

Tracking of bubbles

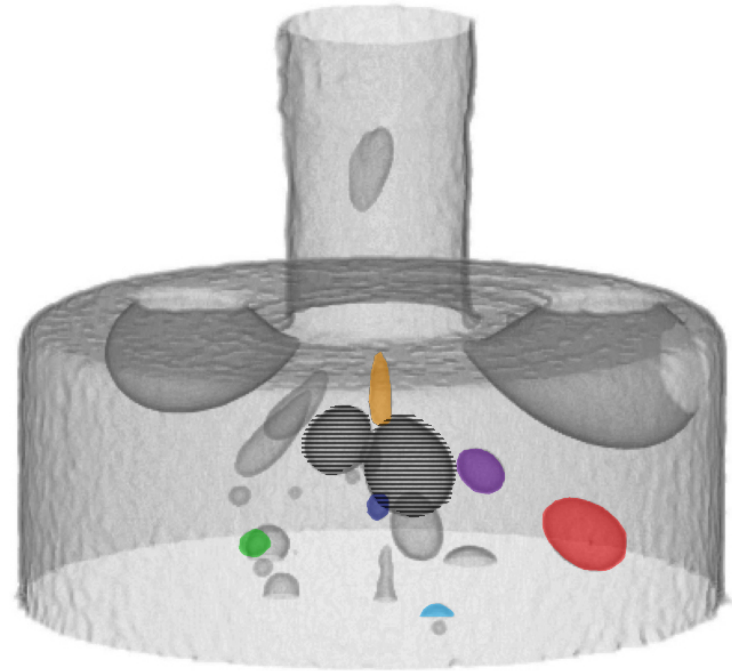
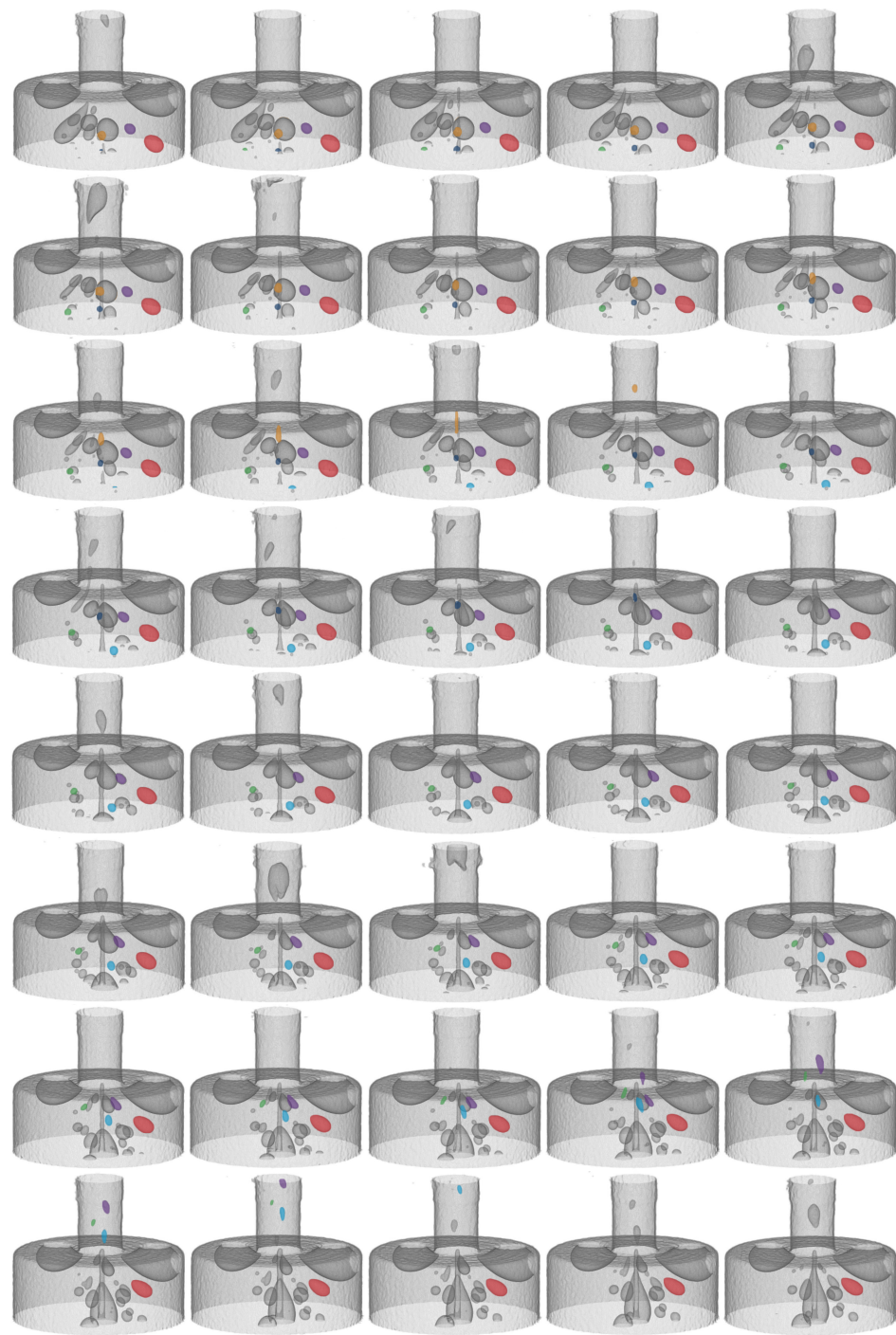


