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UPWr Base of Knowledge - link	https://bazawiedzy.upwr.edu.pl/info/author/UPWr4ecca1af86b34c1bbdb073f9c33fc2c/Magdalena%2BWo%25C5%2582oszy%25C5%2584ska?r=publication&tab=publications&sort=&lang=pl
Researchgate:	
Personal website / Working group website:	
Projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	Regulation of Arabidopsis photomorphogenesis by Elongator - protein complex epigenetically regulating gene expression. Grant of the National Science Center Poland, OPUS 14, 2017/27/B/NZ1/00449, PI
Research topic and funding	
1) PhD topic:	Regulation of photomorphogenesis in Arabidopsis thaliana by the protein complex Elongator.
2) Research discipline in Doctoral School	Biological Sciences
3) Short description of the research problem to be solved in the PhD (minimum 1000 characters):	<p>"Elongator is the protein complex conserved between yeast, animals and plants and regulating transcription of protein encoding genes as well as transcription and processing of microRNA (miRNA). Elongator has epigenetic activities, such as histone acetylation during RNAPII transcript elongation and DNA (de)methylation of cytosines.</p> <p>The main goal of this project is to explain the transcription-related role of the Elongator complex in Arabidopsis thaliana during early seedling development in light (photomorphogenesis).</p> <p>Following germination, plant seedlings develop according to the skotomorphogenic program, in which hypocotyls elongate, so-called etiolation, apical hooks are closed and cotyledons are folded. When seedlings reach the soil surface and are exposed to light, the developmental program switches to photomorphogenesis, resulting in de-etiolation, in which hypocotyl elongation is inhibited, while the apical hook opens and cotyledons expand. Arabidopsis plants having mutations in genes encoding various subunits of the Elongator complex (elo mutants) show phenotype characterized by photomorphogenesis defect known as light hyposensitivity (elongated hypocotyls, reduced cotyledon expansion and hyponastic growth of the cotyledons).</p> <p>Known targets of the HAT or DNA (de)methylation activity of Elongator recruit from the high order regulators of the key physiological processes and many of them are transcription factors. The main players of light signaling pathway in plants are also transcription factors or interactors of transcription factors. Moreover, the expression of the light receptor phytochrome A and positive photomorphogenesis regulators is regulated via epigenetic modifications. Finally, the light signal induces a strong reprogramming of the plant transcriptome. Therefore, the working hypothesis is that via its histone acetyltransferase (HAT) or DNA (de)methylation activity Elongator regulates transcription of light receptors or photomorphogenesis regulators or contributes directly to the massive light induced transcriptome reprogramming.</p> <p>The aim of the project is to answer the following questions:</p> <ul style="list-style-type: none"> - Which genes and gene pathways active in photomorphogenesis are regulated by Elongator? - Which of the genes are directly controlled by Elongator and which via the secondary effects? - Which transcription related activities of Elongator are involved in photomorphogenesis? <p>"</p>
4) Professional skills for PhD candidate (e.g. master program, specializations, softwares, language, analytical techniques, minimum 500 characters):	<ul style="list-style-type: none"> - Master degree in biological sciences - interest in molecular biology - willingness to work in laboratory and to learn many experimental technics (mainly related to molecular biology) - motivation to scientific work - English skills at the level allowing fluent reading of scientific literature - teamwork skills - experience in laboratory work (isolation of nucleic acids, PCR, qPCR, Chromatin Immunoprecipitation (ChIP), Methylated DNA Immunoprecipitation (MeDIP) - ability to plan experiments and to analyze biological data - experience in work with plants, particularly with Arabidopsis thaliana - bioinformatical skills (transcriptome analysis) - scientific trainings, fellowships"
5) Details of the project to support PhD research	
a) Project title:	Regulation of Arabidopsis photomorphogenesis by Elongator - protein complex epigenetically regulating gene expression.
b) Agreement number:	UMO-2017/27/B/NZ1/00449
c) Number of months in the project to support PhD (in months; starting from 1st of October 2021):	10
6) Project website:	