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ESF Research Conferences

A Programme of the European Science Foundation

NMR in Molecular Biology EuroConference on Structural Genomics: Structure, Dynamics and Interactions of Biomolecules

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Backagården, Höör (near Malmö), Sweden, 20-25 August 2005

Chair: **Astrid Gräslund** (S, Stockholm University, S)

Vice-Chair: **Lucia Banci** (I, University of Florence, I)

With support from

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Spectra Isotopes

Final Programme

On line at: <http://www.esf.org/conferences/lc05014>

Saturday 20 August

Late afternoon / early evening	Registration at the hotel reception and ESF desk
19.30	Supper
21.00	Get-together-drinks

Sunday 21 August

08.45	Conference Opening : Astrid Gräslund Chair: Astrid Gräslund
09.00	Kurt Wüthrich (CH, Swiss Federal Institute of Technology, Zürich, CH) <i>Recent advances with NMR spectroscopy of soluble proteins and membrane proteins</i>
09.45	Discussion
10.00	Gerhard Wagner (CH, Harvard Medical School, Boston, US) <i>NMR studies of protein complexes</i>
10.30	Discussion

- 10.45 **Coffee break**
- 11.15 **Lucia Banci** (I, University of Florence, I)
NMR in structural proteomics of metalloproteins
- 11.45 Discussion
- 12.00 **Cheryl Arrowsmith** (US, Structural Genomics Consortium, Toronto, CA)
Structural proteomics
- 12.30 Discussion
- 12.45 **Lunch**
- Chair: Lucia Banci**
- 15.00 **Hartmut Oschkinat** (D, Forschungsinstitut für Molekulare Pharmakologie, Berlin, D)
Protein structure determination by magic angle spinning solid-state NMR
- 15.30 Discussion
- 15.45 **THREE ORAL PRESENTATIONS:**
- Sophie Zinn-Justin** (F, CEA Saclay, Gif-sur-Yvette, F)
Role of the nuclear lamina in transcription regulation: NMR as a tool for characterising transient interactions
- Magnus Helgstrand** (S, Lund University, S)
Using spin labels to speed up structure determination of larger proteins
- Carlo P. van Mierlo** (NL, Wageningen University, NL)
Conformation and orientation of a protein folding intermediate trapped by adsorption
- 16.30 **Coffee and Poster Session**
- 17.45 **Round Table discussion “Structural Genomics”**
Hartmut Oschkinat (chair), Kurt Wüthrich, Cheryl Arrowsmith, Peter Güntert, Lucia Banci
- 19.30 **Dinner**
- 21.30 **Poster Session**

Monday 22 August

- Chair: Peter Wright**
- 09.00 **Ad Bax** (NL, NIH, Bethesda, US)
New frontiers in weak alignment NMR
- 09.45 Discussion
- 10.00 **Arthur G. Palmer** (US, Columbia University, New York, US)
Protein motions in folding, binding, and catalysis
- 10.30 Discussion
- 10.45 **Coffee break**

- 11.15 **Pierre Mutzenhardt** (F, Université Henri Poincaré, Nancy 1, F)
The concept of effective correlation times for describing motions in proteins
- 11.45 Discussion
- 12.00 **Konstantin V. Pervushin** (RU, Swiss Federal Institute of Technology, Zürich, CH)
Protein/protein and protein/ligand interactions in large and dynamically disordered systems studies by NMR in solution)
- 12.30 Discussion
- 12.45 **Lunch**
- Chair: Ad Bax**
- 15.00 **Peter Güntert** (CH, RIKEN Genomic Sciences Ctre, Yokohama, J)
Automated NMR structure calculation with Cyana
- 15.30 Discussion
- 15.45 THREE ORAL PRESENTATIONS:
- Stephen Paisey** (UK, University of Leeds, UK)
Conformational dynamics of E. coli FBP-aldolase and their role in catalysis
- Lena Mäler** (S, Stockholm University, S)
Magnetic resonance investigations of lipid motions in isotropic bicelles
- Oliver Zerbe** (D, University of Zürich, CH)
Are peptides from the NPY family recognized by their receptors from the membrane-bound state?
- 16.30 **Coffee and Poster Session**
- Chair: Art Palmer**
- 17.45 **Mikael Akke** (S, Lund University, S)
Protein dynamics in allosteric transitions and enzyme catalysis
- 18.15 Discussion
- 18.30 **Arto Annala** (FIN, University of Helsinki, FIN)
Examining polypeptide conformational ensembles by residue dipolar couplings
- 19.00 Discussion
- 19.30 **Dinner**
- 21.30 **Poster Session**

