

# Frontiers of Biomolecular NMR

## Five Years of Slovenian NMR centre

### Program

#### Thursday, 15. 02. 2001

16.00-19.00 Registration

#### Friday, 16. 02. 2001

7.30-8.30 Registration

8.35-8.40 **Janez Plavec**  
Welcome

8.40-8.50 **Zoran Stančič**, *State Secretary for Science*  
Opening

8.50-8.55 **Jurka Kidrič**  
Milestones in the development of NMR worldwide and in Slovenia

#### Morning Session

Chair: Robert Blinc

9.00-9.45 **Robert Kaptein** **PL1**  
NMR and Photobiology. The photocycle of Photoactive Yellow Protein

9.55-10.40 **Heinz Rüterjans** **PL2**  
NMR in the Study of Structural Dynamics of Proteins

10.50-11.10 BREAK

11.10-11.30 **Gerd Gemmecker**, Angelika Hroch, Georg Voll, Horst Kessler, Jens **O1**  
Rahfeld and Gunther Fischer  
The Solution Structure of the Peptidyl-Prolyl *cis/trans* Isomerase Parvulin  
10 of *Escherichia coli*

11.35-11.55 **Alberto Spisni**, Lorella Franzoni, Christian Lücke, Martin Rademacher, **O2**  
Davide Cavazzini, Gian Luigi Rossi and Heinz Rüterjans  
Solution Structure of Rat Apo-cellular Retinol-binding Protein type I

12.00-12.20 **Primož Pristovšek** and Jurka Kidrič **O3**  
Bioactive conformations of peptides neutralising LPS pathogenicity - NMR  
and molecular modelling study

12.30-14.00 LUNCH BREAK

#### Afternoon Session

Chair: Jani Dolinšek

14.00-14.45 **Jyoti Chattopadhyaya** **PL3**  
Conformation Transmission Through DNA and RNA

14.55-15.15	<b>Zofia Gdaniec</b> , A.Fischer, M.Olejniczak, E.Biała and R.W.Adamiak <sup>19</sup> F NMR study of RNA – ligand interaction. Application to the HIV-1 TAR RNA	<b>O4</b>
15.20-15.40	Martin Črnugelj, Nicholas V. Hud and <b>Janez Plavec</b> Structure and binding of alkali cations to G-quadruplex formed by d(G <sub>4</sub> T <sub>4</sub> G <sub>3</sub> )	<b>O5</b>
15.45-16.05	BREAK	
16.05-16.50	<b>Vladimír Sklenář</b> NMR Tools for Structural Studies of Nucleic Acids	<b>PL4</b>
17.00-17.20	<b>Ingrid Luyten</b> , Z. Liu, M. Bottomley, K. Zanier, R. Sprangers, A. Krämer and M. Sattler Structural Basis for Recognition of Intron Branch Site RNA by SF1	<b>O6</b>
17.25-17.45	<b>Lech Kozerski</b> , A.P. Mazurek, W. Bocian, E. Bednarek, J. Sitkowski, R. Kawecki, M.P. Williamson and P.E. Hansen Nicked DNA with PEG Tether Interaction with Topotecan	<b>O7</b>
17.50-18.10	<b>Predrag Novak</b> NMR in Design of Macrolide Antibiotics	<b>O8</b>
19.00-	CONFERENCE DINNER	

## Saturday, 17. 02. 2001

### Morning Session

Chair: Andrej Petrič

9.00-9.45	<b>Lucia Banci</b> NMR in Structural Genomics	<b>PL5</b>
9.55-10.15	Reto Bader, Gerd Folkers, Annette G. Beck-Sickinger and <b>Oliver Zerbe</b> The Study of Neuropeptide Y (NPY), Receptor Interactions by NMR	<b>O9</b>
10.55-11.15	<b>Jurka Kidrič</b> Food science NMR - a frontier of biomolecular/medical NMR	<b>O10</b>
11.20-11.40	BREAK	
11.40-12.00	<b>Thomas Mavromoustakos</b> NMR spectroscopy: A powerful tool in the Medicinal Chemistry	<b>O11</b>
12.00-12.20	<b>Simona Golič Grdadolnik</b> and Roman Jerala Development of Novel DNA Gyrase Inhibitors Using NMR Spectroscopy	<b>O12</b>
12.25-14.00	LUNCH BREAK	

## Afternoon Session

Chair: Jože Kobe

- |             |  |            |
|-------------|--|------------|
| 14.00-14.45 | <b>Jonathan P. Waltho</b><br>The folding and misfolding of structurally diverse proteins   | <b>PL6</b> |
| 14.55-15.15 | <b>Roman Jerala</b><br>NMR Studies on Stefin A and its Interaction with Other Proteins   | <b>O13</b> |
| 15.20-15.40 | <b>Dražen Vikić-Topić</b><br>Studies of Fluoroquinolone Antimicrobials by NMR Spectroscopy   | <b>O14</b> |
| 15.45-16.05 | BREAK  |            |
| 16.05-16.25 | <b>Zoran Arsov</b> , Milan Schara and Anton Koren<br>The lipid-protein interactions in the case of the integral membrane enzymes studied by EPR  | <b>O15</b> |
| 16.30-17.15 | <b>Horst Kessler</b> , M. Coles, T. Diercks, J. Liermann, V. Truffault, S. Eberhardt, H. Lüttgen, A. Bacher, W. Baumeister, J. Peters and A. Lupas<br>NMR, X-ray, Electron Tomography and Bioinformatics: Structure and Function of Two beta-Barrels | <b>PL7</b> |
| 17.25       | Closing Remarks  |            |