

A conversation with Marja Makarow, Strasbourg

“Reduce Redundancy”

Marja Makarow, Chief Executive of the European Science Foundation (ESF), talks about ESF's role in the scientific community, European research funding and about careers and women in science.

In Europe, there are organisations that are linked to the scientific community in every imaginable way. The ESF is, at least to the current generations of postdocs and PhD students, not known so well. Could you explain ESF's role?

Makarow: The ESF is an organisation representing the interests of its members, these are currently 77 national research funding and performing organisations, as well as academies and learned societies. On the one hand, the ESF talks with the national agencies representing their scientists and on the other hand with the European Commission.

You see the ESF as a facilitator between the national organisations, researchers and the Commission?

Makarow: Yes, by talking with both the ESF serves as a link between them. By doing this the ESF is able to promote the complicated process of establishing the European Research Area, the so called ERA. Therefore the ESF is a very important component stabilising the ethos and the mission of the ERA. It is very important that the ERA as a platform is bottom up and driven by scientists and not by politicians. The ESF gives scientists – the key players of research – a very strong voice. That's its strength. In addition, a unique thing about ESF is that it covers all scientific disciplines.

But the ESF is not independent, it relies on money from the European Commission.

Makarow: Yes, of course. But indirectly it is dependent on the ministries who distribute public money.

To turn around my question, would it make any difference if we didn't have an organisation like the ESF?

Makarow: Of course! Then we would have the European Commission with its framework programs as the only international platform. That's not an optimal situation.

An editor of Nature wrote two years ago that the ESF has never established a strong identity. Do you agree?

Makarow: Though I'm not an expert in the history of the ESF I would say ESF has not established a strong identity in the past. One reason may be that it never had its own money. Since power comes with money, that's a hard fact of life, that is the weak point of the ESF.

Our budget is increasing annually but not at a very impressive pace. It covers our networking activities and of course the administration of the offices. However it still lacks the most important



Foto: ESF

component: money for research. It's true that the ESF has not had a strong profile because of its lack of a strong budget.

But the ESF has run research programmes. Presumably their most successful programme was the European Young Investigator Awards, or EURYI.

Makarow: In general, the ESF has collected money for researchers to work together on a common agenda. For example, we offer a networking programme called EUROCORES where we offer money for meetings and congresses, but funds to do the research are given by the funding organisations and are spent in that particular country. The EURYI programme for young investigators was our only example of a common money pot. Now this programme has been stopped because the first ERC grants were dedicated to young researchers. However, one has to take into account that in some countries there are constraints of a technical nature reducing the flexibility of financing, for example legislation for shifting money over the borders, also annual and fiscal budgetary restrictions. Researchers that participated in other ESF programmes always had to get the money for that research from national agencies. The ESF's role is to acquire money for scientists from the national organisations. The evolution of this concept is that the money is first gathered into a common pot and then distributed according to quality. The important point is that this kind of financing is not a just return concept.

But then, national funding organisations pay for research in other countries. Do you think they're sufficiently open minded for such a pan-European approach?

Makarow: Indeed, national funding agencies are using their tax payers' money to work in a national way. The national funding agencies concentrate of course on researchers and their needs in their own countries but their attitudes are changing. For example, bilateral agreements have been established. But building up these relations is a very slow process. I have had that experience myself when I was a member of the Research Council of the Academy of Finland, the public funder of basic research in Finland. Setting up bilateral research programmes is a bottom up approach that takes a long time and only in rare cases is there a strategy behind such a process. Mostly it's catalysed only by the needs of a particular area. Now many of the national organisations' programmes already use international evaluation, meaning that they have taken the first step. The next step is more difficult:

that is, pooling of parts of the money the national agencies have. I have seen so many signals and heard so many ambitious official statements all over Europe that I think we understand that it is helpful to pool parts of the national money for international research. Everybody has realised that international competition beyond national borders is the key to increase quality. Some countries are already set up to make use of the international community.

