**Communications system hacked**

Cells rely on a range of signalling systems to communicate with each other and to control their own internal workings. Scientists from the European Molecular Biology Laboratory in Hamburg (Germany), have now found a way to hack into a vital communications system, raising the possibility of developing new drugs to tackle disorders like neurodegeneration, cancer and cardiovascular disease. Using the ESRF beamlines BM14 and ID29, as well as others at DESY, they have pieced together the first snapshot of what two of the system’s components look like while interacting.

One way that these signalling systems work is by triggering a flood of calcium ions inside the cell. These get picked up by a receiver, a protein called calmodulin, which turns this calcium signal into action by switching various parts of the cell’s machinery on or off. Calmodulin regulates a set of proteins called kinases, each controls the activity of specific parts of the cell, consequently altering the cell’s behaviour.

The results revealed the molecular structure of one of these kinases, a protein called death-associated protein kinase (DAPK), when bound to calmodulin. The structure showed how calmodulin binds to a particular section of DAPK, switching the kinase on so that it can go and change the function of its targets. The team then worked out which of DAPK’s building blocks, or amino acids, were crucial for calmodulin to bind.

**Reference**

De Diego et al. 2010 Science Signaling 3(106).

---

**Partnership for Soft Condensed Matter moves full steam ahead**

Richard Wagner (left), director of the ILL, and Francesco Sette (right), director general of the ESRF.

For the Partnership for Soft Condensed Matter (PSCM), 2010 looks promising, after 2009 finished with the signature of the Memorandum of Understanding (MoU) between the ILL and the ESRF, and the first workshop dedicated to the collaboration took place.

It still does not have a physical place to be exclusively based, but the PSCM is taking shape fast. Until the science buildings becomes available, the PSCM facilities will function within the soft-matter laboratories available at both the ESRF and the ILL. But the full-scale operation requires a new building.

In November 2009, the ceremony for the signature of the MoU marked the institutional commitment to push the project forward. The PSCM will combine research with X-rays and neutrons, and will attract academic and industrial partners to fund and set up laboratory techniques and sample environments to strengthen what the ESRF and the ILL offer themselves. “We are confident of the success of this collaboration, after all, we are not first-timers regarding partnerships,” explains Serge Pérèz, director of research at the ESRF. "The experience of the Partnership for Structural Biology (PSB), established in 2002, has shown us that this is a very good model for expanding the synchrotron’s scientific capabilities," he adds.

The scientific programme of the partnership is already being defined. The first step started in December 2009 when the "Scattering and Complementary Techniques" workshop, co-organised by the ILL and the ESRF, brought together 90 participants. It aimed to gather potential collaborative partners from universities and other research institutions from within the member countries and associates of the ESRF and the ILL, as well as to discuss the scientific agenda of the partnership and to explore external funding.

**The housing of the PSCM**

By early 2013, the PSCM will be able to host 20-30 scientists and technicians working in 800 m² of laboratory and office space in the new science building of the joint ILL/ESRF campus. The recruitment of a scientist and a technician is currently in the pipeline. The facility will be highly collaborative and contribute to the development of the scientific environment of the ESRF and the ILL.

---

For the Partnership for Soft Condensed Matter (PSCM), 2010 looks promising, after 2009 finished with the signature of the Memorandum of Understanding (MoU) between the ILL and the ESRF, and the first workshop dedicated to the collaboration took place.

It still does not have a physical place to be exclusively based, but the PSCM is taking shape fast. Until the science buildings becomes available, the PSCM facilities will function within the soft-matter laboratories available at both the ESRF and the ILL. But the full-scale operation requires a new building.

In November 2009, the ceremony for the signature of the MoU marked the institutional commitment to push the project forward. The PSCM will combine research with X-rays and neutrons, and will attract academic and industrial partners to fund and set up laboratory techniques and sample environments to strengthen what the ESRF and the ILL offer themselves. “We are confident of the success of this collaboration, after all, we are not first-timers regarding partnerships,” explains Serge Pérèz, director of research at the ESRF. "The experience of the Partnership for Structural Biology (PSB), established in 2002, has shown us that this is a very good model for expanding the synchrotron’s scientific capabilities," he adds.

The scientific programme of the partnership is already being defined. The first step started in December 2009 when the "Scattering and Complementary Techniques" workshop, co-organised by the ILL and the ESRF, brought together 90 participants. It aimed to gather potential collaborative partners from universities and other research institutions from within the member countries and associates of the ESRF and the ILL, as well as to discuss the scientific agenda of the partnership and to explore external funding.

**The housing of the PSCM**

By early 2013, the PSCM will be able to host 20-30 scientists and technicians working in 800 m² of laboratory and office space in the new science building of the joint ILL/ESRF campus. The recruitment of a scientist and a technician is currently in the pipeline. The facility will be highly collaborative and contribute to the development of the scientific environment of the ESRF and the ILL.