

## CV

**dr hab. Agnieszka Kielbowicz-Matuk**

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**Department of Environmental Stress Biology**

**Regulation of Gene Expression Team**

**Specialization:** plant molecular biology, molecular physiology of plant adaptation to environmental stress factors, regulation of plant growth in a daily cycle

### Research profile

- Molecular basis of plant tolerance to abiotic stresses (low temperature, drought, salinity).
- Function of BBX proteins (B-box zinc finger protein family) in *Solanum* species in the processes regulated by light and circadian clock during vegetative/generative growth and in response to hormones and stress factors (high/low temperature, water deficit and salinity).
- Plant material: *Solanum tuberosum* and *Solanum soganandinum*.

### National and international grants

- **National Science Centre**

#### **Project number: 2014/15/B/NZ9/04809**

Title: Functional analysis of the SsBX24 protein containing zinc binding domains in circadian clock during development and response to salinity

Podtype: OPUS

Principal investigator: Agnieszka Kielbowicz-Matuk

Duration: 20 July 2015 – 20 January 2019

#### **Project number: 2016/22/M/NZ9/00251**

Title: Regulacja ekspresji genu półkarłowatości *sdw1/denso* u jęczmienia (*Hordeum vulgare* L.) i jej związek z architekturą i fizjologią roślin

Podtype: HARMONIA

Principal investigator: Paweł Krajewski

Duration: 17 April 2017 – 16 April 2020

### Training abroad

- 2005 – Laboratory of Physiology and Photosynthesis, Department of Plant Ecophysiology and Microbiology. CEA/Cadarache, Saint-Paul-lez Durance, France
- 2006 – Max Planck Institute of Molecular Plant Physiology, Plant Lipids, Germany (Golm)

### National cooperation

- Adam Mickiewicz University in Poznan; Faculty of Biology; Institute of Molecular Biology and Biotechnology
- Adam Mickiewicz University in Poznan; Faculty of Physics; Molecular Biophysics Department

### International cooperation

- CEA, DSV, IBEB, Lab Ecophysiol Molecul Plantes, Saint-Paul-lez-Durance, Francja. Structure and function of BBX proteins in light signaling.

### Publications

- Kielbowicz-Matuk A., Czarnecka J., Banachowicz E., Rey P., Rorat T. **(2017)**. *Solanum tuberosum* ZPR1 encodes a light-regulated nuclear DNA-binding protein adjusting the circadian expression of StBBX24 to light cycle. *Plant, Cell Environ.* 40: 424-440.
- Talar U., Kielbowicz-Matuk A., Czarnecka J., Rorat T. **(2017)**. Genome-wide survey of B-box proteins in potato (*Solanum tuberosum*) – identification, characterization and expression patterns during diurnal cycle, etiolation and deetiolation. *PLOS ONE* 12(5): e0177471.
- Majka J., Książczyk T., Kielbowicz-Matuk A., Kopecký D., Kosmala A. **(2017)**. Exploiting repetitive sequences and BAC clones in *Festuca pratensis* karyotyping. *PLOS ONE* 12(6): e0179043.
- Kielbowicz-Matuk A., Banachowicz E., Turska-Taraska A., Rey P., Rorat T. **(2016)**. Expression and characterization of a barley phosphatidylinositol transfer protein structurally homologous to the yeast Sec14p protein. *Plant Sci.* 246: 98-111.
- Kielbowicz-Matuk A., Rey P., Rorat T. **(2014)**. Interplay between circadian rhythm, time of the day and osmotic stress constraints in the regulation of the expression of a *Solanum* Double B-box gene. *Ann. Bot.* 113: 831-842.

- Kielbowicz-Matuk A., Czarnecka J. **(2014)**. Interplays of plant circadian clock and abiotic stress response networks. W: Mass Spectrometry Handbook (Michael S. Lee Editor), Wiley, New York, ISBN: 978-0-470-53673-5.
- Kielbowicz-Matuk A. **(2012)**. Involvement of plant C2H2-type zinc finger transcription factors in stress responses. Plant Sci. 185-186: 78-85.

### **Prizes/Awards**

- Distinction doctoral dissertation by the Scientific Council of the Institute of Plant Genetics, Polish Academy of Sciences, 2006.
- Award of 5th Department of Polish Academy of Science for results of research in 2005-2006, „Isolation and identification of genes which expression is associated with toleration of cultivated potato species and wild potato *Solanum soganandinum* to stresses caused by cold, drought and salinity”.

### **Interests/Hobbies**

tourism, music