Do you see the ERC as a competitor? Or will the ERC and the ESF complement each other? Do they pull together?

Makarow: The concepts are different. My personal ambition is to start a very intensive discussion with the ERC on issues that we could do together and which would benefit both organisations. I would like to go pretty fast along that track. Complementation should be sought. One example: The ERC now has the advanced grants. But we don't know whether the ERC will embrace individual scientists only or also research collaborations. If it's only going to fund individual scientists, we could offer a complementary system for collaborations.

If the ERC funded collaborations it would compete with EURO-CORES.

Makarow: Of course. And since I'm a very strong proponent of reducing redundancy we should then look for rational solu-

tions. The ESF should be very vigilant. If something becomes redundant we should not cry and cling to it but really turn the tables and look for new opportunities. One may see EURYI as an example. The ESF has established that project. The ERC took it over and expanded its volume ten times. There might be other good ideas that ESF could experiment with and which then, if they are successful, could be taken over and enlarged by the ERC. We must discuss that together.

What other collaborative options do you propose?

Makarow: I'm thinking of the ESF's peer review activities. The ESF is considering handling entire peer reviews in commission.

You want to outsource peer review?

Makarow: Why not? For example, the European Space Agency has commissioned an entire peer review service package to the ESF. That means they outsource the review process for a specific research program. That will be a very interesting pilot project and we will conduct a self critical assessment in parallel to see how well we are doing and what the possible bottlenecks might be. If it is successful, the ESF might offer services like that for other organisations. You must see, that the European scientific community has more and more demand for peer reviewers. That is really a growing problem.

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They are becoming a limiting factor.

Makarow: That's why we are discussing whether the ESF could create a quality controlled database of reviewers.

You want to collect names of reviewers?

Makarow: No, simply assembling names in a database doesn't mean anything. Quality control is the key. We want to design criteria to describe quality reviewers. Then we would have a short description of the accomplishments that prove that they come up to these quality criteria. The database would be updated constantly. It would also contain highly successful young investigators. That is costly and time consuming. Nevertheless ESF is considering doing that work. That would be a resource that any organisation could use to search for reviewers.

In the end it's all the work of individual scientists. They have to do the review. So the bottleneck is the sheer amount of good reviewers. How can one increase that number?

Makarow: One resource is the younger generation. We need to increase the number of young investigators on reviewer panels. Normally only eminent later stage researchers were approached when it came to reviewing. Now that European young principle investigators are in the limelight, we should really take advantage of this fantastic source. EURYI principle investigators, ERC grant holders and many other talented young scientists are definitely able to do peer review.

Who will trust them?

Makarow: I do, at least! I have done a little experiment at the University of Helsinki in my role of the vice rector. We had a new, international programme for postdocs. We asked our young principle investigators whether they would be interested in writing evaluations of the applicants and their research proposals. We got immediately an overwhelming response meaning the scientists were terribly interested in doing that work. I must say that the quality of the work of these young people was amazing although the majority of them would not be at the level of ERC or EURYI grant holders.

Let's look into the future. The ESF has redesigned its organisational structure, described in the 2006-2010 strategic plan. What are the plan's main points?

Makarow: We established some new tools to strengthen our profile. That is a long process but we are on the track. One such tool is the so called Forward Looks. Those are analyses of the status of particular research domains. They are done by top scientists in that area who then envision the evolution of that issue in the next 5 to 10 years and its needs in the context of that evolution. Since Forward Looks are European wide analyses they are very important strategic tools serving the national agencies to find out what happens in a special

research area. They are of great help for the European Commission because they combine the bottom up approach, the analysis of the scientists with a more strategic view. However, Forward Looks should only be done on topics that are or will be important for society.

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And what about the changes in the ESF's administration?

