

## **EAST-NMR – Enhancing Access and Services to East European users.**

### **Nuclear Magnetic Resonance**

Nuclear magnetic resonance (NMR) spectroscopy is a key technology for research in the modern Life Sciences, with an increasing impact on human health. This technology is unique in new areas of molecular systems biology providing detailed insight into protein-protein and protein-ligand interactions.

NMR Research Infrastructures (RIs) offer resources necessary to conduct cutting-edge research and support a knowledge base among a broad group of European users. Europe has traditionally enjoyed a leadership role in NMR, but to maintain this position in spite of increasing international competition, scientific and technological capabilities throughout the EU must be fully exploited. This requires full mobilisation of all European countries, including Eastern Europe, where NMR applications are sparse.

### **The project**

The EAST-NMR project responds to the new challenges facing NMR and its RIs. The project is an Integrated Infrastructure Initiative activity (I<sup>3</sup>), meaning that it is composed of three types of activities: transnational access, joint research activities and networking activities.



700 MHz NMR spectrometer installed in Faculty of Chemistry, University of Warsaw since 2006

EAST-NMR provides transnational access to NMR instrumentation based in Eastern Europe and also to solid-state NMR facilities which are an emerging technology at international level. The joint research activities are focused on advanced sample preparation technologies, especially those tackling membrane proteins. The networking activities are focused on good practices for the users and for virtual research communities and include among others twinning activities for young scientists in order to promote knowledge transfer between scientists working in the NMR field in Europe.

The EAST-NMR consortium comprises 21 partners. Eight NMR Research Infrastructures make the necessary transnational access possible (especially to solid-state NMR) for research groups in Eastern Europe. Transnational access to NMR is devoted to outreach to new users, both those in Eastern-Europe and those who will benefit from state-of-the-art technology in solid-state NMR. Applications for gaining access to EAST-NMR Research Infrastructures can be submitted continuously through an online proposal management system.

The consortium comprises two industrial partners active in the joint research

activity.

## The infrastructure

The East-NMR project is the successor of, EU-NMR (European Network of Research Infrastructures for Providing Access and Technological Advancements in bio-NMR) funded under FP6. The EU-NMR project provided access to five Research infrastructures for bio-NMR. Within FP7, the European NMR consortium envisaged that to maintain a leading role in NMR, scientific and technological capabilities throughout the EU had to mobilize more European countries, particularly New Member States, where NMR applications were sparse. Four recognized East-European facilities (Brno, Debrecen, Ljubljana, and Warsaw) were invited to provide Transnational Access to their NMR infrastructure within East-NMR.

The East-NMR project was mostly successful for the high-field NMR facility, located at the Faculty of Chemistry of the University of Warsaw. The research carried out by Prof. Wiktor Koźmiński and his team is focused on the methodological advances in NMR spectroscopy in chemistry and biochemistry. In particular new developments in the field of multidimensional biomolecular NMR attract many users, not only from East and Central Europe, but also from other countries with rich NMR infrastructures.

The success of the Transnational Access to the Warsaw NMR RI can be illustrated by the more than 200 TA days provided (as to the 160 TA days expected) over the project duration.



Prof. Wiktor Koźmiński  
responsible for high-field  
NMR facility at Warsaw  
University

## Additional information

More information about EAST-NMR and a list of the participating organizations is available at <http://www.east-nmr.eu/>.

More biological NMR infrastructures are accessible within the Bio-NMR project (<http://www.bio-nmr.net/>).

### Contact

Prof. Wiktor Koźmiński

University of Warsaw, Faculty of Chemistry

Email: [kozmin@chem.uw.edu.pl](mailto:kozmin@chem.uw.edu.pl)