Tuesday 23 August

- Chair: Andrew Lane**
- 09.00 **Peter E. Wright** (US, The Scripps Research Institute, La Jolla, US)
Zinc fingers, NMR, and the regulation of gene expression
- 09.30 Discussion

- 09.45 **Jane Dyson** (US, The Scripps Research Institute, La Jolla, US)
New NMR studies of apomyoglobin folding
- 10.15 Discussion
- 10.30 **Coffee break**
- 11.00 **Flemming Poulsen** (DK, University of Copenhagen, DK)
The unfolded states of a protein and their relevance for the protein folding process
- 11.30 Discussion
- 11.45 **Sara Linse** (S, Lund University, S)
NMR studies of biomolecular interactions
- 12.15 Discussion
- 13.00 **Half-day excursion (with packed lunches)** or free afternoon
- 20.00 Get-together-drinks and **Conference Dinner**

Wednesday 24 August

Chair : Jane Dyson

- 09.00 **Muriel Delepierre** (F, Institut Pasteur, Paris, F)
The HasAsm bacterial hemophore
- 09.30 Discussion
- 09.45 **Juli Feigon** (US, University of California, Los Angeles, US)
Structural and functional studies of human telomerase RNA and yeast RNase III
- 10.15 Discussion
- 10.30 **Coffee break**
- 11.00 **Harald Schwalbe** (D, University of Frankfurt, D)
NMR to study structure and dynamics of RNA
- 11.30 Discussion
- 11.45 **Akira Naito** (J, Yokohama National University, J)
Structure and dynamics of membrane-associated peptides and proteins as studied by solid-state NMR
- 12.15 Discussion
- 12.30 **Lunch**

Chair: Hartmut Oshkinat

- 15.00 **Anne Ulrich** (D, University of Karlsruhe, D)
Re-alignment and self-assembly of peptides in membranes
- 15.30 Discussion
- 15.45 THREE ORAL PRESENTATIONS:
- Jürgen Schleucher** (DE, Umeå University, SE)
General versus selected mobility in DNA and RNA
- Adam Lange** (D, MPI for Biophysical Chemistry, Göttingen, D)
Structural characterization of a high-affinity scorpion toxin/potassium channel complex by solid state NMR

Julia Wirmer (D, J.W. Goethe University, Frankfurt, D)

Residual long-range structure in unfolded proteins: Comparison of theory and experiment

16.30

Coffee

17.00

Ago Samoson (EE, National Institute of Chemical Physics and Biophysics, Tallinn, EE)

Advances in experimental technique of high resolution solid state NMR

17.30

Discussion

17.45

Special discussion about the future of this conference series

19.30

Dinner

Thursday 25 August

Chair: Harald Schwalbe

09.00

Andrew Lane (UK, University of Louisville, US)

Isotopomer analysis in cancer cell metabolomics

09.30

Discussion

09.45

Beat Meier (CH, Swiss Federal Inst. of Technology, Zürich, CH)

High-resolution solid-state NMR of amyloids and microcrystalline proteins

10.15

Discussion

10.30

Coffee break

11.00

Oleg Antzutkin (S, Luleå Technical University, S)

Binding of Al(III)-citrate complexes to Alzheimer's Abeta(1-40) peptides: AFM and solid state ¹³C and ²⁷Al NMR studies

11.30

Discussion

11.45

Chris Dobson (UK, University of Cambridge, UK)

NMR spectroscopy in studies of protein folding and misfolding

12.15

Discussion

12.30

Lunch and departure

All posters are accepted, unless you receive information directly from the Conference Chair that your poster cannot be accepted.