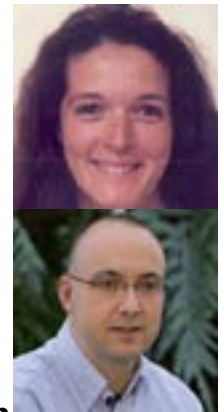


France

Catherine Perrot-Rechenmann
catherine.rechenmann@cnrs-dir.fr
 IJPB (INRAE-AgroParisTech), Université Paris-Saclay.



Loïc Lepiniec
loic.lepiniec@inrae.fr
 IJPB (INRAE-AgroParisTech), Université Paris-Saclay.

Please describe any new experimental resources and/or software tools available to Arabidopsis researchers that have been initiated or funded in your country in 2020 or early 2021

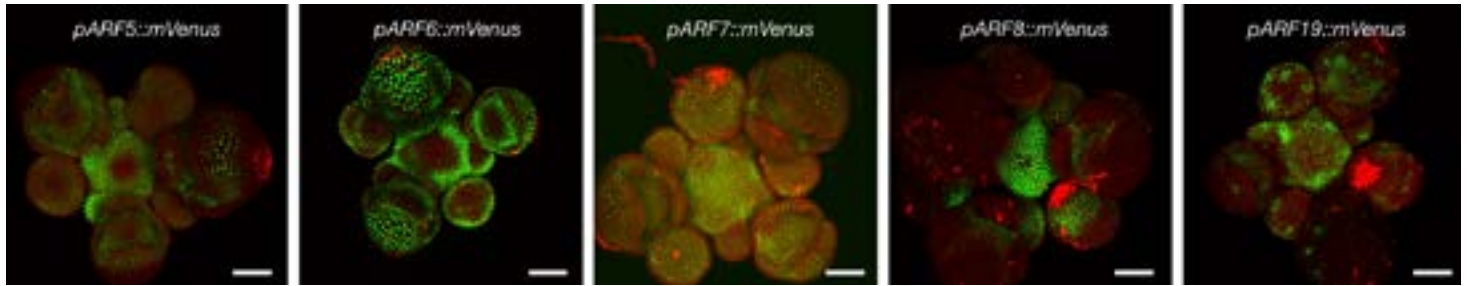
- Arabidopsis stock center, <http://publiclines.versailles.inra.fr> -PHENOSCOPE ([http:// www.ijpb.versailles.inra.fr/en/plateformes/ppa/index. html](http://www.ijpb.versailles.inra.fr/en/plateformes/ppa/index.html)) and PHENOPSIS ([www1.montpellier.inra.fr/ibip/lepse/english/ressources/ phenopsis.htm](http://www1.montpellier.inra.fr/ibip/lepse/english/ressources/phenopsis.htm)) are high-throughput automated phenotyping platforms at Versailles and Montpellier
- SPS tools for Functional Genomics https://www6.inra.fr/saclay-plant-sciences_eng/Infrastructures).
- Plant Genomic center, <https://cnrgv.toulouse.inra.fr/Library/Arabidopsis-PHENOPSIS> DB is an information system ([http://bioweb.supagro.inra.fr/phenopsis/ Accueil.php?lang=En](http://bioweb.supagro.inra.fr/phenopsis/Accueil.php?lang=En))
- ATOMEdb: *Arabidopsis thaliana* ORFeome database, <http://tools.ips2.u-psud.fr/ATOMEdb> -ChloroKb decoding the chloroplast, LPCV, Grenoble, <http://chlorokb.fr/> in the embryo.

Please provide a paragraph describing the general impact of the COVID19 pandemic on the scientific community in your country

COVID19 has heavily impacted our laboratories in 2020. For half of the year (two periods from mid-March to mid-May and September to December), laboratory activities were greatly reduced and a lot of biological material was lost, which impacted all experiments, especially those on crop species. The government, institutions or laboratories provided some support to many PhD or Master students to complete their thesis by providing them with an additional 2 or 3 months of salary/scholarship. But this is not enough to fully make up for the lost time. Moreover, since March, all researchers have to work at home as much as possible, which complicates and slows down their work considerably.

Planned events for 2021 and 2022

- Some institutions have started series of webinars among which the SPS network (https://www6.inrae.fr/saclay-plant-sciences_eng/with) more than 30 online seminars also available as video (https://www6.inrae.fr/saclay-plant-sciences_eng/Events/Online-SPS-Seminars) or the AFBV (French association for Plant Biotech, <https://www.biotechnologies-vegetales.com/les-webinaires-afbv-2021/>)
- Most of the events have been postponed to 2021



Expression of class A ARF genes in the shoot (SAM) reported using long promoters containing sequences 5' and 3' of the ATG (pARF::mVenus). Scale bars, 50 μ m. Experiments were performed at least three times with similar results.

Selected Publications

- Pectin homogalacturonan nanofilament expansion drives morphogenesis in plant epidermal cells. (2020) Haas KT, Wightman R, Meyerowitz EM, Peaucelle A. *Science*. 367(6481):1003-1007. doi: 10.1126/science.aaz5103.

The extracellular cell wall can actively shape the cell it contains without relying on turgor pressure.

- A network of transcriptional repressors modulates auxin responses (2021) Truskina, J *et al.* *Nature*, 589, 11. Doi 10.1038/s41586-020-03066-x.

The default configuration of open chromatin enables a network of transcriptional repressors to regulate expression levels of class A ARF proteins and modulate auxin signalling output throughout development.

- A two-way molecular dialogue between embryo and endosperm is required for seed development Doll, NM *et al.* (2020) *Science*, 367, 6476, 431, DOI: 10.1126/science.aaz4131.

Subtilase-mediated processing of the embryo-derived TWS1 sulfated peptide precursor, releases an active peptide, triggering GASSHO-dependent cuticle reinforcement in the embryo.

Major Funding Sources

- Research organizations such as CNRS, INRAE, CEA or Universities provide recurrent funding to their laboratories in addition to payment of salaries of permanent researchers and technicians. Thematic calls can also be opened by these research organizations for their research laboratories to support emerging or risky projects or to facilitate the development of interdisciplinary projects

- The French national research agency, ANR (<http://www.agence-nationale-recherche.fr/en/about-anr/about-the-french-national-research-agency/>), provides funding for project-based research. In 2020, the overall score of funding was around 17% of the submitted ANR projects