

Career strategies for life scientists in Europe (VI)

ERC for Beginners

More than 9,000 proposals have flooded in applying for only around 250 Starting Independent Researcher Grants of the European Research Council (ERC). How will these grants be handled? And how will be decided?

As you read this, you may have missed the first deadline of 25 April 2007 for submission of your proposal for a Starting Independent Researcher Grant of the European Research Council (ERC). Many other scientists – exactly 9,167 – took their chances. Their applications are now under review and the first 200 to 250 grants totaling approximately €300 million will be awarded in late 2007. Don't worry! The programme runs until 2013 and there are additional possibilities in the following years.

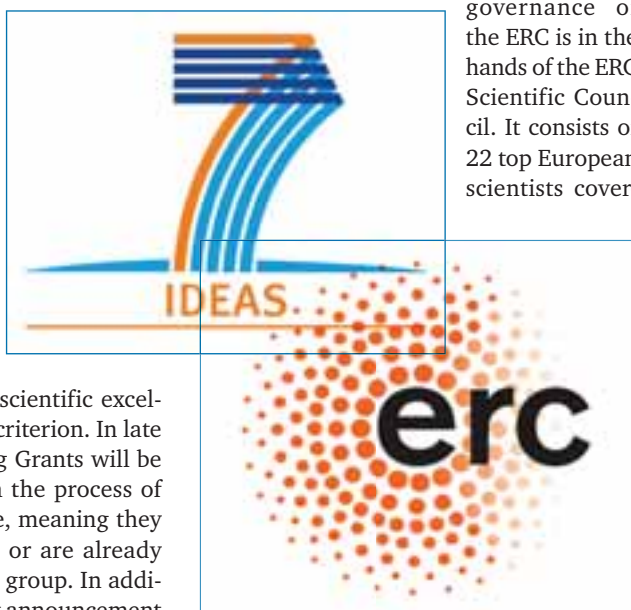
In February 2007 the official formation of the ERC was celebrated with an opening conference in Berlin. The ERC is responsible for independently running the IDEAS excellence programme as part of the 7th EU Research Framework programme (FP7) and will distribute roughly €7.5 billion or 15 % of the total FP7 budget. The money will be awarded on the basis of peer review with scientific excellence as the sole selection criterion. In late 2007 the first ERC Starting Grants will be awarded to researchers in the process of transition to independence, meaning they are intending to establish or are already leading their first research group. In addition, later this year the first announcement for ERC Advanced Investigator Grants is expected, which will support established researchers doing excellent and innovative research at the highest standards. There are no further commitments for an applicant to make with respect to the research topic or the need to perform applied research or to fraternize with other European scientists or industrial partners.

Right now everyone seems to be happy! The scientists are getting a large chunk out of the European piggy bank for basic research. The European Commission is demonstrating a hitherto unseen flexibility in their funding activities and is able to make a major contribution to the scientific community by outsourcing and granting independ-

ence. The policy makers, interest groups and science lobbyists are achieving something that they have been struggling for over the last ten years. It's now time for the critics to be hushed and for the ERC to demonstrate that it is able to run the show.

ERC Structure

How will the ERC operate? The ERC consists of a President, a Scientific Council, a Secretary General, a Board and a temporary implementation structure, which will give rise to the ERC Executive Agency. The governance of the ERC is in the hands of the ERC Scientific Council. It consists of 22 top European scientists cover-



ing the whole spectrum of research topics funded by the ERC. They were selected by an independent search committee headed by the chancellor of Oxford University, Lord Patten of Barnes, and were announced in July 2005. Fotis Kafatos, the former director general of the EMBL at Heidelberg and now chair of immunogenetics at Imperial College London, was elected by the Council as chairman. He is now both the President and formal representative of the ERC. Vice-chairs are Helga Nowotny from the Wissenschaftszentrum at Vienna and Daniel Esteve, among other commitments research director at the French Commission for Atomic Energy. Some additional names of Coun-



cil members from the life science section are: Carl-Henrik Heldin (Ludwig Institute of Cancer Research at Uppsala), Christiane Nüsslein-Volhard (MPI for Developmental Biology at Tübingen) and Rolf Zinkernagel (Institute of Experimental Immunology at Zurich). The main functions of the Council are to decide on scientific strategies, to set up a peer review system, to monitor the quality and performance of the running programme and to communicate the activities and achievements of the ERC.

