

DIRECTOR'S AWARD FOR EXCELLENCE 2018

SCIENTIFIC PUBLICATION:

1. George Komis

Komis G, Šamajová O, Ovečka M, Šamaj J (2018) Cell and developmental biology of plant mitogen-activated protein kinases. *Annual Review of Plant Biology* 69, 237-265.

IF = 18.712, journal ranking 1/223

Komis G, Novák D, Ovečka M, Šamajová O, Šamaj J (2018) Advances in imaging plant cell dynamics. *Plant Physiology* 176, 80-93.

IF = 5.949, journal ranking 11/223 (5 %)

2. Miroslav Ovečka

Ovečka M, von Wangenheim D, Tomančák P, Šamajová O, Komis G, Šamaj J (2018) Multiscale imaging of plant development by light-sheet fluorescence microscopy. *Nature Plants* 4, 639-650.

IF = 11.471, journal ranking 3/223 (2 %)

3. Ursula Ferretti

Ferretti U, Ciura J, Ksas B, Rác M, Sedlářová M, Kruk J, Havaux M, Pospíšil P (2018) Chemical quenching of singlet oxygen by plastoquinols and their oxidized products in Arabidopsis. *Plant Journal* 95, 849-861.

IF = 5.775, journal ranking 12/223 (6 %)

4. Helena Janečková

Janečková H, Husičková A, Ferretti U, Prčina M, Pilařová E, Plačková L, Pospíšil P, Doležal K, Špundová M (2018) The interplay between cytokinins and light during senescence in detached Arabidopsis leaves. *Plant, Cell & Environment* 41, 1870-1885.

IF = 5.415, journal ranking 13/223 (6 %)

5. Aleš Pěňčík

Pěňčík A, Casanova-Sáez R, Pilařová V, Žukauskaitė A, Pinto R, Micol JL, Ljung K, Novák O (2018) Ultra-rapid auxin metabolite profiling for high-throughput mutant screening of Arabidopsis. *Journal of Experimental Botany* 69, 2569-2579.

IF = 5.354, journal ranking 14/223 (7 %)

6. Martin Hömig

Hömig M, Plíhalová L, Spíchal L, Grúz J, Kadlecová A, Voller J, Rajnochová-Svobodová A, Vostálová J, Ulrichová J, Doležal K, Strnad M (2018) New cytokinin derivatives possess UVA and UVB photoprotective effect on human skin cells and prevent oxidative stress. *European Journal of Medicinal Chemistry* 150, 946-957.

IF = 4.816, journal ranking 4/59 (7 %)

7. Vladimíra Nožková

Nožková V, Šmíd P, Horváth P, Hrabovský M, Ilík P (2018) Non-invasive monitoring of hydraulic surge propagation in a wounded tobacco plant. *Plant Methods* 14: 38.

IF = 4.269, journal ranking 16/223 (8 %)

8. Katarína Holubová

Holubová K, Hensel G, Vojta P, Tarkowski P, Bergougnoux V, Galuszka P (2018). Modification of barley plant productivity through regulation of cytokinin content by reverse-genetics approaches. *Frontiers in Plant Science*, doi: 10.3389/fpls.2018.01676, (in press).

IF = 3.677, journal ranking 24/223 (11 %)

9. Alžběta Němečková

Němečková A, Christelová P, Čížková J, Nyine M, Van den Houwe I, Svačina R, Uwimana B, Swennen R, Doležel J, Hřibová E (2018) Molecular and cytogenetic study of East African Highland banana. *Frontiers in Plant Science* 9:1371.

IF = 3.677, journal ranking 24/223 (11 %)

10. Dominik Novák and Pavol Vadovič

Novák D*, **Vadovič P***, Ovečka M, Šamajová O, Komis G, Colcombet J, Šamaj J (2018) Gene expression pattern and protein localization of Arabidopsis phospholipase D alpha 1 revealed by advanced light-sheet and super-resolution microscopy. *Frontiers in Plant Science* 9:371.

IF = 3.677, journal ranking 24/223 (11 %), * equal first authors

SPECIAL PRICE - PUBLICATION IN SCIENCE:

Hana Šimková (writing team member):

Appels R et al. (2018) Shifting the limits in wheat research and breeding using a fully annotated reference genome. *Science* 361(6403): eaar7191; doi: 10.1126/science.aar7191

PATENTS:

1. Karel Doležal

Doležal K, Plíhalová L, Vylíčilová H, Zatloukal M, Plíhal O, Voller J, Strnad M, Bryksová M, Vostálová J, Rajnochová-Svobodová A, Ulrichová J, Spíchal L (2018) US patent 10100077 (B2) "6-ARYL-9-GLYCOSYLPURINES AND USE THEREOF"

GRANTS:

1. Lucie Plíhalová

MSMT CR, OP RDE, call Pre-Application Research for ITI, CZ.02.1.01/0.0/0.0/17_048/0007323, Development of pre-applied research in nanotechnology and biotechnology (2018-2022)

2. David Zalabák

GA CR, 18-23972Y: Is Arabidopsis AHK4/CRE1 decoy receptor? (2018-2020)

3. Roman Kouřil

GA CR, 18-12178S: Unusual light management strategies of Photosystem II in Norway spruce (2018-2020)

4. Miroslav Valárik

GA CR, 18-11688S: Identification and characterization of *T. militinae* gene responsible for wheat APR resistance against powdery mildew (2018-2020)

5. Nicolas Blavet

GA CR, 18-12338Y: Evoluce B chromozomů v rámci tribu Andropogoneae (2018-2020)

CONTRACTUAL RESEARCH:

1. Marek Zatloukal

Syntéza RR-D pro Chemap-Agro (355 tis. Kč)

2. Ankush Prasad

Ankush Prasad, Pavel Pospíšil (2018) Testing of photo-activated, oxygen-rich gel formulations by KLOX Technologies, Canada, and FB Wound Inc., Ireland (a KLOX affiliate), 2 contracts (total amount 12 000 EUR)