Chemistry funding in Europe – What (else) do chemists need?

Special Symposium at the 3rd Chemistry EuCheMS congress
August 29 to September 2, 2010
Nuremberg, Germany

ERA-Chemistry is a European network of national funding agencies and is involved in the development and implementation of funding instruments for trans-national collaboration in chemistry. During the 3rd EuCheMS congress it will hold a symposium on funding mechanisms for trans-national collaboration in Europe. During the first two hours representatives of major funding bodies will present their programmes with special emphasis to chemical research. This event aims at receiving a feedback by chemical scientists about the appropriateness of European (International) funding programmes and to unravel the requirements for chemical research in an international context. During a one-hour panel discussion the participants of the EuCheMS congress have the opportunity to comment on the programmes and concepts introduced and give suggestions to the funding agencies. The symposium will be guided along the following questions:

Are the available funding programmes useful for chemical research?
Are the programmes available to the chemists and are they reasonably conceived?
Which are the requirements for trans-national collaboration in chemistry?
Which additional programmes or improvements could be established?

The following speakers have confirmed their attendance:

Hans-Joachim Freund, MPI Berlin & ERC
Alexander Hansen, DFG
Neil Williams, ESF
Erwin Arzel, COST
Zeev Rosenzweig, NSF
Georg Bechtold, DFG
Giovanni Natile, EuCheMS

The symposium will be chaired by Kathrin Winkler and Johanna Kowol-Santen, DFG.
The symposium will take place on 30 August 2010 from 3 to 6 pm.

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Agenda

15:00 – 15:10	Dr. Kathrin Winkler, DFG *ERA-Chemistry - A network of research councils for the development and implementation of joint bottom-up European programmes for curiosity driven research*
15 :10 – 15 :25	Dr. Alexander Hansen, DFG *EUROHORCs/ESF Roadmap for Actions – a milestone to a Globally Competitive European Research Area*
15:25 – 15:40	Prof. Hans-Joachim Freund, MPI Berlin/ERC *Funding of Chemistry within the European Research Council*
15:40 – 15:55	Dr. Neil Williams, ESF *The European Science Foundation - Networking Research at the European level*
15:55 – 16:10	Dr. Erwin Arzel, COST *COST-European Cooperation in Science and technology since 1971*
16:10 – 16:25	Dr. Georg Bechtold, DFG *The Open Initiative, an open call for proposals in basic chemistry*
16:25 – 16:40	Dr. Zeev Rosenzweig, NSF *International Collaboration in Chemistry (ICC) between US Scientists and their counterparts Abroad - Success Stories, Lessons Learned and Future Challenges*
16:40 – 16:55	Prof. Giovanni Natile, University of Bari/EuCheMS *Chemistry funding in Europe to strengthen partnership*
16:55 – 18:00	Panel Discussion Hans-Joachim Freund, MPI Berlin & ERC**;** Alexander Hansen, DFG; Neil Williams, ESF; Erwin Arzel, COST; Zeev Rosenzweig, NSF; Georg Bechtold, DFG; Giovanni Natile, University of Bari & EuCheMS; Johanna Kowol-Santen, DFG; Larissa Montero-Schiemann, ERC

EUROHORCs/ESF Roadmap for Actions –
a milestone to a Globally Competitive European Research Area

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The advancement of science and the associated need for closer cooperation across national borders calls for an evolution of the contemporary research support system from a fragmented to more coordinated European national funding system. A vision of how to achieve this and ultimately develop a globally competitive European Research Area has been outlined in the EUROHORCs and ESF roadmap. The development of a European Grant Union is a central aspect of the roadmap and encompasses the wish to simplify transfer of national research funds across borders on the basis of reciprocity in order to promote mobility of researchers. Implementation will essentially rely on two schemes, i.e. *Money Follows Researcher* and *Money follows Cooperation Line*. Additionally a more streamlined peer review and decision process for transnational projects is planned and anticipated to be realized *via* the *Lead Agency Procedure (LAP)*, which is already in operation in some European countries. It is planned to extend LAP to more countries as administrative experience with the procedure matures and legal restrictions are overcome.

Funding of Chemistry within the European Research Council

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The ERC runs two funding schemes at present: Starting Grants for researchers between 2 and 12 years after PhD and Advanced Grants for researchers who already have an established track record. Both schemes are given based on the excellence of the principal investigator and the originality of the project. Within the Starting Grant scheme a differentiation is made between “starters” and “consolidators” in order to properly deal with different stages of a scientific career. In the talk we will discuss the two funding schemes with respect to the evaluation and decision taking processes on the basis of outcomes of previous calls with particular emphasis on chemistry.

The European Science Foundation –
Networking Research at the European level

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The ESF provides a common platform for its Member Organisations, presently 79 national research funding organisations, research performing organisations, academies and learned societies, from 30 European countries. The main activities of the ESF are science policy activities and collaboration and networking in research.

The presentation will place in the context of transnational policy examples and opportunities for researchers in chemistry in the ESF's collaboration and networking instruments, notably the Research Networking Programmes (RNP) and European Collaborative Research (EUROCORES) schemes.

