

# Tracking of bubbles

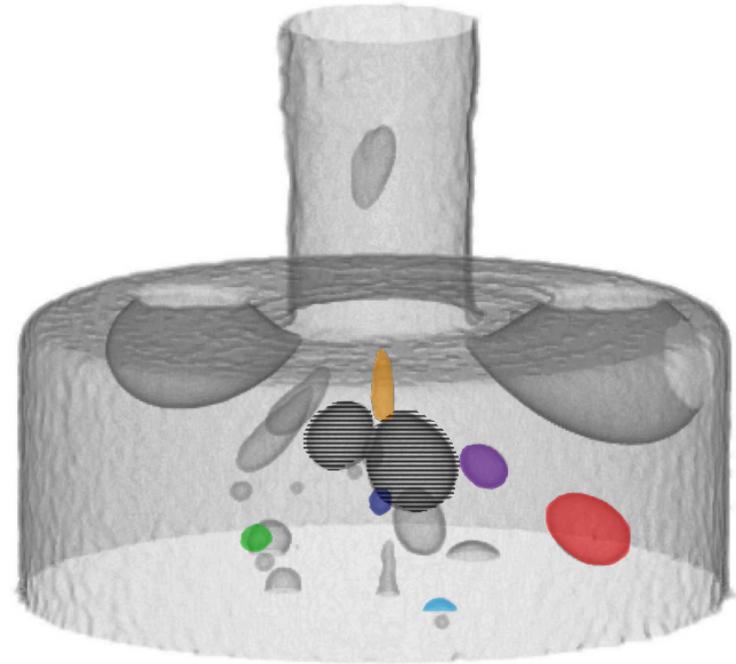


Image: Kevin Mader

Time (step= 80 ms)



# *Coupling experiment and simulation*

Gilberto Thomas



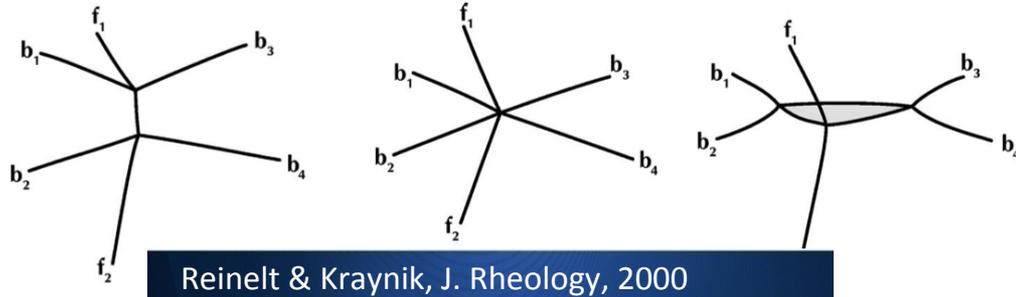
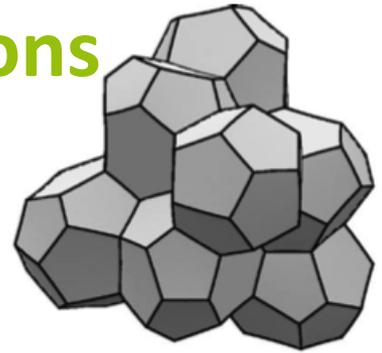
Kevin Mader



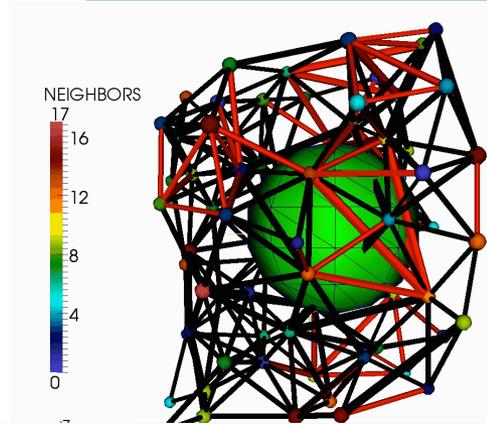
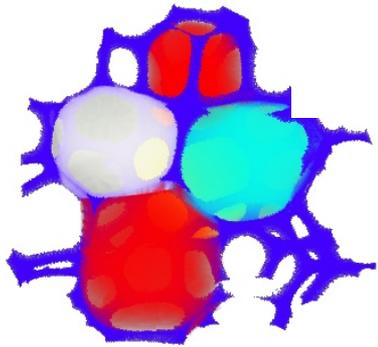
Rajmund Mokso



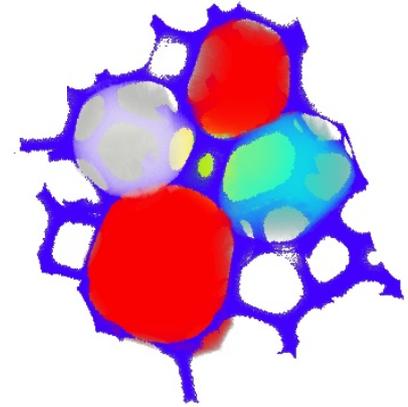
# The fundamental topological transitions