Ernst-Ludwig Winnacker, former president of the German Science Foundation or DFG, Europe's largest funding organisation, was selected by the Council as ERC Secretary General for the first 30 months and will be succeeded by Andreu Mas-Colell, professor of economics in Barcelona. The ERC Executive Agency is currently part of the Directorate S of the European Commission and will be finally outsourced upon full operation. In 2007 the agency had approximately 120 staff members, a number that will gradually be increased up to 400 in 2012. Three quarters of the employees are contract agents handling technical, financial and administrative matters. The rest are officials of the European Commission, experts from other national funding organisations and so-called temporary agents hired directly by the agency for key scientific and operational jobs.

The decisions of the Council are implemented and managed by the ERC Board consisting of the ERC Chair and his two Vice-Chairs, the ERC Secretary General and the head of the ERC Executive Agency. All together still a slim and clear-cut organisational structure with top-officials who have demonstrated successfully in the past that they are able to organise and restructure major funding organisations and research institutions. And these people certainly know that from now on, their actions will be closely monitored by the European Commission.

The ERC Peer Review System

During the ERC launch Vice-Chair Helga Nowotny stated that "they will be able to

handle about 3.000 Starting Grants, otherwise we'll have a problem". Now they have it! The ERC infrastructure has to deal with more than 9.000 applications. Just in time before the first Starting Grant proposals were ready for evaluation the peer review system was fully established. The whole review scheme is divided into three major categories according to scientific disciplines, which are further split into panels. (1.) Social sciences and humanities: 5 panels, (2.) Mathematics, physical sciences, informa-



tion and communication, engineering, universe and earth sciences: 8 panels, and (3.) Life sciences: 7 panels. Each panel has a panel chair and 10 to 12 additional panel members and each panel is further subdivided into 6 to up to 21 additional sub-categories. The names of the 20 panel chairs and the 244 panel members for the Starting Grants have been recently published on the ERC webpage at <http://erc.europa.eu>. The major obstacle now is to make sure that these people judge the proposals by a common standard, which is not an easy endeavour, although these people have already reviewed hundreds, some maybe thousands, of proposals during their careers. At the be-

ginning of May 2007 the ERC guide for peer reviewers was announced but has not yet been posted on the ERC webpage. This is certainly a document to which not only the reviewers but also future grant applicants should pay close attention.

What happens to the proposals after submission? At stage 1 the outline proposals are examined to see whether they are in agreement with the criteria and requirements for funding published in the relevant Call (eligibility check). Then they are allocated to individual review panels and read and assessed by three to four panel members. Since the Starting Grants are 40 times oversubscribed, this time panels may also send the proposals to additional non-panel experts designated by the ERC. At the panel member meeting all proposals are then discussed and scored by the whole panel. How cross- and interdisciplinary proposals are handled and whether these applications are separately evaluated by multiple panels was not mentioned in the guide for applicants. About 400 to 500 applications will make it to stage 2 and the applicants have to meet a second deadline, which is 17 September 2007, and send in a full application. The full applications are again read and scored independently by at least two panel members and at least two additional non-panel experts and the most promising applicants will be invited for an interview. At the panel members' meeting the full proposals are scored and ranked and at the panel chairs' meeting proposals are finally selected according to the ranking and the funds that are available.

At this stage the proposal of the applicant is familiar to more than 10 researchers working in the field. They are potential competitors and know each step the applicant is going to make in the next five years and which resources he has to accomplish his task. This might not necessarily be a problem but the more people that are involved, the greater the danger of scientific misbehaviour. An evaluation report with scores and comments is provided to the applicants at both stages. Each applicant has the right to appeal on matters other than the scientific judgement of his panel within one month of receiving the report.

