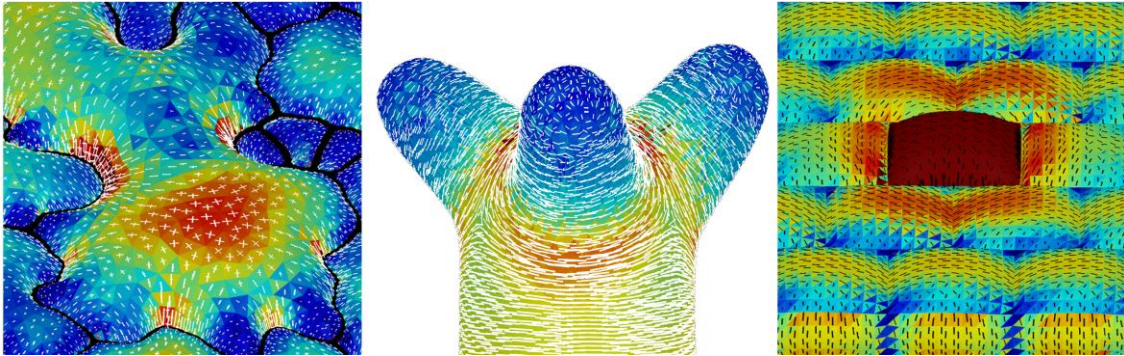


## Funded Ph.D. position in computational cell biophysics

We are seeking a motivated candidate to join our biophysics group and investigate the physical properties of growing cells using **computational modeling and 3D image analysis**. A background in **Physics, Computer Science, Mathematics or Biophysics is required**. Experience with programming (C++, python, matlab) and/or FEM modeling are strong assets.



The PhD student will use mechanical modelling to compute physical forces in plant cells [1, 2, 3] and 3D image analysis to quantify growth [4]. She/He will interact on a regular basis with molecular biologists from the Research Institute in Plant Biology ([IRBV](#)) at [University of Montreal](#), in particular the [Kierzkowski lab](#). The project will be carried in close collaboration with Frederick Gosselin's lab at the [Department of Mechanical Engineering](#), Polytechnique Montréal.

Please send your candidature to [al.routier@umontreal.ca](mailto:al.routier@umontreal.ca) complete with: a **motivation letter and research interests** (1 page max), **CV, grade records** and **email addresses of 2 referees** before **June 1<sup>st</sup> 2019**.

More information about our research: <https://routierlab.com/>

Literature:

- [1] "Cellular basis of growth in plants: geometry matters." Kierzkowski & Routier-Kierzkowska, *Current Opinion in Plant Biology* 47, 56-63 (2019). <https://doi.org/10.1016/j.pbi.2018.09.008>
- [2] "Why plants make puzzle cells, and how their shape emerges." Sapala *et al.*, *eLife* 27:e32794 (2018) <https://doi.org/10.7554/eLife.32794>
- [3] "Morphomechanical Innovation Drives Explosive Seed Dispersal" Hofhuis *et al.*, *Cell* 166, 222-233 (2016). <http://dx.doi.org/10.1016/j.cell.2016.05.002>.
- [4] "MorphoGraphX: A platform for quantifying morphogenesis in 4D" Barbier de Reuille, Routier-Kierzkowska *et al.*, *eLife* 4, e05864 (2015). <http://dx.doi.org/10.7554/eLife.05864>.