

09:00 - 09:30 Registration & coffee

BECM Satellite meeting

- 09:30 - 09:45** Introduction to BECM
Rouslan Efremov, *VIB-VUB Center for Structural Biology, BE*
- 09:45 - 10:15** Introduction of JEOL cryoARM300 - JEOL
- 10:15 - 10:45** cryoARM300 at BECM - VIB-VUB
- 10:45 - 11:00** Coffee break
- 11:00 - 11:30** Analysis of conformational variability in cryo-EM
Pawel Penczek, *The University of Texas, McGovern Medical School, US*
- 11:30 - 12:00** Assembly, injection, translocation: Using cryoEM to understand the mechanism of bacterial ABC toxins
Christos Gatsogiannis, *Max Planck Institute of Molecular Physiology, DE*
- 12:00 - 12:30** Fibril Structure of Abeta(1-42) by Cryo-EM
Gunnar Schroeder, *Forschungszentrum Jülich, DE*
- 12:30 - 13:30** Sandwich lunch
- 13:30 - 14:00** Cryo-EM with phase plates
Radostin Danev, *University of Tokyo, JP*
- 14:00 - 14:30** Determining and approaching some of the physical limits in electron cryomicroscopy
Christopher Russo, *LMB-MRC, UK*
- 14:30 - 15:00** Microfluidic EM sample preparation for differential visual proteomics and diagnostics
Thomas Braun, *Biozentrum, University of Basel (CH)*
- 15:00 - 15:15** Coffee break

Official opening of the VIB-VUB Biological Electron Cryogenic Microscopy Facility

- 16:00 - 16:05** Welcome
Jan Steyaert, *VIB-VUB Center for Structural Biology, BE*
- 16:05 - 16:35** BECM Inaugural Lecture
Richard Henderson, *LMB-MRC, UK*
- 16:35 - 16:40** **Jo Bury**, *Managing Director VIB, BE*
- 16:40 - 16:45** **Caroline Pauwels**, *Rector VUB, BE*
- 16:45 - 16:50** **Philippe Muyters**, *Flemish Minister for Work, Economy, Innovation and Sport, BE*
- 16:50 - 16:55** **Hans Willems**, *Secretary General, FWO, BE*
- 16:55 - 16:57** Acknowledgements
Rouslan Efremov, *VIB-VUB Center for Structural Biology, BE*
- 17:00 - 17:15** Ribbon cutting ceremony at the BECM Facility
- 17:15** Reception with barbecue outside the BECM Facility & VUB Restaurant

- 08:45 - 09:10 Registration & coffee
- 09:10 - 09:15 Welcome by the organizing committee

Plenary session 1

MACROMOLECULAR MACHINES

Chair: Han Remaut

- 09:15 - 09:50 Structural hybrid methods to probe the Type III Secretion injectisome of pathogenic bacteria
Natalie Strynadka, *Department of Biochemistry, University of British Columbia, CA*
- 09:50 - 10:25 Biophysics of bacteriophage tail contraction
Petr Leiman, *University of Texas Medical Branch, US*
- 10:25 - 10:55 Coffee break
- 10:55 - 11:30 Transporting cargo over long distances: insights from dynein/dynactin structures
Andrew Carter, *MRC Laboratory of Molecular Biology, Cambridge, UK*
- 11:30 - 12:05 Molecular architecture of a core bacterial cell wall synthesis complex
Andrea Dessen, *Institut de Biologie Structurale, FR*
- 12:05 - 12:20 Selected talk 1: Cryo-EM structures of the mitochondrial calcium uniporters
Rozbeh Baradaran, *MSKCC, US (Poster #02)*
- 12:20 - 12:35 Selected talk: 2 Structural insights into the human Mediator Tail module
Vincent Villeret, *CNRS, FR (Poster #18)*
- 12:35 - 13:30 Lunch
- 13:30 - 14:30 Poster session - odd numbers