Makarow: During the last two years the government of ESF has been totally restructured. Today we have the Assembly of all member organisations, our main decision-making body. Then we have the Governing Council, developing strategies and making detailed decisions. The very small Steering Council prepares decisions and we established a Scientific Advisory Board that is charged with quality control. Before, our organisation was more diffused, now it is much more clear and concentrated.

Why did you take the job as CEO of the ESF? You had to quit science – was that a difficult decision?

Makarow: My job as vice rector of research at the University of Helsinki was a fantastic job as this was the first position for a vice rector for research in Finland. I decided not to run for the rectorship of the University of Helsinki because in our country University law and its governance is going to be changed. I would have had to concentrate on those changes in legislation instead of promoting research. That was not my aspiration. I wanted to serve science on a more European level. The job here at ESF in Strasbourg is terribly demanding and did indeed cut me off irreversibly from research. I packed up my lab and my last students have finished their PhDs.



Marja Makarow is Professor of Biochemistry and Molecular Biology at the University of Helsinki. Over the past decade she has been in positions of trust serving a number of national and intergovernmental research organisations in Europe. Since 2008 she is Chief Executive of the European Science Foundation (ESF) in Strasbourg.

What career advice would you give young investigators?

Makarow: A young investigator today should absolutely do a postdoc abroad. I would say: Go out and learn new things, come back with new research topics, technologies, experience and ideas. Don't be afraid of international competition. If you apply for funding and fail in your first trials, just go on and learn about what is important. What my generation didn't do at all is to understand how science policy works. It is not intelligent to apply for money by trial and error. Today one must know enough about funding possibilities and the policies lying behind those instruments. Another important issue: young investigators should demand mentoring. They should understand that they are the key to the future. They are not simply some little investigators. They are THE essential building blocks of the future. So my advice for PhD candidates and postdocs is: Actively, aggressively find a supervisor with a similar approach, where the inter-personal chemistry is okay, and then rely on that person and demand his or her advice and help.

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Do you have any special advice for female scientists? We know that you are involved in supporting them.

Makarow: In addition to my general advice, female PhD students should sit down with their supervisors and demand extra support, a sort of personal support and advice on careers. This should be part of the contract. That means: I do the research as well as I can and you must have a close look and must be interested in my career prospects.

Will a supervisor really do this?

Makarow: Yes, if they are an intelligent person and if the supervisor is sensitised to the fact that the outcome of female scientists is less successful than that of their male competitors although their capabilities are the same. A just recently finished survey of female scientists done by EMBO showed that women don't drive themselves as strongly as men. They often occupy the middle positions in scientific publications. All supervisors must pay attention to this and must be absolutely fair. I think females like role models. So mentoring and encouraging successful female scientists is of eminent importance.

Have you ever demanded extra attention because you are a woman?

Makarow: I did not get any career advice. But I was quite lucky to have both PhD and postdoc supervisors who were very

intelligent men. Also I didn't plan my career. Research was so intensive, it absorbed me totally, that I didn't think of career prospects. That was quite naive and would have come back to me like a boomerang if things hadn't simply dropped into place at the right time.

Have you noticed a difference amongst European countries regarding women's careers?

Makarow: Yes, I did. Differences already start with legislation. In Finland every assembled – not elected of course – board with a public function has to be made up of 40 percent minority gender. First that was seen as a terrible quota. But in the meantime a peaceful relaxed atmosphere regarding gender issues has been established. By law any organisation or company must have an equality plan.

Quotas are highly controversial. What do you think?

Makarow: If you wait for natural evolution the trend will be in the right direction but it takes too long. Waiting 50 or 100 years, that's crazy. The quota simply accelerates the process. So I would like to see the ESF write an equality plan. We must monitor vigilantly the percentage of women scientists on our committees, as speakers and chairs. We must correct any imbalances. For me coming from a Nordic country this is nothing spectacular. But I can imagine this may be different for people from other countries.

INTERVIEW: KARIN HOLLRICHER

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