Nuts and Bolts of ERC Starting Grants

ERC grants provide support for projects carried out in EU member states and associated countries or at International European Interest Organisations (EMBL, CERN, etc.) by individuals or by teams led by an independent single principal investigator (PI) of any nationality. Team members may be other members of the PI's group or additional scientists at the host institution but is also open to researchers outside the host institution at a national or trans-national level. But do not get confused! The focus is on the PI and the team is not a cluster of PIs as in other FP7 actions. Applications for such Starting Grants are to be submitted by the principal investigator in conjunction with the host institution, where the work will be performed. The PI does not need to be employed at the host institution at the time when the proposal is submitted. Independence in this context means that the PI has

the authority to apply for funding by himself, directs the project, manages the research money, publishes as senior author, selects and supervises his team members and has access to reasonable research infrastructure. This sounds pretty good if it is realized and not only in print. The host institution has to host and employ the PI, has to assure his independence and provide the necessary administrative support for the ERC grant. For the Starting Grant the PI must have been awarded his first doctoral degree more than 2 and less than 9 years prior to the deadline of the respective Call. This time window may be enlarged to a maximum of 12 years after the doctoral degree under certain documented circumstances such as maternity, parental leave, long-time illness, military services, clinical qualification etc., whereas part-time work is no reason for extension. In comparison to other European or national Junior Scientist programmes this is quite generous and good news for late bloomers, meaning that you may still apply for a Starting Grant at the age of 40, an age at which your application is usually trashed in other programmes.

Just to make it clear at this point, the MD of a medical doctor is by itself not acceptable as equivalent for a PhD title. But the ERC accepts applications from MDs with a research doctorate or clinical speciality training, if the research experience is equivalent to the experience of a PhD. If you have both a PhD and an MD, the date of your PhD counts for the time window. Also, depending on your country of origin, your title "doctor" may not be equivalent to a PhD degree, which is a prerequisite to apply as PI for a Starting Grant. And there are also scientists without a PhD degree but who have gained substantial research experience over time. In both cases certified evidence has to be provided that you have already performed independent work, which is critically evaluated by the ERC panel members.

I am not going to comment on the quality of research that might receive funding



from the ERC Starting Grant. In the guidelines you may find the usual buzz phrases: research at or beyond the frontiers of knowledge, world-class research, interdisciplinary projects crossing boundaries between different fields, high-risk and high-gain proposals welcome and many more. Research linked to commercial objectives is not funded, nor are projects that are not in accordance with ethical standards and rules of the European Commission or the respective national guidelines of your host institution.

If you apply for an ERC Starting Grant you may request up to €2 million in total for up to five years. In not all scientific disciplines nor in each project is this maximum coverage necessary and the length of each individual grant and its amount will be determined by the ERC peer review panels taking into account the PI's estimation and the essential requirements of the project as judged by the panel members. 100 % of direct costs (personnel, equipment, consumables, travel, subsistence, publication) and a maximum of 20 % of direct costs as indirect costs will be covered by the grant. Indirect costs include administration and management costs, costs of office and lab space including rent, water, heating and electricity,

maintenance and safety costs, communication costs such as phone, network or postal charges, common office equipment such as PCs, software and printers and other things. Not covered is for example the VAT. The trick usually made by the host institutions is to ask for maximum indirect costs and to pay VAT from this money because no additional funds are available. But as a consequence you are then unable to pay the bills usually covered by the indirect costs. So you definitely need some additional money in order to spend your ERC money!

The Application

I am not going to provide too much detail on the application procedure for the Starting Grant, since there may be many changes in the following years. The ERC Starting Grant guide for applicants was updated on March 30 2007 but is only valid for the already closed Call (http://erc.europa.eu/pdf/erc_guide-for-applicants_stg.pdf). In future you have to pre-register with the PI's name, the title of your project and your preferred evaluation panels via the web-based electronic proposal submission system (EPSS at <https://www.epss-fp7.org/epss/welcome.jsp>) at least three weeks before the Call's deadline. This helps the ERC to calculate their overall time and effort and to inflate their peer evaluation system if necessary for the respective Call. You receive a login name and password. For the ERC Starting Grant you have to provide an outline proposal (max. 8 pages) at stage 1, if you make it to stage 2 a full proposal of max. 16 pages. You have to fill out some additional administrative forms and deliver the actual research proposal and supporting information. Overall it's very similar to the procedure for the Marie-Curie fellowships described in detail in the last issue of *Lab Times*. And as also mentioned last time, it is highly advisable not to wait until the last minute to provide your final application!

