

Press release

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Empa continues to develop its networks within the Swiss research community as well as internationally

«Networking» on an institutional level

Cutting edge research and innovative developments usually have several «fathers». Research institutions seeking international acclaim must have intensive cooperation with widely branched expert networks. In the past three months, Empa has therefore continued to strengthen its national and international cross links: In January two agreements were concluded with Swiss Universities – the Universities of Berne and Zuerich –, and others are still being prepared. Last November, in Tsukuba, Japan, Empa-Director Louis Schlapbach signed a cooperation agreement with the «National Institute for Materials Science», the Japanese «sister institute» of Empa.

Shaking hands, signing documents and smiling into the camera these are some of the recurring regular duties of Empa-Director Louis Schlapbach. But these are, as the director stressed, pleasant obligations, especially when done on the occasion of entering into cooperation agreements with renowned research establishments. In the past few months there were several such «celebrations».

End of October of last year, Empa-Director Schlapbach undertook a «short-sabbatical» at the Japanese «National Institute for Materials Science» (NIMS). There, the physicist and nano-expert wanted to breathe again for one month «laboratory air» – and at the same time explore possibilities for cooperation between the two materials research institutes. The result of this visit is at hand: a formal «Collaborative Agreement Empa – NIMS», signed ceremoniously by NIMS-President Teruo Kishi und Louis Schlapbach. Both institutions plan a more intensive cooperation in the future by performing shared research projects in the area of materials science, exchange of researchers and a shared use of research facilities and equipment.

Learning from each other on an international level

«Our goal is to learn from each other», stated Schlapbach as he was named to membership on the «NIMS Advisory Board» – an international advisory committee similar to Empa's Research Commission of which NIMS-President Kishi is also a member. Only through an intensive exchange with the best experts worldwide, according to the Empa-Director, can specialized knowledge and know-how enable Empa as well as NIMS to maintain their «world class competitiveness».

Empa also established new partnerships in Switzerland with the universities of Zuerich and Berne. «A few years ago, we started to enlarge our research activities, and carried out common projects with the University of Basel. We would like to strengthen these and other cooperative efforts with other universities in the future», said Louis Schlapbach.

In January the Empa-Director signed a contract of collaboration with the Rector of the University of Zuerich (UZH), Hans Weder. This agreement calls for a joint working relationship between the two institutions in the research and teaching of materials sciences, ecology and socially relevant technologies, all areas in which Empa distinguished itself for some time. UZH is, according to Schlapbach, a «logical» partner, because – inter alia – of the growing number of Empa PhD scientists whose doctoral advisors teach at UZH. In addition, more and more Empa-researchers also teach at the University.

Focus of the collaboration with the University of Zuerich

«For some time now, we carry on scientific research projects together with Empa», confirmed Daniel Wyler, Dean of the Mathematics and Natural Sciences Faculty. «In our faculty, the Institute of Chemistry and the field of Physics work together with Empa.» In chemistry, for example, the surfaces of medical implants are examined. Even the tiniest particles on a surface can cause implants to become bio-incompatible and be rejected by the body. Empa maintains a large instrumental array in this field of research, and its facilities and equipment will now be made accessible to university personnel as well. In the field of physics, the two institutions work together in the area of surface physics. Here, investigations are made into the electronic structures and adsorption of materials on the surfaces of solids. But the natural sciences are not the only beneficiaries of knowledge gained at the Materials Sciences Research Institute: Already for some years, archaeologists date (pre)antique metallic pieces together with Empa.

With the signing of the agreement, the close collaboration between the UZH and Empa has now become «official». «We would like to lay the foundation for further and wider cooperation», explained Louis Schlapbach referring to the motivation of both institutions. An application for the first multimillion Swiss Franks project in which, besides Empa and UZH, the Paul Scherrer Institute (PSI) and the University of Neuenburg will also take part, was already submitted to the Swiss National Science Foundation. The object of this project called «PEARL» is to furnish a new line of radiation to the radiation source synchrotron «Swiss Light Source» (SLS) du PSI, in which two complimentary methods – photoelectron diffraction and tunnel microscopy – can be combined to enable the examination of atomic structures on or at surfaces. «If all goes well, then the «first light» should take place at the end of 2009», said Physicist Roman Fasel, Empa's coordinator of this project.

Three new professors from Empa teach at the University of Berne

Since the beginning of 2008, several agreements are in force between Empa and the University of Berne, dealing with the increased cooperation between the two institutions in the research and teaching of such subjects as molecular boundary surface science, nanotoxicology, and fine dust research as well as materials

synthesis and the chemistry of solids. Recently, Empa researcher Fasel was appointed to a professorial chair and researchers Harald Krug und Anke Weidenkaff will follow, teaching and training doctoral candidates at the University of Berne.

Doctoral candidates are also an integral part of the «International PhD School Switzerland – Poland», a graduate school administered by Empa for the last three years together with the «Warsaw University of Technology» and the «AGH University of Science and Technology» in Krakau. Not long ago ETH Zuerich also joined this bi-national PhD School. Discussions are ongoing with the Japanese NIMS for the purpose of having it joined as well. «It is very attractive for doctoral candidates to complete their studies in various international institutions», pointed out Empa-Director Schlapbach. «They thus learn early on how global scientific enterprises function.»

Further Information

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Empa carries on research projects together with the University of Zuerich: On January 10, 2008 Empa-Director Louis Schlapbach and UZH-Rector Hans Weder signed a cooperation agreement (from left to right: Dean Daniel Wyler, Prorector Heini Murer, Rector Hans Weder, Empa-Director Louis Schlapbach).



In November 2007 in Tsukuba, Japan, the President of the Japanese «National Institute for Materials Science» (NIMS) Teruo Kishi (left) und Empa-Director Louis Schlapbach signed a formal «Collaborative Agreement» for shared research projects.