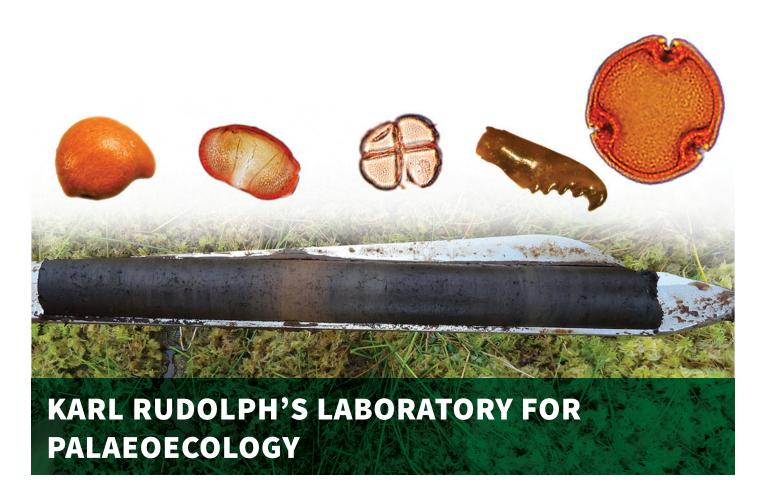


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OFFER

- Experience in the field of European and North African palaeoecology.
- Palaeoecological analyses of sedimentary material.
- Numerical analysis and interpretation of data, quantitative land cover reconstructions.

REQUIREMENTS

- Quaternary sedimentary sequences containing preserved biological remains.
- Novel methods in ancient DNA, fossil analysis, leaf wax-derived dD and branched GDGTs.
- Access to palaeoecological data inaccessible in public databases.

KNOW-HOW & TECHNOLOGIES

ECOSYSTEM DYNAMICS ON LONG-TERM SCALES; STUDYING PROCESSES BEYOND OBSERVATION LEADING TO AN UNDERSTANDING OF CLIMATE AND HUMAN INTERACTIONS WITH EARTH'S SYSTEMS

- Quaternary ecosystem dynamics driven by climate change.
- Archaeobotany of cultural systems.
- Fire dynamics and disturbance in postglacial ecosystems.
- Past land cover changes affected by anthropogenic disturbance.

"Our aim is to apply the reconstruction of past ecosystems, vegetation and flora to understand their longterm dynamics and to link these with present-day processes."



CONTENT OF RESEARCH

- Holocene land-cover reconstruction: effect of climate, human impact, origin of natural vegetation.
- Long-term perspective of forest fires within temperate landscape.
- Post-glacial migration legacies of plant species.
- Holocene land-use changes.

MAIN CAPABILITIES

- Analysis of plant remains (pollen, macrofossils, charcoal, phytoliths) in natural and anthropogenic sedimentary environments.
- Pollen-based quantitative vegetation reconstruction using models of pollen dispersal and sedimentation.
- Quaternary ecology and macroecology of forest species.
- Administration and development of large palaeoecological databases, analysis of large datasets in order to answer ecological questions.
- Species distribution modelling.
- Description of fire regimes using charcoal record in soil and sedimentary sequences.

KEY RESEARCH EQUIPMENT

- Coring equipment for lakes and bogs.
- Fully equipped laboratory for treatment of palaeoecological samples (pollen, plant macrofossils, charcoal, phytoliths).
- Microscopic facility.

MAIN PROJECTS

- 2016–2018: EUROPIA Holocene distrurbance dynamics in European *Picea abies* (Norway spruce) forests implications for conservation and management (Czech Science Foundation, grant No. 16-06915S).
- 2016–2018: Origin of diversity of Central European ladnscapes: using recent pollen and vegetation models to reconstruct historical biodiversity changes (Czech Science Foundation, grant No. 16-10100S).

- 2012–2015: Pollen-based land-cover reconstruction model testing and its implications for Holocene environmental change studies (The Czech Science Foundation, grant No. P504/12/0649).
- 2007–2011: Long-term development of cultural landscape of Central Bohemia as a co-evolution of human impacts and natural processes (Grant Agency of the Academy of Sciences of the Czech Republic, IAAX00020701).
- 2009–2011: Forest wildfire dynamics in Czech sandstone areas and its effect on recent vegetation (Grant Agency of Charles University no. 97609).
- 2007–2009: Pollen Database of the Czech Republic (Grant Agency of Charles University no. 29407).
- Participation in one project funded by the European Research Council.

PARTNERS AND COLLABORATIONS

ACADEMIC PARTNERS

Institute of Botany of the Czech Academy of Sciences (Průhonice and Brno, Czech Republic) | Institute of Archaeology of the Czech Academy of Sciences, Prague | Czech University of Life Sciences, Prague | Department of Physical and Applied Geo-logy, Eötvös University, Hungary | Institute of Ecology, Tallinn University, Estonia | CNRS GEODE UMR, Toulouse University Le Mirail, France | Department of Geography and Planning, University of Liverpool, the United Kingdom

ACHIEVEMENTS

Publications in respected international journals with high impact factors: Global Change Biology, Quaternary Science Reviews, Journal of Biogeography, The Holocene, Climate of the Past, Journal of Vegetation Science.

SEE OUR WEBPAGE

www.natur.cuni.cz/biology/botany/palaeoecology