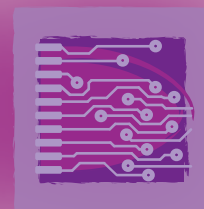




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EU-NMR: European Network of Research Infrastructures for providing Access and Technological Advancements in bio-NMR

Magnetic resonance imaging (MRI), a technique that enables medical scientists to create a visual representation of layers of tissue and bone lying beneath the skin of the patient, is probably one of the best known applications of the study of Nuclear Magnetic Resonance (NMR). In the past, NMR could only image larger features, but progress has now been made that enables mapping the shape of molecules and examining atomic-scale features. The EU-NMR project supports research in Life Sciences using NMR techniques by mobilising much-needed tools and expertise. Five leading Research Infrastructures providing essential services to the research community and 21 of the largest European national laboratories operating in the field of Nuclear Magnetic Resonance Spectroscopy have joined forces to provide researchers across Europe with access to the most advanced magnetic resonance instruments, support networking activities and promote joint research efforts.

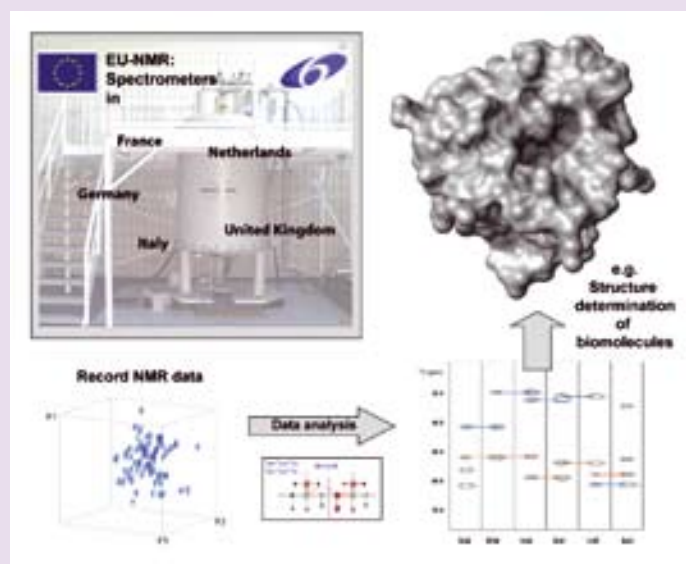
● A TECHNIQUE THAT RESONATES AMONG SCIENTISTS

NMR spectroscopy has applications in several areas of science, as scientists can obtain physical, chemical, electronic and structural information about a molecule with the help of this technology. NMR is therefore one of the principal techniques used to determine the structure of proteins or macromolecule assembly in the solution or solid states.

The EU-NMR joint research activities are developing innovative core technologies that improve the structure determination process, for example in the development of new hardware and associated software to increase the sensitivity and resolution of NMR experiments, and in the creation of technologies that speed up the data acquisition process and broaden the application envelope of NMR experiments. The project is also devoted to bringing cryogenic technology to solid-state NMR, and builds on previous experience to develop technology for low-gamma nuclei direct detection probes, enabling the use of NMR for very large molecules.

● LEVELLING THE NMR PLAYING FIELD

Teams from all over Europe have access to the most advanced tools available to answer all of their research questions and respond to their research needs. EU-NMR provides individual researchers and research teams from European countries with access to a distributed Research Infrastructure (dRI) of five major national centres (Birmingham, Florence, Frankfurt, Lyon, Utrecht)



with some 200 scientific and technical support staff, representing over €100 million-worth of investments in state-of-the-art, fully equipped NMR spectrometers and ancillary equipment and modern laboratories for the preparation of biological samples.

The dRI is the world's largest centre for bio-NMR devoted to

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deciphering the structure, function and activity of biomolecules at the molecular and macroscopic level. The combined RIs provide access to research tools and instruments, have dedicated

educational programmes to train researchers in the use of NMR and have a tradition in raising awareness of the potential of bio-NMR.

● A EUROPEAN NMR NUCLEUS

EU-NMR's networking activities include round tables and workshops as well as the establishment of a Virtual Research Infrastructure. The round tables are regular meetings of representatives of all Research Infrastructures for bio-NMR participating in the network and some members of the International Science Council, hosting discussions of the activities to be pursued on the basis of studies and analyses, as well as the recommendations of expert groups.

The workshops are designed to improve the quality and efficiency of access to Research Infrastructures. The biological research community in Europe must be able to use the available bio-NMR infrastructure to ensure that research carried out in this field yields

valuable results. In addition, two types of workshops will deal with the exchange of good practices, as well as the exchange of skilled staff to help spread know-how.

The Virtual Research Infrastructure (vRI) networking activity aims to provide the network's Research Infrastructures with all of the information gathered by the partners, allowing them to make their facilities more accessible by adapting procedures and techniques. The vRI also acts as a medium through which the biological research community is informed of the opportunities the RIs offer. Finally, the vRI raises awareness among the general public of the results of bio-NMR-mediated research.

● EUROPEAN NETWORK OF RESEARCH INFRASTRUCTURES FOR PROVIDING ACCESS AND TECHNOLOGICAL ADVANCEMENTS IN BIO-NMR IN SUMMARY

Project acronym: EU-NMR

Funding scheme (FP6): Integrated Infrastructure Initiative (I3)

EU financial contribution: €8.4 million

EU project officer: Brigitte Sambain

Duration: 54 months

Start date: 1 March 2006

Completion date: 31 August 2010

Project webpage: <http://www.eu-nmr.eu/>

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