



The Global Change Research Institute CAS, Brno, Czech Republic seeks a **Postdoctoral Fellow (PostDoc) in plant pathogen protection** within the GA ČR project

Biocontrol of plant pathogens by phytohormone producing microalgae

Start: as early as possible, latest 1.5.2020

Duration: till 31.12.2021

Application deadline: 20. March 2020

Scientific environment:

Domain of Adaptive and Innovative Techniques in the Department of Adaptive Biotechnologies of the Global Change Research Institute CAS (<http://www.czechglobe.cz/en/institute-structure/research-sector/v-domain-adaptive-and-innovative-techniques/department-of-adaptive-biotechnologies/>) headed by Ing. Jan Červený, Ph.D. under the co-supervision of prof. Dr. Thomas Roitsch.

The project:

Classical growth-stimulating cytokinins and other phytohormones are currently established as novel regulators of plant immunity by increasing pathogen resistance (Großkinsky et al, 2011, Plant Physiol 157: 815; Akhtar et al, 2020, Front Plant Sci 10: 1777). We recently identified bacterial cytokinin production as a new determinant of biological disease control and obtained proof of concept for a cytokinin mediated biocontrol ability of microalgae (Großkinsky et al, 2016, Sci Rep 6: article 23310; <https://www.science.ku.dk/english/press/news/2016/breakthrough-microbes-protect-plants-with-plant-hormones/>). Due to rising world population, climate change, and ban of pesticides, maintenance and increase of biomass production for food and bioenergy strongly depends on alternatives in plant protection. The project aims to generate a new basic mechanistic understanding on cytokinin function in plant immunity against hemibiotrophic pathogens *Pseudomonas syringae* in the model plants *Arabidopsis* and tobacco, and to opens up novel strategies for using microalgae for sustainable, cytokinin mediated biocontrol in crop plants. Dissection of the underlying mechanisms of the inter-organismic phytohormone-mediated biocontrol will contribute to novel concepts in plant protection. This approach will be complemented by microalgae production and characterization in photobioreactors as a basis for practical application in crop production with additional benefits for enhanced abiotic stress tolerance and serving as biofertilizers.

Your profile:

- University education & degree (MSc, PhD) in biological science with focus on plant science research
- Experience with model plants such as *Arabidopsis* and tobacco to study of plant pathogen interaction
- Research experience with microalgae or plant beneficial microbes is of advantage
- Track record of publication in impacted international journals
- Knowledge of English at high level
- Reliability and responsibility, organisation skills, time flexibility
- Experience as postdoc in an institution different from the one that awarded the PhD is an advantage

We offer:

- Excellent collaboration conditions in an attractive research environment
- Highly creative working atmosphere in a young and dynamic international team
- Exciting interdisciplinary project connecting plant physiology with molecular biology, pathology applied to the trans-kingdom interaction of higher plants, microalgae and bacterial pathogens
- Working at eye level in flat hierarchies
- High motivation in scientific work, we burn for science

For more information please contact prof. Dr. Thomas Roitsch by email: Roitsch@plen.ku.dk

How to apply:

Please send your CV (max. 2 pages), list of publications incl. scientometrics (impact factors, citations, etc.), list of past and ongoing research projects, names of three references, university degree certificates (PhD/Dr, MSc/Ing, BSc), and a personal motivation letter (max. 1 page, avoid general statements), combined in a single pdf-file, to: jobs@czechglobe.cz.

Please state in the e-mail subject line: **Application - Postdoc in plant biocontrol**