Plenary session 2

PROTEIN FUNCTION/DYNAMICS

Chair: Savvas Savvides

- 14:30 - 15:05 CryoEM visualization of G protein-coupled receptors
Georgios Skiniotis, *Molecular & Cellular Physiology, Stanford University, US*
- 15:05 - 15:40 How nature harnesses entropy to tune protein function
Zachary Wood, *Department of Biochemistry and Molecular Biology, University of Georgia, US*
- 15:40 - 16:10 Coffee break
- 16:10 - 16:45 Complex Dynamics and Dynamic Complexes: NMR Studies of Large Scale Dynamics and their role in Protein Function
Martin Blackledge, *Institut de Biologie Structurale, FR*
- 16:45 - 17:20 From Nanobodies to Megabodies for applications in cryo-EM
Jan Steyaert, *VIB-VUB Center for Structural Biology, BE*
- 17:20 - 17:35 Selected talk 3: Conformational dynamics of a secondary multidrug transporter with single-molecule FRET
Aurélie Roth, *Université libre de Bruxelles, BE (Poster #23)*
- 17:35 - 17:50 Selected talk 4: Structural basis of quiescence and activation of the translocase motor SecA: A paradigm for the allosteric regulation of molecular motors
Srinath Krishnamurthy, *Rega Institute, KU Leuven, BE (Poster #13)*
- 17:50 - 19:00 Reception
- 18:45 - 19:45 Guided tour to the conference dinner
- 20:00 - 22:30 Conference dinner

08:45 - 09:15 Welcome coffee

Plenary session 3

IN SITU STRUCTURAL BIOLOGY

Chair: Peter Tompa

- 09:15 - 09:50** Integrated structural biology reveals the basis of genome transcription
Patrick Cramer, *Max Planck Institute for Biophysical Chemistry, DE*
- 09:50 - 10:25** Cell-cell interactions mediated by bacterial contractile injection systems
Martin Pilhofer, *Institute of Molecular Biology & Biophysics, ETH Zürich, CH*
- 10:25 - 10:55** Coffee break
- Meet the Expert session with **Patrick Cramer**
- 10:55 - 11:30** Imaging protein dynamics by X-ray laser
John C. H. Spence, *Department of Physics, Arizona State University, US*
- 11:30 - 12:05** Fluorescence lifetime imaging and Förster resonant energy transfer
Paul M. W. French, *Physics Department, Imperial College London, UK*
- 12:05 - 12:20** Selected talk 5: Cell engineering to implement live-cell structural biology: reconstruction of the exocytic machinery
Oriol Gallego, *University Pompeu Fabra (UPF), ES (Poster #20)*
- 12:20 - 12:35** Selected talk 6: The architecture of EGFR's basal complexes reveals autoinhibition mechanisms in dimers and oligomers
Marisa Martin-Fernandez, *Science & Technology Facilities Council, UK (Poster #38)*
- 12:35 - 13:30** Lunch
- 13:30 - 14:30** Poster session - even numbers

Plenary session 4

STRUCTURAL ENGINEERING & DRUG DISCOVERY

Chair: Wim Hol

- 14:30 - 15:05** Dynamic Control of Synaptic Organizers – Shaping protein interaction networks in the synaptic cleft
Gabrielle Rudenko, *University of Texas Medical Branch, US*
- 15:05 - 15:40** Giant protein assemblies in nature and by design
Todd O. Yeates, *Department of Biochemistry, UCLA, US*
- 15:40 - 16:10** Coffee break
- 16:10 - 16:45** Structure and therapeutic targeting of bacterial S-layers
Han Remaut, *VIB-VUB Center for Structural Biology, BE*
- 16:45 - 17:00** Selected talk 7: Structural activation of pro-inflammatory humancytokine IL-23 by cognate IL-23 receptor enables recruitment of the shared receptor IL-12Rb1
Yehudi Bloch, *VIB-UGent Center for Inflammation Research, BE (Poster #03)*
- 17:00 - 17:15** Selected talk 8: The structural basis of nanobody unfolding reversibility and thermoresistance
Patrick Kunz, *German Cancer Research Center (DKFZ), Heidelberg, DE (Poster #15)*
- 17:15 - 17:30** Selected Talk 9: Fragment-based and Computational Methods Identify Ligandable Pockets on the von Hippel-Lindau E3 Ubiquitin Ligase
Inge Van Molle, *VIB Laboratory of Structural and Molecular Microbiology, VUB, BE (Poster 32)*
- 17:30 - 17:40** Closing remarks

#	Name	Institute	P.
01	A. Argyriou	University of Patras, GR	52
 02	R. Baradaran	MSKCC, US	53
 03	Y. C. M. Bloch	VIB-UGent Center for Inflammation Research, BE	54
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05	S. De Munck	VIB-Center for Inflammation Research, BE	56
06	T. De Vos	VIB-UGent Center for Inflammation Research, BE	57
07	M. Demulder	VIB-VUB Center for Structural Biology, BE	58
08	M. Dujardin	CNRS UMR8576 - Univ. Lille, FR	59
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39	J. Tanner	Department of Biochemistry, University of Missouri, US	