

# Dr Magdalena Kroc

Legume Genomics Team

Institute of Plant Genetics, Polish Academy of Sciences, Poznan, Poland

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## ACADEMIC AND RESEARCH CAREER

**2011 - present** Adjunct, Institute of Plant Genetics, Polish Academy of Sciences, Poznań, Poland

**2004 - 2010** Ph.D. Institute of Plant Genetics, Polish Academy of Sciences, Poznań, Poland

**1998 - 2003** M.Sc. University of Szczecin, Szczecin, Poland

## MAJOR RESEARCH PROJECTS

“Narrow-leafed lupin alkaloids: understanding the molecular background of the biosynthesis and accumulation, as well as searching for new forms characterized with high alkaloid content in green organs, while retaining low seed alkaloid content”. Ministry of Agriculture and Rural Development; 1.02.2021 – 31.12.2027.

“Pilot studies on the new mechanism regulating low seed alkaloid content in narrow-leafed lupin, through the association of alkaloid-related genes expression pattern with alkaloids accumulation in particular plant organs”. National Science Centre, MINIATURA 3, 2019/03/X/NZ1/02009; 18.12.2019 – 9.06.2021.

“INCREASE - Intelligent Collections of Food Legumes Genetic Resources for European Agrofood Systems”. H2020-EU.3.2.1.1; 01.05.2020 – 01.05.2025.

“Increased usage of domestic protein sources for production of high quality animal products under sustainable conditions”. Task 2.2. “Identification of genes underlying alkaloid content and generative organs development and maintenance in lupins”; Government Multiannual Programme (RM-111-222-15), 01.01.2016 – 31.12.2020.

## RESEARCH VISITS

2007 Murdoch University, Perth, Australia (1 month)

2006 Montana State University, Bozeman, USA (3 months)

2006 University of Aarhus, Aarhus, Denmark (1 week)

2004 Biological Research Center of Hungarian Academy of Sciences, Szeged, Hungary (1 week)

## PUBLICATIONS (5 MAJOR PUBLICATIONS, LAST 5 YEARS)

1. Czepiel K., Krajewski P., Wilczura P., Bielecka P., Świącicki W., **Kroc M.\*** (2021). Expression Profiles of Alkaloid-Related Genes across the Organs of Narrow-Leafed Lupin (*Lupinus angustifolius* L.) and in Response to Anthracnose Infection. *International Journal of Molecular Sciences* 22(5):2676.
2. Świącicki W., Czepiel K., Wilczura P., Barzyk P., Kaczmarek Z., **Kroc M.\*** (2019). Chromatographic fingerprinting of the Old World Lupins seed alkaloids: A supplemental tool in species discrimination. *Plants* 8(12):548.
3. **Kroc M.\***, Czepiel K., Wilczura P., Mokrzycka M., Świącicki W. (2019). Development and validation of a gene-targeted dCAPS marker for marker-assisted selection of low-alkaloid content in seeds of narrow-leafed lupin (*Lupinus angustifolius* L.). *Genes* 10(6): 428.
4. **Kroc M.\***, Koczyk G., Kamel K.A., Czepiel K., Fedorowicz-Strońska O., Krajewski P., Kosińska J., Podkowiński J., Wilczura P., Świącicki W. (2019). Transcriptome-derived investigation of biosynthesis of quinolizidine alkaloids in narrow-leafed lupin (*Lupinus angustifolius* L.) highlights candidate genes linked to *iucundus* locus. *Scientific Reports* 9, 2231.
5. **Kroc M.**, Rybiński W., Wilczura P., Kamel K., Kaczmarek Z., Barzyk P., Świącicki W\*. (2017). Quantitative and qualitative analysis of alkaloids composition in the seeds of a white lupin (*Lupinus albus* L.) collection. *Genetic Resources and Crop Evolution* 64(8):1853-1860.