

International Cooperation at the Rudjer Boskovic Institute

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Since its inception in 1950, the Rudjer Boskovic Institute (RBI) has a rich and varied tradition of scientific cooperation with scientists and institutions throughout the world. Many of these ties were forged at the level of individual scientists doing part of their doctoral or post-doctoral training in leading institutions around the world, most notably in Germany, Austria, France, Slovenia, United States, Canada and Great Britain.



Fig. 1 – Werner Heisenberg

In addition, the Institute has had numerous scientists visit our campus and hold talks on cutting edge research which served to enhance and enrich the scientific experience for both students and investigators. Over the years a number of Nobel laureates have visited the Institute including Linus Pauling, Jean-Marie Lehn, Vladimir Prelog, Werner Heisenberg, Harry Kroto and Roald Hoffman. More recently the President of the Humboldt Foundation, Prof. Helmut Schwartz was also a guest at the Institute.

In 2006 the Office for International Projects was created within the administration of the Institute. The mission of the office is to provide quality, professional support services to RBI scientists in their preparation of proposals for international grants. This support includes searches for grant opportunities both domestic and international and relaying such preparing grant applications, administrative financial management and reporting on awarded grants as well as organization of educational and information workshops for the RBI community. Institute scientists have over the years been highly successful in obtaining international grants. In the period from 2005–2010, a total of 254 projects in the amount of 9 827 180 Euros were awarded to RBI scientists. These grants include projects funded by the following agencies; UKF, NZZ/ESF, NATO, FP5–7 (EU), INTERREG and the IAEA.

Bilateral cooperation agreements between the Croatian Ministry of Science and countries such as Slovenia, Austria, Germany and France have provided financial means by which successful collaborations were initiated. Over the years a number of Institute scientists have gone abroad as Humboldt Fellows or Fulbright Fellows to train and foster closer scientific ties with Germany and the United States respectively.

While a comprehensive survey of international cooperation across the Institute's many departments is beyond the scope of this article, a brief snapshot of activities will serve to illustrate the many aspects of international cooperation within the Institute.

The Department of Experimental Physics has a long tradition of international collaborations. Since the latter half of the 20th century

experiments in experimental physics have largely been international collaborations with many countries participating in experiments at the forefront of the field. Scientists in the Department of Experimental Physics at the Rudjer Boskovic Institute have fully participated in this trend and contributed greatly to the work of international teams in physics. Scientists in the Department of Experimental Physics have been the recipients of at least four EU grants including three REGPOT grants. Many of their international collaborations involve projects conducted at the CERN facilities in Switzerland. Among these are collaborations in the ALICE experiment, the CAST experiments and the OPERA collaboration. Another major source of international collaborations in this department are projects funded by the International Atomic Energy Agency (IAEA). Bilateral projects with Hungary, Serbia and Italy as well as projects funded through the Unity through Knowledge Fund (UKF) round up the overall international activities in the Department of Experimental Physics.



Fig. 3 – Linus Pauling

The Center for Informatics and Computer Science has played a pivotal role not only in developing and maintaining the informatics infrastructure of the Institute but also in the development of pan-European informatics. Since 2003 the Center has received five EU-FP6 grants and three EU-FP7 grants in the area of e-Science technologies in collaborations involving 128 European institutions. These projects have as their goal the development of the European Research Area through establishment of informatics infrastructure within the European Research Infrastructure Consortium (ERIC). As a result of these collaborations the Centre has helped establish two EU grids at the production level involving numerous applications and end user goals. EU funding for the Centre's projects during this period was roughly 7.5 million kuna and the development of eScience technologies through these projects represents a key milestone for the future development of scientific productivity as set out in EU strategy documents defining the vision of science in the year 2020.

In the Department of Materials Chemistry the Laboratory for radiation chemistry and dosimetry has had a major impact in the area of research covering the fundamental mechanisms of ionizing radiation and its impact on physico-chemical and biological structures. International collaborations in this area of research have been realized through IAEA, COST and EU funding mechanisms. Of particular note are collaborations within ERADOS (the European Radiation Dosimetry Group) and the CONRAD project (Coordinated Network for Radiation Dosimetry) both of which have been funded through EU FP6 and FP7 grants. The laboratory for radiation chemistry and dosimetry also has a collaboration with Chyoda Technology Corporation (CTC) and financial support from CTC has allowed for the purchase of several new high technology instruments.

