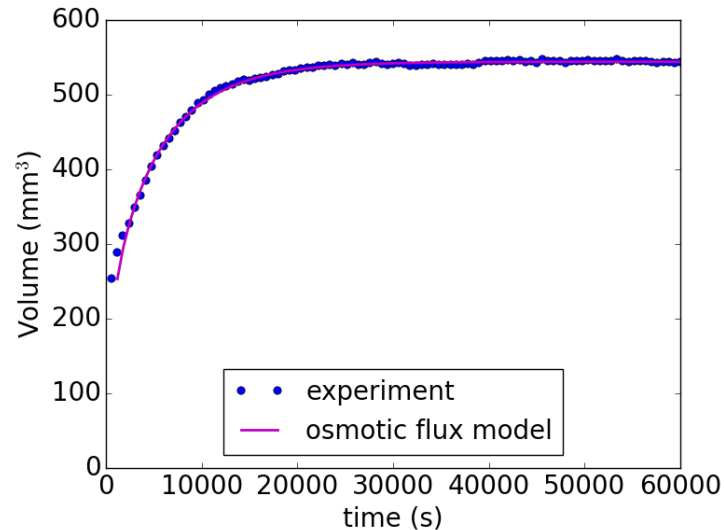


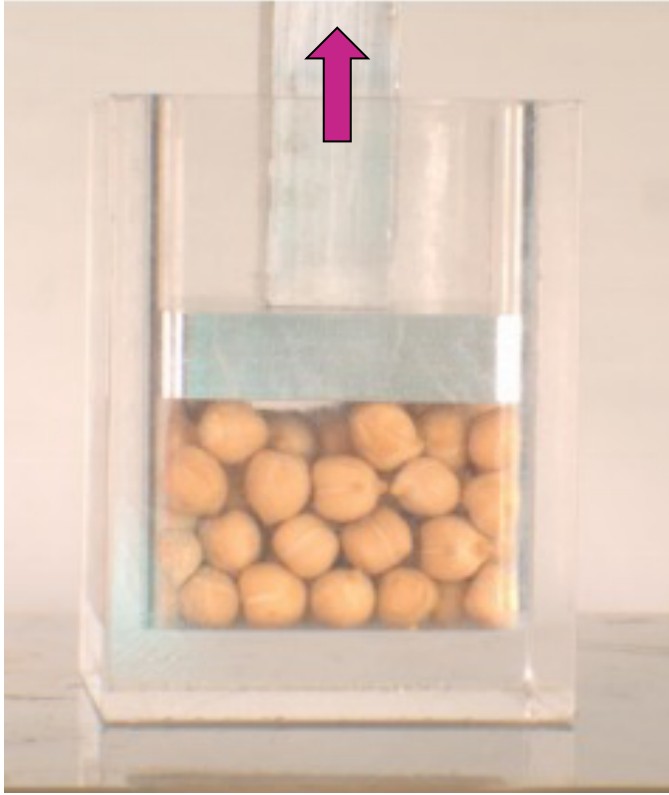
Milieu granulaire en gonflement composé de pois chiches : pression effective et effet Janssen inverse

Philippe Marmottant, Catherine Quilliet, Olivier Stephan, Pierre Recho



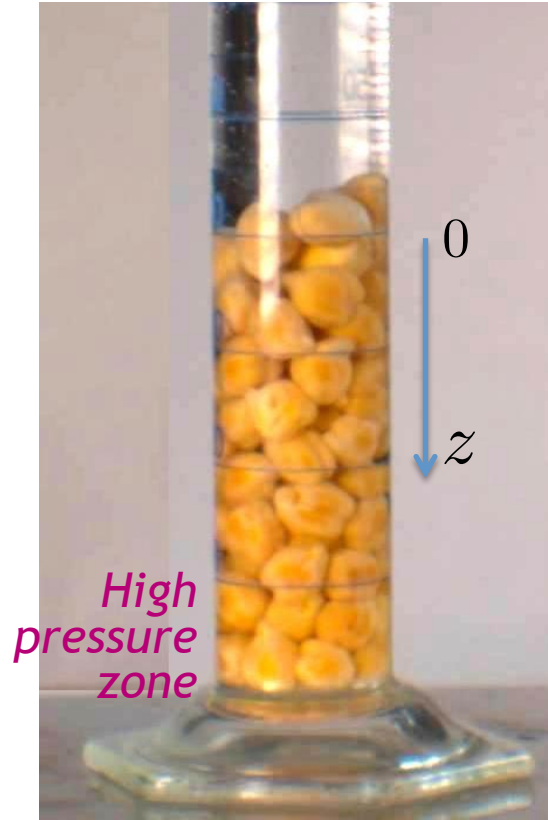
Forces exerted by
swelling grains
when confined?

Chamber and piston



3kg/grain
8 bar on contacts

Inverse silo effect



Usual silo effect,
Janssen model

$$p = \lambda \rho g (1 - e^{-\frac{z}{\lambda}})$$

Here,
exponential
increase of pressure
downwards

$$p = \lambda \rho g (e^{\frac{z}{\lambda}} - 1)$$