

Juraj Sekereš - Curriculum vitae

Education and distinctions:

- 2011 – current** PhD studies in the Laboratory of Cell Morphogenesis, Faculty of Science, Charles University in Prague and Laboratory of Cell Biology, Institute of Experimental Botany, Czech Academy of Sciences
Work under supervision of Ing. Martin Potocký, PhD and RNDr. Viktor Žárský, CSc.
PhD thesis topic: Functional characterization of selected paralogs of EXO70 exocyst complex subunit in plant cells
- 2011** Master studies finished with summa cum laude
- 2009 – 2011** Master studies in „Cell and Developmental Biology“ program, Faculty of Science, Charles University in Prague
Work under supervision of RNDr. Viktor Žárský, PhD in Laboratory of Cell Morphogenesis, Faculty of Science, Charles University in Prague and Laboratory of Cell Biology, Institute of Experimental Botany, Czech Academy of Sciences
Master thesis topic: Localization and dynamics of SEC5 subunit of exocyst complex in *Arabidopsis thaliana* cells
- 2009** Bachelor studies accomplished with summa cum laude
- 2007 – 2009** Work under supervision of Dr. Zbyněk Kozmik in Laboratory of Transcriptional Regulation, Institute of Molecular Genetics, Czech Academy of Sciences
Bachelor thesis topic: Role of Wnt signalling in primary axis development of cnidarians
- 2006 – 2009** Bachelor studies in „Molecular Biology and Biochemistry of Organisms“ program, Faculty of Science, Charles University in Prague
- 2002 – 2006** Secondary school studies, Secondary grammar school Gymnázium Jána Hollého, Trnava, Slovak Republic

International scientific visits:

- 2015** Biochemistry and Plant Molecular Physiology Institute (Montpellier, France) as part of collaboration with Dr. Doan Luu (Aquaporin research group lead by prof. Christophe Maurel) on exocytosis of plant aquaporins, 1 month in total
- 2010** Institute for Molecular and Cellular Botany (Bonn, Germany) in the laboratory of Prof. František Baluška, 10 days in total

Publications in progress:

Sekeres J*, Synek L*, Pleskot R, Ruzickova M, Aldorfova K, Vukasinovic N, Markovic V, Ortmannova J, Pejchar P, Zarsky V, Potocky M. Molecular architecture of Arabidopsis exocyst complex reveals EXO70A1 as the key membrane targeting subunit with affinity towards phosphatidylinositol 4,5-bisphosphate and phosphatidic acid *in vitro* and *in vivo*. *In prep*
*=equally contributing authors

Pejchar P, **Sekeres J**, Potocky M. Molecular characterization of pollen-preferred phospholipase D δ family in tobacco. *In prep*

Ortmannova J, Pecenkova T, **Sekeres J**, Kulich I, Zarsky V. EXO70B2 containing exocyst complex mediates fungal penetration resistance in Arabidopsis. Submitted to New Phytologist (IF = 7.33)

Primary impacted publications:

Sekeres J, Pejchar P, Santrucek J, Vukasinovic N, Zarsky V, Potocky M. Analysis of Exocyst Subunit EXO70 Family Reveals Distinct Membrane Polar Domains in Tobacco Pollen Tubes. *Plant Physiol.* (IF = 6.28) 2017 Mar;173(3):1659-1675. doi: 10.1104/pp.16.01709.

Vukasinovic N, Oda Y, Pejchar P, Synek L, Pecenkova T, Rawat A, **Sekeres J**, Zarsky V. Microtubule-dependent targeting of the exocyst complex is necessary for xylem development in Arabidopsis. *New Phytol.* (IF = 7.33) 2017 173(3):1659-1675. doi: 10.1104/pp.16.01709.

Kulich I, Pecenkova T, **Sekeres J**, Fendrych M, Zarsky V. Arabidopsis Exocyst Complex subunit EXO70B1 is involved in the autophagy-related transport into the vacuole. *Traffic.* (IF = 4.1) 2013 Nov;14(11):1155-65. doi: 10.1111/tra.12101.

Fendrych M, Synek L, Pecenkova T, Drdova EJ, **Sekeres J**, de Rycke R, Nowack MK, Zarsky V. Visualization of the exocyst complex dynamics at the plasma membrane of Arabidopsis thaliana. *Mol Biol Cell.* (IF = 4.803) 2013 Feb;24(4):510-20. doi: 10.1091/mbc.E12-06-0492.