Image: Kevin Mader

Time (step= 80 ms)



Coupling experiment and simulation

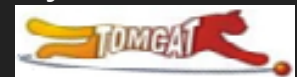
Gilberto Thomas



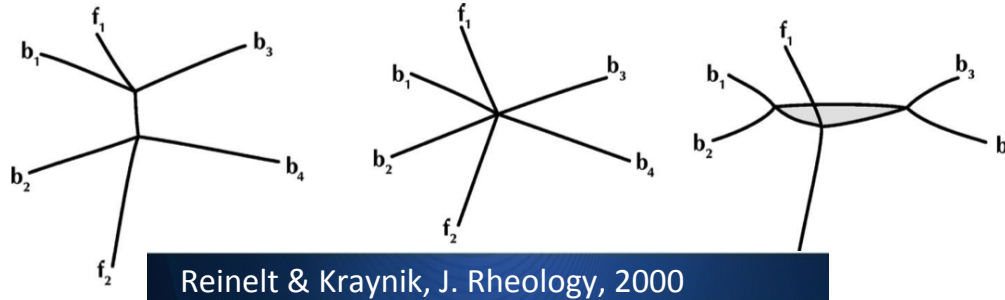
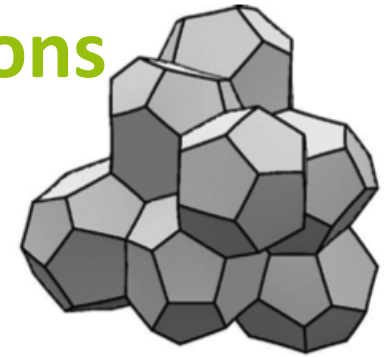
Kevin Mader



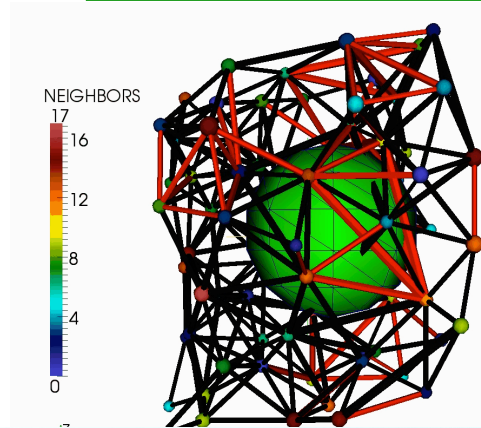
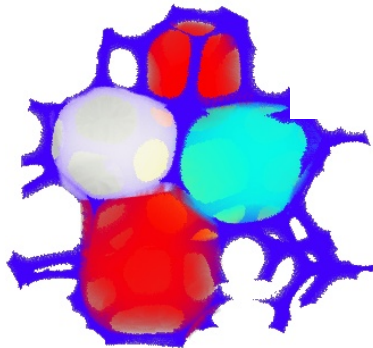
Rajmund Mokso



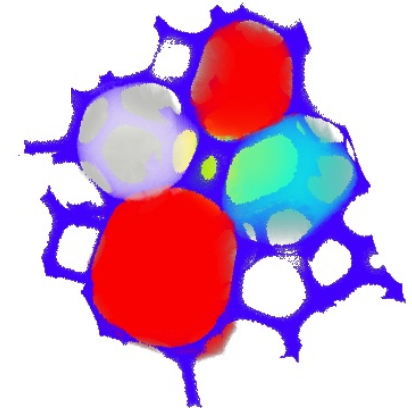
The fundamental topological transitions



Reinelt & Kraynik, J. Rheology, 2000

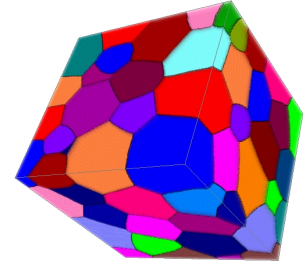
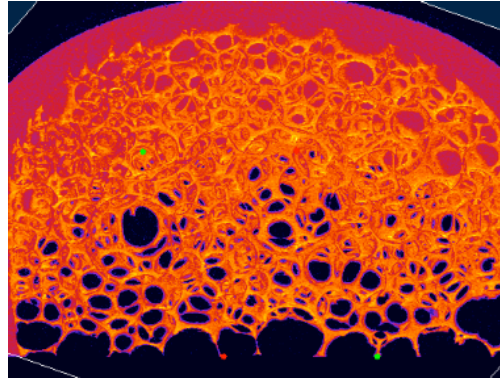


