Plant Ecological Genomics Laboratory (Assoc. Prof. Filip Kolář, Ph.D.)

The **Plant Ecological Genomics Laboratory**, led by **Assoc. Prof. Filip Kolář** at the Faculty of Science, Charles University studies **plant evolution and diversity** through a combination of cytogenetic, genomic, and ecological approaches.

The group focuses on the **evolutionary consequences of whole-genome duplication (polyploidy)** and how this process shapes adaptation and speciation in plants.

By combining extensive fieldwork in mountain regions of Europe, Africa, and South America with state-of-the-art genomic tools, the team uncovers mechanisms of **genomic convergence** and **parallel adaptation** to challenging environments such as toxic soils and alpine habitats.

The group maintains close collaborations with both Czech and international research teams, bridging **ecology, genomics, and evolutionary biology** to better understand how plants adapt to a changing world.

Filip Kolář is an active educator and mentor at the Department of Botany, Charles University, and a leading figure in Czech evolutionary biology. He is a recipient of the **Neuron Award for Promising Young Scientists (2018)**, **ERC Starting Grant holder (Double Adapt, 2021)**, and **GAČR Junior Star awardee (2023)**.

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