Dr. Ing. Anna Nowicka

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Position and Employment

1/2018 – present: **Postdoctoral Researcher** in Pečinka group, Centre of the Region Hana for Biotechnological and Agricultural Research and Centre of Plant Structural and Functional Genomics, Institute of Experimental Botany, The Academy of Sciences of the Czech Republic, Olomouc, Czech Republic

9/2015 – 8/2016: **Postdoctoral Researcher** in Pečinka group, Max Planck Institute for Plant Breeding Research, Dept. of Plant Breeding and Genetics, Cologne, Germany

5/2014 – 12/2017: **Postdoctoral Researcher** in Dept. of Cell Biology (head Prof. Iwona Zur), F. Gorski Institute of Plant Physiology, Polish Academy of Sciences, Cracow, Poland

6/2011– 4/2014: **Financial analyst**, Capgemini, Cracow, Poland

Education and Academic Degrees

9/2007 – 9/2011: **Ph.D. studies, Genetics and Plant Breeding**, Dept. of Genetics, Plant Breeding and Seed Science, University of Agriculture, Cracow, Poland

10/2009 – 6/2010: **postgraduate studies**, Pedagogy and Psychology Centre, University of Technology, Cracow, Poland

10/2002 – 6/2007: **M.Sc. Biotechnology**, Interfaculty Dept. of Biotechnology, University of Agriculture, Cracow, Poland

Scientific Interests

Seed development, Chromatin, Epigenetics, Endoreduplication, Microspore embryogenesis, Barley

Awards

2020 – Centre of the Region Haná director award for Excellence 2020

2015 – DAAD Fellowship, MPIPZ, Cologne, Germany

2010 – Rector Award, University of Agriculture, Cracow, Poland

Oral presentations at conferences, universities and institutes

Plant Biotechnology: Green for Good V**,** Olomouc, Czech Republic (2019)

Meeting of the group GPZ, Cytogenetics, Dresden, Germany (2019)

Plant Functioning under environmental stress, Cracow, Poland (2018)

X and XI Conference “In Vitro Cultures in Biotechnology and Plant Physiology” (2016, 2019)

Institute of Experimental Botany (IEB), Olomouc, Czech Republic (2016, 2019)

F. Gorki Institute of Plant Physiology, Cracow, Poland (2014, 2016, 2019)

Lectures and hands-on

2019: Institute of Experimental Botany (IEB), Olomouc, Czech Republic – COST Training School in “Plant proteomics using flow sorted cells and Mass-spectrometry” hands-on flow cytometry.

2018: F. Gorski Institute of Plant Physiology, Polish Academy of Sciences, Cracow, Poland – lectures “Epigenetics” for PhD students.

2002–2007: University of Agriculture, Cracow, Poland – conducting exercises with students.

Publications

Journal publications: 17

Lifetime citations (WoS): 89, 01/2021

H-index: 7

17. Makowski W., Królicka A., **Nowicka A.**, Banasiuk R., Zwyrtková J., Tokarz B., Pecinka A., Tokarz K.M. (2021) Transformed tissue of Dionaea muscipula J. Ellis as a source of biologically active phenolic compounds with bactericidal properties. *Applied Microbiology and Biotechnology*, (JIF 2019 = 3.530). *Accepted for publication*

16. Nowicka A., Kovacik M., Tokarz B., Vrána J., Zhang Y., Weigt D., Doležel J., Pecinka A. (2021) Dynamics of endoreduplication in developing barley seeds. *Journal of Experimental Botany*, eraa453, (JIF 2019 = 5.908). *Accepted for publication*

15. Zieliński K., Dubas E., Gerši Z., Krzewska M., Janas A., Nowicka A., Matušíková I., Żur I., Sakuda S., Moravčíková J. (2021) β-1,3-Glucanases and chitinases participate in the stress-related defence mechanisms that are possibly connected with modulation of arabinogalactan proteins (AGP) required for the androgenesis initiation in rye (Secale cereale L.) *Plant Science* 302: 110700 (JIF 2019 = 3.591)

14. Kovacik M., **Nowicka A.**, Pecinka A. (2020). Isolation of high purity tissues from developing barley seeds. *Journal of Visualized Experiments* 164: e61681 (JIF 2019 = 1.050)

13. Nowicka A., Tokarz B., Zwyrtková J., Dvořák Tomaštíková E., Procházková K., Ercan U., Finke A., Rozhon W., Poppenberger B., Otmar M., Niezgodzki I,. Krečmerová M., Schubert I., Pecinka A. (2020) Comparative analysis of epigenetic inhibitors reveals different degrees of interference with transcriptional gene silencing and induction of DNA damage. *The Plant Journal* 102: 68-84 (JIF 2019 = 6.140)

