

## **Viktor Demko, PhD.**

### **Date and place of birth:**

November 19, 1981; Roznava, Slovakia

### **Address:**

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### **Current positions:**

Research scientist, Norwegian University of Life Sciences, Aas, Norway  
Research assistant, Comenius University in Bratislava, Slovakia (partial position)

### **Education:**

2005	M.Sc., plant physiology	Comenius University in Bratislava, Faculty of Natural Sciences, Department of Plant Physiology.
2009	Ph.D. plant physiology	Comenius University in Bratislava, Faculty of Natural Sciences, Department of Plant Physiology.

### **Research interest:**

Cell Biology, Plant Developmental Biology

### **Training:**

Molecular biology (molecular cloning, RNA/gene expression, protein detections), Genetic transformation of plants (*in vivo* protein-tagging (knock-in), gene overexpression and mutagenesis in *P. patens*), Microscopy (CLSM, Electron microscopy), Immunofluorescence - protein localizations, Protein expression and purification (*E. coli*, insect cells).

### **Scientific fellowships:**

**-since January 2015 – present** Research Scientist, Norwegian University of Life Sciences, Ås, Norway

**-since 2015 – present** Visiting Researcher at Oxford Protein Production Facility (OPPF-UK) and MPL, Diamond Light Source, Harwell Science and Innovation Campus, Oxfordshire, England

**-since May 2016 – present** Academic Visitor, Department of Plant Sciences, University of Oxford, UK

**-2010-2013** post-doctoral fellow, Prof. Odd-Arne Olsen lab; Norwegian University of Life Sciences, Ås, Norway.

**-2010** (three months) Prof. Ralph Quatrano lab; Washington University in St. Louis, St. Louis, Missouri, USA.

**-2007** (three months) Prof. Bernhard Grimm lab; Institute of Biology / Plant Physiology, Humboldt University in Berlin, Germany.

**-2005** (three months) Prof. Frantisek Baluska lab; Institute of Cellular and Molecular Botany, University of Bonn, Germany.

**-2004** (three months) Prof. Frantisek Baluska lab; Institute of Cellular and Molecular Botany, University of Bonn, Germany.

### **Memberships:**

European Society for Evolutionary Developmental Biology

Slovak Botanical Society

### **Selected publications:**

Johansen W, Eugene A, **Demko V**, Perroud PF, Rensing S, Khaleel Mekhlif A and Olsen OA (2016) The DEK1 calpain Linker functions in three-dimensional body patterning in *Physcomitrella patens*. *Plant Physiol*, in press: doi: <http://dx.doi.org/10.1104/pp.16.00925>

**Demko V**, Ako E, Perroud PF, Quatrano R, Olsen OA (2016) The phenotype of the CRINKLY4 deletion mutant of *Physcomitrella patens* suggests a broad role in developmental regulation in early land plants. *Planta*, 244(1):275-84

Olsen O.-A., Perroud P.-F., Johansen W., **Demko V**. (2015) DEK1; missing piece in puzzle of plant development. *Trends in Plant Science* 20(2)70-1.

**Demko V.**, Perroud P.-F., Johansen W., Delwiche, Ch.F., Cooper E., Brown R.C., Lemmon B., Remme P., Ako, E.A., Kugler K., Mayer K.F.X., Quatrano R., Olsen O.-A. (2014) Genetic analysis of DEK1-Loop function in three-dimensional body patterning in *Physcomitrella patens*. *Plant Physiology* 166(2): 903-919.

Perroud P.-F., **Demko V\***, Johansen W., Wilson R.C., Olsen O.-A., Quatrano R.S. (2014) Defective Kernel 1 (DEK1) is required for three-dimensional growth in *Physcomitrella patens*. *New Phytologist*, 203(3):794-804 (\*joined first author).

Liang Z., **Demko V.**, Wilson R.C., Johnson K.A., Ahmad R., Perroud P.-F., Zhao S., Shalchian-Tabrizi K., Olsen O.-A., Johansen W. (2013) The catalytic domain CysPc of the DEK1 calpain is functionally conserved in land plants. *The Plant Journal*, 75(5): 742-754.

Zhao S., Liang Z., **Demko V.**, Wilson R.C., Johansen W., Olsen O.-A., Shalchian-Tabrizi K. (2012) Massive expansion of the of the calpain gene family among unicellular eukaryotes. *BMC Evolutionary Biology*, 12: 193.

Pavlovič A., **Demko V.**, Hudák J. (2010) Trap closure and prey retention in Venus flytrap (*Dionaea muscipula* Ellis.) temporarily reduces photosynthesis and stimulates respiration. *Annals of Botany* 105: 37-44.

**Demko V.**, Pavlovič A., Hudák J. (2010) Gabaculine alters plastid development and differentially affects abundance of plastid-encoded DPOR and nuclear-encoded GluTR and FLU-like proteins in spruce cotyledons. *Journal of Plant Physiology* 167: 693-700.

Pavlovič A., Singerová L., **Demko V.**, Hudák J. (2009) Feeding enhances photosynthetic efficiency in the carnivorous pitcher plant *Nepenthes talangensis*. *Annals of Botany* 104: 307-314.

**Demko V.**, Pavlovič A., Valková D., Slováková Ľ., Grimm B., Hudák J. (2009) A novel insight into the regulation of light-independent chlorophyll biosynthesis in *Larix decidua* and *Picea abies* seedlings. *Planta* 230: 165-176.

#### **Invited speaker:**

The 6th meeting of European Society for Evolutionary Developmental Biology, Uppsala, Sweden, July 26.-29, 2016

#### **Selected talks on Seminars and Conferences:**

**Demko, Viktor.** Was the DEK1 protein key to the three-dimensional body patterning in plants? Olomouc, **Czech Republic**, 2014-03-13 Seminar under the program Inovations and popularization of biophysical studies.

**Demko, Viktor.** Evolutionary Origin and Functional Diversity of Calpains. Norwegian Biochemical Society, As, **Norway**, 2013-04-12 Seminar of the Norwegian Biochemical Society.

**Demko V. et al.** Molecular dissection of the plant calpain DEK1 points to the regulatory role of its transmembrane domain. PlantBio2013; Tromso, **Norway**; 2013

**Demko et al.** Molecular dissection of the single plant calpain DEK1 points to the regulatory role of its transmembrane domain. Moss2013; Praha; **Czech Republic**; 2013

**Demko et al.** Functional dissection of the plant calpain DEK1. PlantBio 2012 The First National Plant Biology Conference; Oslo, **Norway**; 2012

**Demko et al.** Searching for cellular targets of the plant calpain DEK1. Moss 2012; **New York, USA**; 2012

**Demko et al.** The DEK1 and Crinkly4 proteins play a fundamental role in the development of land plants. Moss 2011; Black Forest, **Germany**; 2011