The Department of Physical Chemistry has many aspects of international activity including two FP6 grants, two COST grants, and bilateral projects with Austria, Hungary, Slovenia and China. Other major bilateral projects include investigator driven collabora-



Fig. 2 – Jean-Marie Lehn

tions between Croatia and Finland, Israel, Greece, Poland, USA, Germany, UK, Italy and Belgium. From 2001 to 2009 the Department has participated in the organization of 25 conferences, summer schools or workshops with international participation. In keeping with the tradition of scientists training abroad, the Department has had scientists travel for postdoctoral work to Israel, the USA, the UK and France.

The Department of Molecular Biology although one of the youngest departments at the Institute has one of the highest rates of scientists returnees who have done much of their training in leading European and North American institutions. The department has several ongoing bilateral collaborations with Slovenia, Germany, Austria and Canada. In addition the Department is the coordinating center for Croatia for the International Centre for Genetic Engineering and Biotechnology (ICGEB). In addition to funding through bilateral cooperation schemes, the department was also home to a FP7 Marie Curie Training grant.

Bilateral projects represent a significant portion of international activities in the Department of Molecular Medicine including collaborations between scientists in the department with collaborators in the USA, Germany, Austria, France, Latvia, Slovenia, Australia and Hungary. The Department is also home to Biozyne, one of the Institute's first spin-off companies, which includes an international component in the form of a formal collaboration between Biozyne and Dr. Igor Stagljari at the University of Toronto. Within

the activities of the Department of Molecular Medicine it is important to point out that through their efforts the Rudjer Boskovic Institute is an institutional member of the non-profit association, ECCA (European Cervical Cancer Association) since 2003.

The Department of Organic Chemistry/Biochemistry also has a long tradition of international collaborations. Projects funded through the UKF, NATO and Croatian Science Foundation support collaborations with Canadian, American and British scientists. Bilateral cooperation funding supports projects of individual scientists with Austria, Italy, China, Germany and Slovenia, while informal collaborations exist with Australia, Austria, Bulgaria, the Czech Republic, Estonia, France, India, Israel, Japan, China, Macedonia, the Netherlands, Germany, Poland, Spain and the USA

The future should see a greater opening up of the Institute to foreign scientists who wish to train and perhaps stay in Croatia. Post graduate training of Rudjer Boskovic scientists abroad will continue to be a priority and development of instruments for easier re-integration of returning scientists will be key to upgrading the international flavor of research at the Institute. Greater access to European funding will likely form the basis for such researcher mobility. Strategic alliances with renowned institutions abroad will also be pursued. In all the Rudjer Boskovic Institute will seek to develop itself not only as a regional scientific beacon, but as a European centre of excellence in basic science. International collaborations will be key to realizing these goals.

Svečana proslava 60. obljetnice Instituta Ruđer Bošković

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Dana 9. lipnja 2010. godine održana je u koncertnoj dvorani Vatroslava Lisinskog svečana proslava kojom je obilježena 60. obljetnica našeg najvećeg znanstvenog instituta Ruđer Bošković. Pokrovitelji proslave bili su predsjednik RH dr. sc. Ivo Josipović i predsjednica Vlade RH gospođa Jadranka Kosor, dipl. iur.



Slika 1 – Ravnateljica Instituta dr. sc. Danica Ramljak s predsjednikom RH dr. sc. Ivom Josipovićem i ministrom znanosti, obrazovanja i sporta dr. sc. Radovanom Fuchsom

Fig. 1 – Director general of the Institute, Danica Ramljak D.V.M., Ph.D. with the president of Croatia, Dr. Ivo Josipović and minister of science, education and sport Dr. Radovan Fuchs

Taj datum ima posebnu važnost u povijesti Instituta jer se tada 1950. godine na sastanku II. Odjela za matematičke, fizičke i tehničke znanosti tadašnje Jugoslavenske akademije znanosti i umjetnosti (JAZU, sada Hrvatske akademije znanosti i umjetnosti, HAZU) donosi prijedlog za formiranje inicijalnog odbora za osnivanje In-



Slika 2 – Ravnateljica Instituta dr. sc. Danica Ramljak pozdravlja akademika Dragu Grdenića, člana Organizacijskog odbora JAZU za osnivanje Instituta

Fig. 2 – Director general of the Institute, Danica Ramljak D.V.M., Ph.D., welcomes Academician Drago Grdenić who was the member of the Organizing board of the Yugoslav Academy of Sciences for foundation of the Institute