12. Wójcik-Jagła M., Rapacz M., Dubas E., Krzewska M., Kopeć P., **Nowicka A.**, Ostrowska A., Malaga S., Żur I. (2020) Candidate genes for freezing and drought tolerance selected on the basis of proteome analysis in doubled haploid lines of barley. *International Journal of Molecular Science* 21: 2062 (JIF 2019 = 4.556)

11. Zieliński K., Krzewska M., Żur I., Juzoń K., Kopeć P., **Nowicka A.**, Moravčiková J., Skrzypek E., Dubas E. (2020) The effect of glutathione and mannitol on androgenesis in anther and isolated microspore cultures of rye (Secale cereale L.), *Plant Cell, Tissue and Organ Culture* 140: 577-592 (JIF 2019 = 2.196)

10. Malaga S., Janeczko A., Janowiak F., Waligórski P., Oklestkova J., Dubas E., Krzewska M., **Nowicka A.,** Surówka E., Rapacz M., Wojcik-Jagła M., Kopeć P., Hura T., Ostrowska A., Kaczanowska K., Żur I. (2020) Involvement of homocastasterone, salicylic and abscisic acids in the regulation of drought and freezing tolerance in doubled haploid lines of winter barley. *Plant Growth Regulation* 1:173-188 (JIF 2019 = 2.338)

9. **Nowicka A.**, Juzoń K., Krzewska M., Dziurka M., Dubas E., Kopeć P., Zieliński K., Żur I. (2019) Chemically-induced DNA de-methylation altersthe effectiveness of microspore embryogenesis in triticale. *Plant Science* 287:110-189 (JIF 2019 = 3.591)

8. Díaz M., Pecinkova P., **Nowicka A.,** Baroux C., Sakamoto T., Gandha P.Y., Jeřábková H., Matsunaga S., Grossniklaus U., Pecinka A. (2019) SMC5/6 complex subunit NSE4A is involved in DNA damage repair and seed development in Arabidopsis. *The Plant Cell* 31:1579-1597 (JIF 2019 = 9.618)

7. Gołębiowska-Pikania G., Kopeć P., Surówka E., Janowiak F., Krzewska M., Dubas E., **Nowicka A.,** Kasprzak J., Ostrowska A., Malaga S., Hura T., Żur I. (2017) Changes in protein abundance and activity induced by drought during generative development of winter barley (Hordeum vulgare L.). *Journal of Proteomics* 169:73-86 (JIF 2017 = 3.72)

6. Gołębiowska-Pikania G., Kopeć P., Surówka E., Krzewska M., Dubas E., **Nowicka A.,** Rapacz M., Wójcik-Jagła M., Malaga S., Hura T., Żur I. (2017) Changes in protein abundance and activity involved in freezing tolerance acquisition in winter barley (Hordeum vulgare L.), *Journal of Proteomics* 169: 58-72 (JIF 2017 = 3.72)

5. Nowicka A., Śliwińska E., Grzebelus D., Barański R., Simon P., W. Nothnagele T., Grzebelus E. (2016) Nuclear DNA content variation within the genus Daucus (Apiaceae) determined by flow cytometry. *Scientia Horticulturae* 209:132-138 (JIF 2016 = 1.62)

4. Nowicka A., Grzebelus E., Grzebelus D. (2016) Precise karyotyping of carrot mitotic chromosomes using multicolour-FISH with repetitive DNA. *Biologia Plantarum* 60:25-36 (JIF 2016 = 1.93).

3. Macko-Podgorni A., **Nowicka A.,** Grzebelus E., Simon P.W., Grzebelus G. (2013) DcSto: carrot Stowaway-like elements are abundant, diverse, and polymorphic. *Genetica* 141: 255-267 (JIF 2013 = 2.19)

2. **Nowicka A**., Grzebelus E., Grzebelus D. (2012) Fluorescent in situ hybridization with arbitrarily amplified DNA fragments differentiates carrot (Daucus carota L.) chromosomes. *Genome* 55:1-9 (JIF 2012 = 0.72)

1. Czernicka M., Mscichowska A (**Nowicka A.**), Klein M., Muras P., Grzebelus E. (2010) Paternity determination of interspecific rhododendron hybrids by genomic in situ hybridization (GISH). *Genome* 53: 277-284 (JIF 2010 = 2.25)

Co-supervisor Ph.D. students

Martin Kovačik (2018 -)
Kamil Zielinski (2016 -)

Supervisor Bachelor students

Luboslava Ferkova (2020 -)

Supervisor Visiting scientists

Dr. Barbara Tokarz (3-8. 2018)
Wojciech Makowski (10-12. 2019)
Dr. Dorota Weigt (1-3. 2020)

Ad hoc manuscript reviewer

Planta, Plants, Epigenomes, Agronomy, Comparative Cytogenetics, BMC Plant Biology

Languages

English: fluent, German: good, Czech: good, Polish: mother tongue

Non-scientific Interests

Personal development, psychology, reading the books