Mgr. Marie Olšinová

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Education

2011 - present	Doctoral study programme: Physical Chemistry, Faculty of Science, Charles University; *Thesis: The effect of peptides derived from protein transmembrane domains on membranes (supervisor Mgr. Marek Cebecauer PhD., J. Heyrovsky Institute of Physical Chemistry of the CAS)*
2009 - 2011	Master Degree in Physical Chemistry, Faculty of Science, Charles University; *Thesis: Dynamic saturation optical microscopy using photoswitchable proteins (supervisor Mgr. Aleš Benda PhD., J. Heyrovsky Institute of Physical Chemistry of the CAS)*
2006 - 2009	Bachelor Degree in Chemistry, Faculty of Science, Charles University; *Thesis: Comparison of outputs and applicability of modern fluorescence methods when characterising fluorescently labelled lipid vesicles (supervisor Mgr. Aleš Benda PhD., J. Heyrovsky Institute of Physical Chemistry of the CAS)*

Work experience - positions

2015 - present	Advanced fluorescence imaging scientist at BIOCEV, Faculty of Science, Charles University
2009 - 2016	Student researcher at J. Heyrovsky Institute of Physical Chemistry of the ASCR

Work experience – skills

Characterisation of model lipid membranes by z-scan FCS, FLIM-FRET, TRES, and time-resolved anisotropy. Application of super-resolution light microscopy in biology and biophysics (STED, STORM, SIM, DSOM).

Operation of commercial optical microscopes: Nikon Ti-E with N-SIM and N-STORM modules, Nikon Ti-E H-TIRF, Abberior 2C STED 775 QUAD scanning microscope, Carl Zeiss LSM 880 NLO, Carl Zeiss Elyra PS.1, Leica SP8 WLL with FLIM module, PicoQuant MT200

Software: Data analysis and processing in Origin, MS office, Matlab
NIS-Elements, LAS-X, Imspector, ZEN; Image processing in ImageJ and Huygens

Attended conferences and practical courses

EMBL Course: STED and RESOLFT based Live-Cell Super-Resolution Fluorescence Microscopy. Practical course, Heidelberg, Germany, 2017.

NEUBIAS Training School in BioImage Analysis for Facility Staff. Practical course, Barcelona, Spain, 2016.

Challenges in Chemical Biology. Zurich, Switzerland, 2015.
Poster presentation: Transmembrane domain of LAT protein in lipid membranes.

XV. Mezioborové setkání mladých biologů, biochemiků a chemiků. Milovy, Czech Republic, 2015.
Oral presentation: The effect of integral peptides on model membrane properties.

Biomembranes: Molecular Architecture, Dynamics and Function. Cargese, France, 2013.
Poster presentation: Effect of integral peptides on model membranes.

Membrane dynamics in physiology and disease. Basel, Switzerland, 2012.
Selected short talk: A novel superresolution technique for studying biological membranes – DSOM.
Poster presentation: A novel superresolution technique for studying biological membranes – DSOM.

Seminar of Students. Liblice, Czech Republic, 2010, 2011, 2012, 2013.
Oral presentation of progress in master and doctoral project.

Teaching contributions

Superresolution in Light Microscopy. Practical course, Prague, Czech Republic, 2017. *Lecturer and tutor in the practical session about super-resolution localization methods.*

Single Molecule Microscopy and Manipulation. Practical course, Vestec u Prahy, Czech Republic, 2017. *A tutor in the practical session about point and line-scanning FCS method.*

Advanced Techniques in Fluorescence Microscopy. Practical course, Prague, Czech Republic, 2016. *Lecturer and tutor in the practical session about FLIM-FRET method.*

Physical Chemistry of Biointerfaces. FEBS international workshop, San Sebastian, Spain, 2010. *A tutor in the practical session Fluorescence methods for characterizing supported lipid systems.*

Regular trainings on super-resolution, widefield and confocal microscopes at Imaging Methods Core Facility, BIOCEV. Demonstrations of super-resolution microscopes during the microscopy related conferences in BIOCEV.

Language skills

English First Certificate in English awarded in June 2012

List of Publications

Olšinová M., Jurkiewicz P., Sýkora J., Sabó J., Hof M., Cwiklik L., Cebecauer M. (2016): **Roughness of a Transmembrane Peptide Reduces Lipid Membrane Dynamics.** *BioRxiv*: 1–14 (DOI: 10.1101/093377)

Olšinová M., Jurkiewicz P., Pozník M., Šachl R., Prausová T., Hof M., Kozmík V., Teplý F., Svoboda J., Cebecauer M. (2014): **Di- and tri-oxalkyl derivatives of a boron dipyrromethene (BODIPY) rotor dye in lipid bilayers**. *Phys.Chem.Chem.Phys*. 16, 10688-10697

Macháň R., Jurkiewicz P., Olzynska A., Olšinová M., Cebecauer M., Marquette A., Bechinger B., Hof M. (2014): **Peripheral and Integral Membrane Binding of Peptides Characterized by Time-Dependent Fluorescence Shifts: Focus on Antimicrobial Peptide LAH_4.** *Langmuir* 30, 6171-6179

Štefl M., Šachl R., Humpolíčková J., Cebecauer M., Macháň R., Kolářová (Olšinová) M., Johansson L.B.A., Hof M. (2012): **Dynamics and Size of Cross-Linking-Induced Lipid Nanodomains in Model Membranes.** *Biophysical Journal* 102, 2104–2113