says, presentations that are padded with data and technical details tend to be more confusing than informative. “You have only ten minutes to describe your research,” says Tessmar-Raible. “Every second counts, so you have to think hard about every word and every slide that you use.”

Applicants should also carefully consider which of the ERC’s 25 panels they would like to evaluate their proposal. “If you end up being reviewed by the ‘wrong’ panel it might diminish your chance of getting funded,” says Erik Garnett, a physical chemist at the Institute for Atomic and Molecular Physics in Amsterdam. Garnett had moved there in 2012 from Stanford University in California with little knowledge of the funding situation in Europe. On the advice of the director of his new institute, he applied for a Starting Grant to develop nanomaterials that can be used to make high-efficiency solar cells — his first grant proposal ever — and succeeded. Before he submitted his application, he looked up the CVs of panel members of previous calls to get a feel for whether their expertise overlapped with his research. He opted for the Material and Synthesis panel because its members seemed to have more affinity for his work than did others.

Starting grants could well galvanize researchers’ careers, says Huvenne. She herself is a good example: last summer, two years after her ERC-funded project launched, she was promoted from senior researcher to team leader for the sea-floor and habitat mapping group at her institution. She was surprised by how many scientists have since got seriously interested in her research.

And in Italy, universities can hire Starting-Grant winners without following the country’s historically twisted routes to academic appointment. Winning an ERC grant provided Ricci a springboard to a permanent position. Twelve months after his second return from Brussels, he was promoted to associate professor.

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### Europe on track

Tenure is gaining traction in Europe even as the system is slipping away in the United States, according to a study by the League of European Research Universities in Leuven, Belgium. The study surveyed 21 universities throughout Belgium, Finland, France, Germany, Italy, the Netherlands, Sweden, Switzerland, Spain and the United Kingdom. It found that seven nations are now using tenure as a way to recruit internationally and to offer researchers a clearer career path. The paper defines tenure-track as a fixed-term contract that can lead to a permanent position. Institutions surveyed in the United Kingdom, France and Spain do not have tenure systems. Meanwhile, the proportion of tenure-track positions in the United States has declined in the past 30 years, notes the study.

### Degrees of difference

Fewer than one-quarter of people aged 25–64 in the 34 member nations of the Organisation for Economic Co-operation and Development (OECD) earned a degree in 2013, finds an OECD report. Education at a Glance 2014: OECD Indicators examined education attained by adults in Europe, North America, South America and Asia. The report found that at least one-third of adults aged 25–64 in the United States, Norway and Israel had earned a degree. Chile and Austria had the lowest rates at 12% and 13%, respectively. Other nations fell between these rates. The average age for completing a doctoral research programme across the member nations was 35. Korea reported the oldest age of 40; Germany the youngest at 31.

### Falls in funding

US federal spending on scientific research and development is projected to have fallen by 4% from 2011 by the end of this year, according to a report from the US National Science Foundation (NSF) in Arlington, Virginia. The report, which collected data from the 27 US science-funding agencies, shows that spending reached US$140 billion in 2011 and is expected to slip to $134 billion this year. The 2014 total is likely to be even lower, says an NSF spokesperson, because it does not account for a 2013 across-the-board cut to discretionary spending.