Tetiana Kalachova

Current position researcher,
Institute of Experimental Botany of the Czech Academy of Sciences (**IEB Prague**),
Laboratory of Pathological Plant Physiology
Rozvojová 263, Prague 6 Lysolaje, 16502, Czech Republic; kalachova@ueb.cas.cz
Citizenship: Ukraine
ORCID: 0000-0002-2843-5482; ResearcherID: S-5186-2018

Education and academic degrees

2017 PhD in Biology, Bioorganic chemistry; double degree from Université Paris Est Créteil (France) and Institute of Bioorganic Chemistry and Petrochemistry NAS of Ukraine. Thesis title: *"Deciphering the role of lipid signaling in plant response to environmental stresses and developmental cues"*

2009 MSc Biology, Virology & Microbiology, Taras Shevchenko National University of Kyiv, Ukraine

Research experience and training

2022 postdoctoral fellow at John Innes Centre, Norwich, UK - EMBO fellowship (laboratory of Dr. Christine Faulkner, role of actin cytoskeleton integrity in cell-to-cell communication through plasmodesmata)

Since 2019 researcher at **IEB**

2017 – 2019 postdoctoral fellow at **IEB,** Laboratory of Pathological Plant Physiology

2016 – 2017 Visegrad fellowship for independent research, **IEB Prague**

2016 Erasmus^{+} internship, University of Chemistry and Technology Prague (Laboratory of Biochemistry)

2014 – 2016 postgraduate student, Institute of Ecology and Environmental Sciences of Paris (Department of Plant-Environment Interactions, CNRS, UMR7618, France)

2011 – 2014 junior research associate, Institute of Bioorganic Chemistry and Petroleum Chemistry NAS of Ukraine

2009 – 2011 engineer, Institute of Bioorganic Chemistry and Petroleum Chemistry NAS of Ukraine

Main research interests

Plant immunity; plant-microbe interactions; signal transduction; actin cytoskeleton remodelling; cell-to-cell communication; induced resistance.

Grants and projects:

Principal investigator of five projects (Czech Academy of Sciences; EMBO; MEYS; Visegrad Fund). Bilateral cooperation with INRA Versailles, France (funded by MEYS); bilateral cooperation with University of Compiegne, France (funded by CAS).

Applied results:

Patent # UA-5652-U "Method of the improvement of nutritional value of soybean seeds" – Kalachova T., Iakovenko O., Kravets V. – 2014. – published 25.12.2014. – Ukrainian Patents Database.

Teaching and mentoring:

Thesis consultant: PhD – 1 (consultant, defended); MSc. – 4 (2 defended, 2 in progress); Bc. – 8 (3 defended, 5 in progress). Invited lecturer at the University of South Bohemia (in the frame of the course "Plant immunity", Faculty of Natural Sciences). Speaker at the seminar "Student and research mobility" at the University of South Bohemia. Moderator of the discussion section at the conference "16th Student Days of Plant Biology CS 2021". Guest lecturer at the Taras Shevchenko National University of Kyiv (Virology department).

Awards: Milan Kutaček award from the Czech Society of Experimental Plant Biology (2019), awardee of several travel grants for workshops and conferences (2020 – FESPB congress; 2014 – TULIP summer school; 2013 – SEB meeting; 2012 – FESPB congress, SEB meeting; 2011 – FEBS workshop); best talk prize winner (2019, 2013, 2011).

Memberships: member of the board of the Czech Society of Experimental Plant Biology, member of International Society of Molecular Plant-Microbe Interactions, British Society of Plant Pathology, Ukrainian Virology Association.

Reviewing: guest editor in the *Biologia Plantarum*; reviewer in *BMC Plant biology*, *PLOS one*, *Environmental and Experimental Botany, Scientific Reports, Plants, Frontiers in Plant Sciences, Plant Protection Science, Journal of Experimental Botany*

Publication activity: 19 papers WOS (17 original articles, 2 reviews), 2 book chapters; cited 159 times (WOS, Google Scholar = 232), h-index = 8.

Selected recent publications:

1. **Kalachova T.,** Jindřichová B., Burketová L., Monard C., Blouin M., Jacquiod S., Ruelland E., Puga-Freitas R. (2022) Controlled natural selection of soil microbiome through plant-soil feedback confers resistance to a foliar pathogen. *Plant and Soil*. doi: 10.1007/s11104-022-05597-w

2. **Kalachova T.+,** Škrabálková E.+, Pateyron S., Soubigou-Taconnat L., Djafi N., Collin S., Sekereš J., Burketová L., Potocký M., Pejchar P., Ruelland E. (2022) DIACYLGLYCEROL KINASE 5 Is Involved in Flagellin-Induced Signaling Downstream of FLS2 and BIK1 in *Arabidopsis thaliana*. *Plant Physiology*, Vol. 190:3, Nov. 2022, P. 1978–1996 doi: 10.1093/plphys/kiac354

3. Starodubtseva A., **Kalachova T*.,** Retzer K., Jelinková A., Dobrev P., Lacek J., Pospichalová R., Angelini J., Guivarc'h A., Pateyron S., Soubigou-Taconnat L., Burketová L., Ruelland E. (2022) An Arabidopsis mutant deficient in phosphatidylinositol-4-phosphate kinases ß1 and ß2 displays some constitutive auxin responses in roots. *Scientific Reports*. 12:6947 doi: 10.1038/s41598-022-10458-8

4. Pluhařová K., Leontovyčová H., Stoudková V., Pospíchalová R., Maršík P., Klouček P., Starodubtseva A., Iakovenko O., Krčková Z., Valentová O., Burketová L., Janda M.*, **Kalachova T.***. "Salicylic acid mutant collection" as a tool to explore the role of salicylic acid in regulation of plant growth under a changing environment. (2019) *International Journal of Molecular Sciences.* 20(24), 6365. doi: 10.3390/ijms20246365

5. Leontovyčová H., **Kalachova T.,** Trdá L., Pospíchalová R., Lamparová L., Dobrev P., Malínská K., Burketová L., Valentová O., Janda M. (2019) Actin depolymerization is able to increase plant resistance against pathogens via activation of salicylic acid signalling pathway. – *Scientific Reports.* **9**: 10397. doi:10.1038/s41598-019-46465-5.