You or your team members may only apply for one ERC grant per year. If your application was not successful you may re-apply at the next call. After 2008 this is only pos-

sible if your previous proposal met the quality threshold for funding in the first non-successful application. You may not have two ERC grants at the same time and if you have already successfully applied for another independent researcher or junior scientist programme (e.g. EURYI award) your ERC application will only be considered if both projects are clearly distinct.

The ERC Grant Agreement

As for the Marie-Curie fellowships, the next phase after a positive evaluation is the production of a 'grant agreement'. In this document the rights and obligations of all parties involved, meaning PI, host institution and ERC are specified. It contains the ERC core grant agreement with several annexes (general conditions, accession forms for new beneficiaries, financial statement form), a supplementary agreement between PI and host institution, in which both agree on the minimum requirements for the implementation of the project etc. and three more annexes including the project proposal modified according to the suggestions of the ERC panel. Once the signatures of the PI and the host institution have been given, the ERC grants the final signature and the ERC promises an advanced grant payment within 45 days. A guide for ERC grant holders was announced on the ERC web pages but was still not available when this article was written. Overall a lot of pages have to be produced for the ERC starting grant! Is this the user-friendly application process and the reduction of bureaucracy the European Commissioner promised for future programmes?

Once the grant agreement is concluded the new star at the European research horizon has to perform his project as described. If things at the host institute turn out not to be as promised and assured in the grant agreement the PI may transfer his ERC starting grant to another host institution. Although the host institution is expected to transfer equipment and other purchases to the new institution, there is obviously no legal obligation to do so. PIs have to provide a scientific report at the middle and the end of a project. The host institution is responsible for regular financial reports.

Outlook

The ERC has entered the research funding stage with a huge demand for ERC Starting Grants. Now the ERC has to prove that it is able to deal with this high number of applications in a timely and professional manner. I am going to carefully monitor the re-

sults of the first call and the alterations that are made in the course of the 7th framework programme and definitely provide you with ERC progress reports in future. Although, if not all prospects are met in this first round, the ERC deserves the possibility to make changes and refine its actions in future. One improvement to consider is that the PI, once he is approved as an ERC grant holder, should receive a competitive salary, which should be approximately 30 to 50 % higher than the national comparable salary of a junior group leader. The ERC put this in the long wish list for host institutions but whether they are in the financial and legal position to do so remains questionable.

Another challenge is to make sure that one ERC grant project is not triple financed at the same time by local, national and EU funds. This will need some independent and close monitoring of the funding situation of each grant holder. Otherwise local and national resources might be drained by the ERC grant holders. At the same time it is not clear what happens to the grant when someone gets promoted from a junior to a senior position in the course of the project. As in the past, getting a grant in the excellence lottery will act as a fertilizer when it comes to filling a faculty position at the level of a full professor. Do they still need the money to develop as an independent researcher once they have reached such a position?

Another point is the number of applications. Although the large number already seems to indicate a success story for the ERC, we do not want our best scientists to have to spend a considerable amount of their valuable time reviewing the applications and sitting in panel meetings. They are at the bottleneck of the application process and it might be necessary to create additional qualification hurdles in the following years. Right now, each PhD is able to send in a proposal irrespective of whether he has published one or 20 papers in the past. The enlargement of these panels is, of course, another possibility to deal with the mass of applications. In this context, it is also questionable as to whether certain research funding organisations, such as the Austrian FWF, will make it mandatory for all applicants in their national START programme also to deliver ERC Starting Grant applications at the same time. It is not the job of the ERC panel members to act as reviewers for other funding organisations. In addition, a project that is worth funding at the national level does not necessarily qualify for European money. RALF SCHRECK