Reviews and book chapters:

Sekeres J*, Zarsky V. 180 Years of the Cell: from Matthias Jakob Schleiden to the Cell Biology of the 21st century. In *Plant Cell Monographs Volume 23: Concepts in Cell Biology - History and Evolution*. ISBN 978-3-319-69944-8

*=corresponding author

Sekeres J, Pleskot R, Pejchar P, Zarsky V, Potocky M. Song of Lipids and Proteins: Dynamic Lipid-Protein Interfaces in the Regulation of Plant Cell Polarity at Different Scales. *J Exp Bot.* (IF = 5.83) 2015 Mar;66(6):1587-98. doi: 10.1093/jxb/erv052.

Synek L, **Sekeres J**, Zarsky V. The exocyst at the interface between cytoskeleton and membranes in eukaryotic cells. *Front Plant Sci.* (IF = 4.298) 2014 Jan 2;4:543.
doi: 10.3389/fpls.2013.00543.

Non - impacted texts (texts for Czech Biology Olympiad, in Czech language):

Bendová Z., Buchbauerová L., Černý J., Damaška A., Kleisner K., Nedvědová T., Nunvář J., Pilátová J., **Sekereš J.**, Smyčková M., Vosol sobě S., Zemek O. 2016: Budiž světlo! 150p (“Let there be light!”)

Baláž V., Kodejš K., Kolář F., Nunvář J., Pilátová J., Pospíšková M., Prach J., **Sekereš J.**, Smyčka J., Synek P., Zemek O. 2014: Země živitelka aneb Příroda ve službách člověka. 133p (“Nature in service of man”)

Fíla J., Pánek T., **Sekereš J.** 2011: Tvary v živé přírodě. 153 p (“Shapes in living nature”)

Grants awarded:

2015-2017 Functional analysis of vesicle tethering complex exocyst EXO70 subunit isoforms in plant cell polarity (Grant Agency of Charles University in Prague, main applicant)

Practical courses:

2018 EMBO practical course “Advanced Optical Microscopy for Cell Biology” in Plymouth, UK

2017 EMBO practical course “Protein-lipid interactions: Advanced experimental and computational tools” in Helsinki

2016 EMBO practical course “Non-Neuronal Optogenetics: From Design to Application in Cell Signaling and Tissue Morphogenesis”, EMBL Heidelberg

2016 Principles of Light Microscopy, MPI of Molecular Cell Biology and Genetics Dresden

2014 EMBO practical course „Light sheet microscopy“, MPI of Molecular Cell Biology and Genetics Dresden

2013 EMBO practical course „Current Methods in Cell Biology“, EMBL Heidelberg

2013 EMBO practical course „Multi-level Modelling of Morphogenesis“, John Innes Center, Norwich

Advanced lecture courses:

- 2016** FEBS advanced course “Lipid-protein interactions and organelle function”
Spetses, Greece (including poster presentation)
- 2015** FEBS-EMBO advances lecture course “Biomembranes: Molecular
Architecture, Dynamics and Function” Cargese, Corsica (including poster
presentation)

Conferences with active participation:

- 2017** European network for plant endomembrane research meeting (main
author of a poster, coauthor of 3 posters)
- 2017** “EMBO Cell polarity and membrane dynamics” conference (short talk)
- 2017** EMBO/EMBL symposium “Molecular and Cell Biology of Membranes”
(poster)
- 2015** “EMBO Signalling in plant development” conference (poster)
- 2015** European network for plant endomembrane research meeting (poster)
- 2012** Society for experimental biology annual meeting (coauthor of 2 posters)
- 2011** Czech conference of PhD students in plant science (talk)

Lecturing and mentoring:

- 2013-2014** Supervision of bachelor student Klára Aldorfová
Bachelor thesis topic: Interplay of cytoskeleton and secretory pathway
during exocytosis in plant cells
- 2013** Mathematical biology seminar (partial)
- 2013** Plant cell biology practical course for master students (partial)
- 2011** Seminar on comparative developmental biology and mechanisms of
morphogenesis (partial)

Other academic/popularization activities:

Official member of organizers of the Czech biology olympiad (for high school students)
Regular lecturing at events for biology-oriented high school students
Regular participation at Czech interdisciplinary meetings