Arabidopsis AGC3 kinases and PIN plasma membrane abundance

Gelderen, K. van

Propositions

1. PIN vacuolar targeting contributes to PIN plasma membrane abundance and auxin transport (This thesis).
2. Developmental processes involving auxin minima, such as fruit dehiscence and stomatal patterning, are controlled by PIN abundance rather than PIN polarity (Sorefan *et al.,* 2009, Nature; Le et al., 2014, Nature Communications; This thesis, Chapter 4).
3. The attraction of PID to charged plasma membrane phosphoinositides (Simon et al., 2016; Nature Plants) fits well with our model of PID and MAB4/MEL aided PIN stabilization at the plasma membrane (This thesis, Chapter 5).
4. The proposed role of D6PK- and PID- phosphorylation in activating PIN1 auxin transport (Weller et al., 2017; PNAS) can also be explained by an increased stabilization of PINs due to phosphorylation.
5. Plant research should not focus only on model plants or domesticated crop species, since these species often lack many responses found in non-domesticated plant species.
6. The study of plant neurobiology (Baluska and Mancuso 2009; Plant Signaling and Behaviour) is a false animalistic viewpoint of the decentralized organisms that are plants.
7. The recent down fall of AUXIN BINDING PROTEIN 1 (ABP1) as a crucial component in plant development demonstrates once more that publication bias towards positive results is a problem that should not be underestimated (Dai et al., 2015, Nature Plants; Boye-Nissen et al., 2016; E-life).
8. Plant root research should move away from the use of agar plates and adapt non-invasive scanning methods of entire soil grown root systems to obtain a more realistic image of how roots grow.
9. In view of the success rate in granting of proposals by NWO, it would be more preferable to hand out science funding through a lottery system than to continue with the current system of proposal writing.
10. The number of PhD students in science should be decreased in favor of longer-term post-doc appointments.
11. Society is insufficiently protected against the misuse of private internet data by governments and third parties.
12. A good sense of humor is being able to laugh at a bad pun.

Propositions belonging to the PhD thesis, entitled:
"**Arabidopsis AGC3 kinases and PIN plasma membrane abundance**"
Kasper van Gelderen
Leiden, July 6th, 2017