Reinelt & Kraynik, J. Rheology, 2000

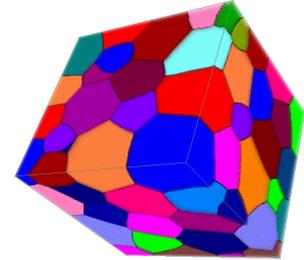
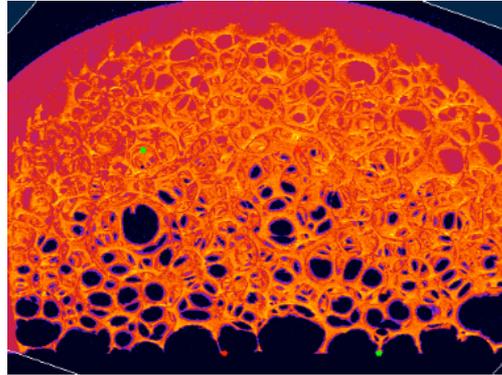


Raufaste, Dollet, Santucci, Mader, Mokso. EPL 2015



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

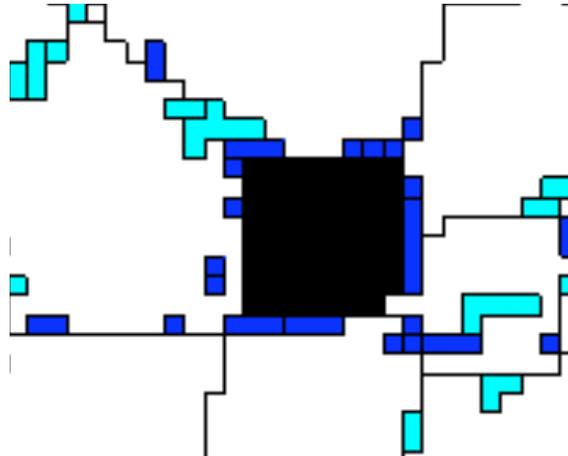
# Adding physical constrains to image analysis



Labeled Experimental Data



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

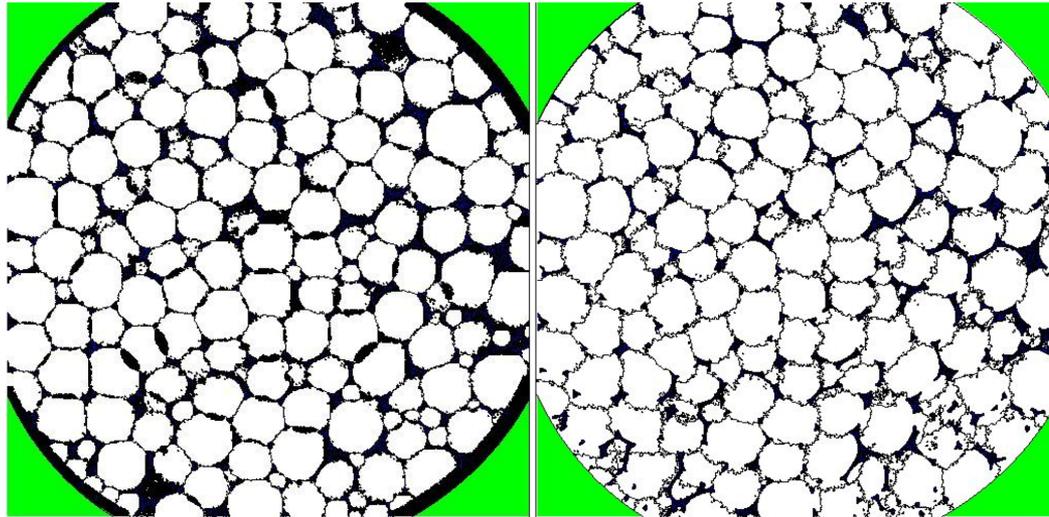


After 160 time steps  
(relaxation)



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

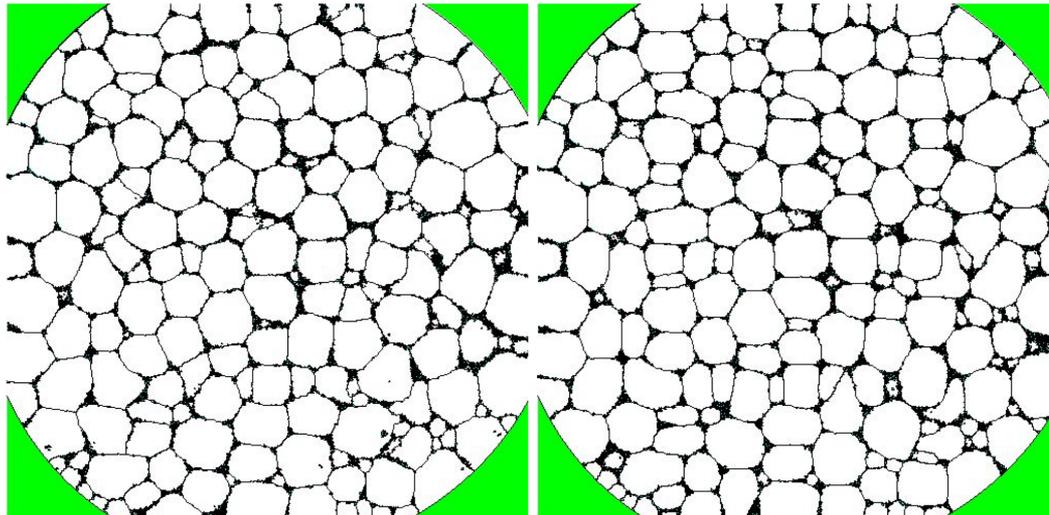
# Refining the retrieved structures



T=0

T = 100

CompuCell3D



T = 1150

T = 10000

Potts model  
simulations

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