Raufaste, Dollet, Santucci, Mader, Mokso. EPL 2015



- We have the labeling tool, but the neighborhood relations are not yet reliable

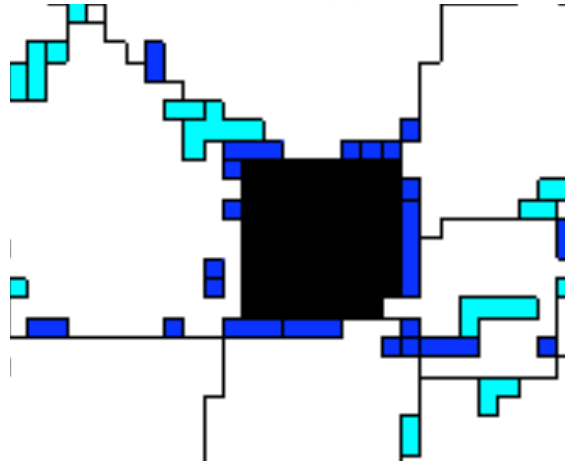
Adding physical constrains to image analysis



Labeled Experimental Data



CompuCell3D with
'Fixed water' and
'Random free water'

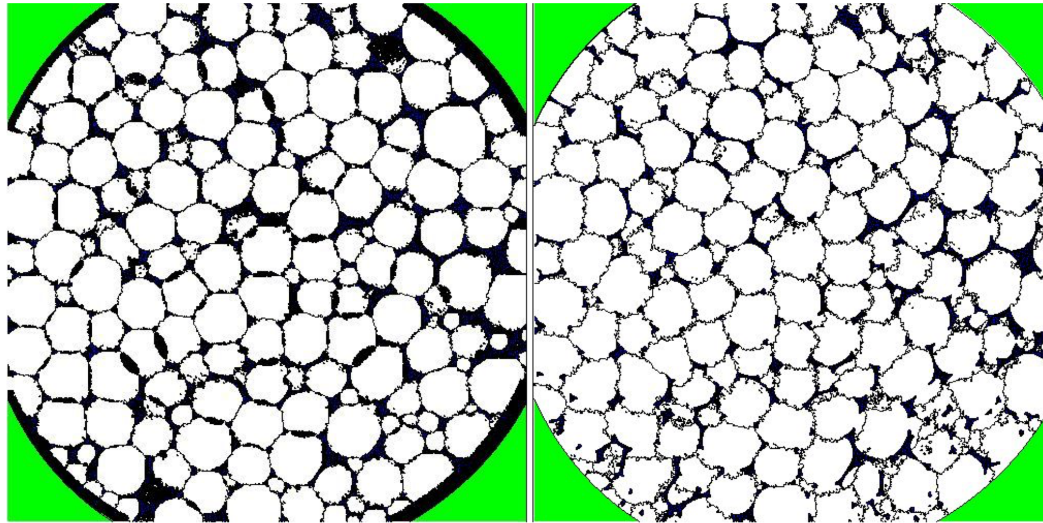


After 160 time steps
(relaxation)



Raufaste, Dollet, Santucci, Mader, Mokso. EPL 2015

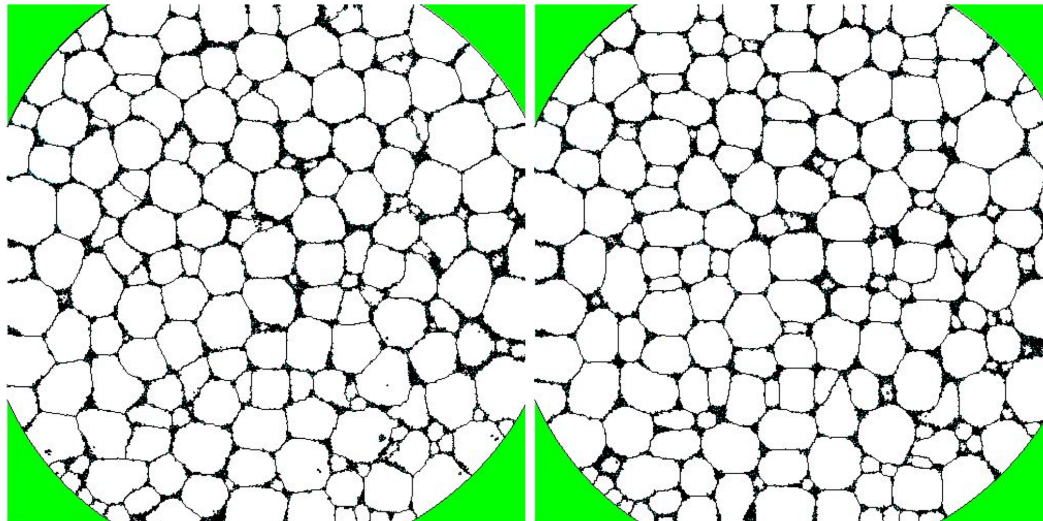
Refining the retrieved structures



T=0

T = 100

CompuCell3D



T = 1150

T = 10000

Potts model
simulations

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J. Belmonte, Heidelberg
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