

**National Center for Biomolecular Research  
and  
Central European Institute of Technology, Masaryk University**

**NCBR Seminar – CB060**

FACULTY OF SCIENCE, MASARYK UNIVERSITY

Fall semestr 2011/2012

Teacher prof. RNDr. Vladimír Sklenář, DrSc.

**Dates and time:**

Group meetings - individual for each group, managed by group leaders, every week

**Chemistry seminars - pavilion A11, room 132, 14.00**

**NCBR seminars room – A11, room 205, pavilion A11, 14.00**

**Mendel Lectures – Mendel's Museum, Mendel Square, 17.00**

The seminar is open to all colleagues and students of Masaryk University.

22. September            Only group meetings

29. September           Only group meetings

6. October

**Chemistry seminar**

**Prof. Daniel E. Falvey**

*University of Maryland, USA*

**Mechanistic Design of High-Wavelength Photoreleasable Protecting Groups and Applications to Photorheology**

**17.00 Mendel Lecture**

**Dr John Diffley**

*Cancer Research UK, South Mimms, UK*

**How Mendel's genes are copied**

13. October

**Dr. Alexandra Zahradnikova** (host Vladimír Sklenář)

*Laboratory of Molecular Biophysics, Institute of Molecular Physiology and Genetics  
Slovak Academy of Sciences, Bratislava, Slovakia*

**Structure-function relationship of Ryanodine receptor**

**17.00 Mendel Lecture**

**Professor Timothy Mitchison**

*Harvard Medical School, Boston, USA*

**How does a large cell find its center?**

20. October

**Ditlev E. Brodersen** (host Štěpánka Vaňáčková)

*Centre for Structural Biology, Aarhus University, Denmark*

**Rrp47 forms a heterodimeric complex with the nuclear exosome component Rrp6 and stimulates its exonucleolytic activity**

27. October

**PhD. Students**

**Gita Jančaříková**

Study of saccharide-recognising proteins and their role in pathogenesis

**Martin Kříž**

Nano-structured thiol monolayers as an innovative approach in construction of enzymatic biosensors

**Pavel Kadeřávek**

NMR relaxation - tool for investigation motions of biomolecules

3. November
- PhD. Students**  
Introductory presentations of Ph.D. projects by starting Ph.D. students (12 min. each)
- Marek Bartošovič**  
Characterization of in vivo substrates of the RNA-binding proteins ABH8 and obesity related FTO
- Matúš Durec**  
Application of MD simulations to interpret NMR data for biological and pharmaceutical systems
- Radek Matuška**  
Carbohydrates' CH/pi interactions - Computational studies
- Leona Šerá**  
QM calculations of RNA backbone and base pairing
- Tomáš Trnka**  
Study of catalytic mechanism of glycosyltransferases using quantum chemistry and reactive molecular dynamics
10. November
- PhD. Students**
- Jan Vícha**  
Experimental and theoretical NMR study of transition metal complexes with purine based ligands
- Jan Komárek**  
Lectins from *Aspergillus fumigatus*
- Arnošt Mládek**  
Understanding the Sequence Preference of Recurrent RNA Building Blocks using Quantum Chemistry: The Intrastrand RNA Dinucleotide Platform
- 17.00 Mendel Lecture**
- Professor Jürgen Knoblich**  
*IMBA, Vienna, Austria*  
**Proliferation control and tumorigenesis in stem cell lineages of the nervous system: Lessons from *Drosophila* and mouse genetics**
24. November
- PhD. Students**
- Alexej Kulaš**  
Molecular Dynamics study of complex protein behavior
- Olga Tříšková**  
CK11 in free and Mg<sup>2+</sup>-bound state
- Lenka Malinová**  
Burkholderia cenocepacia lectins - the same but different potential virulence factors
1. December
- Chemistry seminar**  
Program to be announced
8. December
- PhD. Students**
- Sushil Kumar Mishra**  
Computational Study of Lectin-saccharide Interactions
- Stanislav Standara**  
Understanding the NMR chemical shifts for biologically relevant model compounds: role of structure, solvent and relativistic effects
- Martin Jacko**  
New approaches to study protein-protein and protein-RNA interactions
15. December
- Tomáš Helikar** (host Jaroslav Koča)  
*University of Nebraska, Omaha, USA*  
The Cell Collective: Collaborative, interdisciplinary modeling of large-scale biological processes