COST-European Cooperation in Science and technology since 1971

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COST is an intergovernmental framework for European Cooperation in Science and Technology, allowing the coordination of nationally-funded research on a European level. COST contributes to reducing the fragmentation in European research investments and opening the European Research Area to cooperation worldwide. The goal of COST is to ensure that Europe holds a strong position in the field of scientific and technical research for peaceful purposes, by increasing European cooperation and interaction in this field. This research initiative makes it possible for the various national facilities, institutes, universities and private industry to work jointly on a wide range of Research and Development (R&D) activities. The Chemistry Domain supports an average of 30 projects regrouping 3000 scientists from more than 50 countries. The presentation will focus on the different COST instruments and the opportunities for scientists from all over the world to participate to Chemistry Scientific networks.

The Open Initiative, an open call for proposals in basic chemistry

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Excellent researchers are creative researchers, who need a maximum of freedom in order to preserve their creativity. Ideally, creativity should not be bonded to strategic considerations. The Open Initiative is an attempt to approach this ideal as closely as possible. Its general philosophy is to enable every researcher in Europe to choose his or her subject of research by him/herself and to choose his or her best cooperation Partner(s), independent of the national affiliation. Such joint investigator-driven project proposals should be accepted at any time by the national research funding organisations concerned, independent of deadlines, and should be jointly processed and decided.

For the Open Initiative, European research funding agencies work together in their own network independent from the EC or other umbrella organisations. The scheme works since 2008. Scientists from Austria, Germany, Hungary and Ireland can apply each year; in some of the calls, also researchers from Belgium, Finland, Spain, Poland and Portugal have been eligible. Interested research councils can join (and leave) the Open Initiative on a yearly basis.

Although the added value of the cooperation of the applicants from different countries is an important review criterion, the scientific value of the project is an absolute condition. The proposals are evaluated by individual expert reviewers in written form and then assessed and decided jointly by the involved national decision boards. The successful applicants are funded directly by their research councils, following the usual and familiar national procedures.

International Collaboration in Chemistry (ICC) between US Scientists and their counterparts abroad – Success Stories, Lessons Learned and Future Challenges

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The international collaboration in chemistry (ICC) program supports collaborative research projects between US investigators and their counterparts abroad. The program seeks to enable US investigators to pursue collaborative projects with investigators in other countries in the same manner they pursue them in the US. The program also aims to meaningfully involve US students in the collaborative projects and to significantly increase their international exposure and research opportunities abroad. To realize these goals NSF and its international partnering agencies have designed a mechanism, which allows joint proposal submission, joint review and joint funding recommendations. Following multiple iterations over its five years of existence, the ICC program has settled on a collaborative framework that focuses on the commonality between funding agencies around the world, all seeking to fund the best science while taking into consideration differences in proposal submission and reviewing practices. The evolution of the ICC program, up to date statistical information about the program, examples of successful collaborative projects, lessons learned and the road to the future will be discussed in this presentation.

Chemistry funding in Europe to strengthen partnership

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In the past, the image of science was associated with individual genius and for a long time it has been possible for great discoveries to be principally the achievement of one person. Considering our own field: the determination of relative masses by Amedeo Avogadro, the discovery of oxygen by Joseph Priestley, the preparation of several pure metals by Robert Wilhelm Bunsen, Dimitri Mendeleev's Periodic Table, Marie Curie experimenting in her lab with radium, etc.. Now it is no longer like that and the change is simply this: we use an inter-disciplinary approach. We work in teams and, thanks to the internet, we no longer have to sit at the same workbench to collaborate.

Research is now truly a global exercise, it has changed in ways that make international cooperation essential, and scientists around the world must find new ways to work together. "New ways to work together" are already a part of our shared European history. European Research Council, European Science Foundation, COST, ERA-NET are part of this and their aim is to establish a bottom-up European Research Area "without noticeable national, formal and research subject boundaries". The same applies to other countries, such as the U.S. National Science Foundation.

All these bodies have to maintain constant contact with the research community to be able to identify new horizons, monitor the areas which are most likely to result in innovation, and select the most suitable people to conduct the research. EuCheMS and similar sister organizations can help in this respect.

There is no doubt that the available funding programmes are useful for Chemistry Research. Probably nowadays, with severe budget restrictions, competition is becoming far too strong and, when the rate of success drops below a given level, the range of error (intrinsic in any human activity) can become comparable to the number of funded projects.

Chemistry is ubiquitous and I am pretty sure that there is no project in Life Sciences and Biotechnology, Nanosciences and Nanotechnologies or in Energy Technologies where Chemistry is not a substantial part of it. Chemistry is always there although, sometimes, it is not obvious. I am afraid that the recently revised PE Descriptors do not help under this respect.

A true trans-national collaboration should imply solid competences in each of the collaborating groups and mobility of people (mainly young researchers) from one place to another so that they can benefit from enlarging their spectrum of competences.

A final aspect to be considered is that, as the research projects become more and more interdisciplinary, the review process becomes more and more demanding. Each single Reviewer has his own competences and may tend to favour only those aspects that he can better understand.