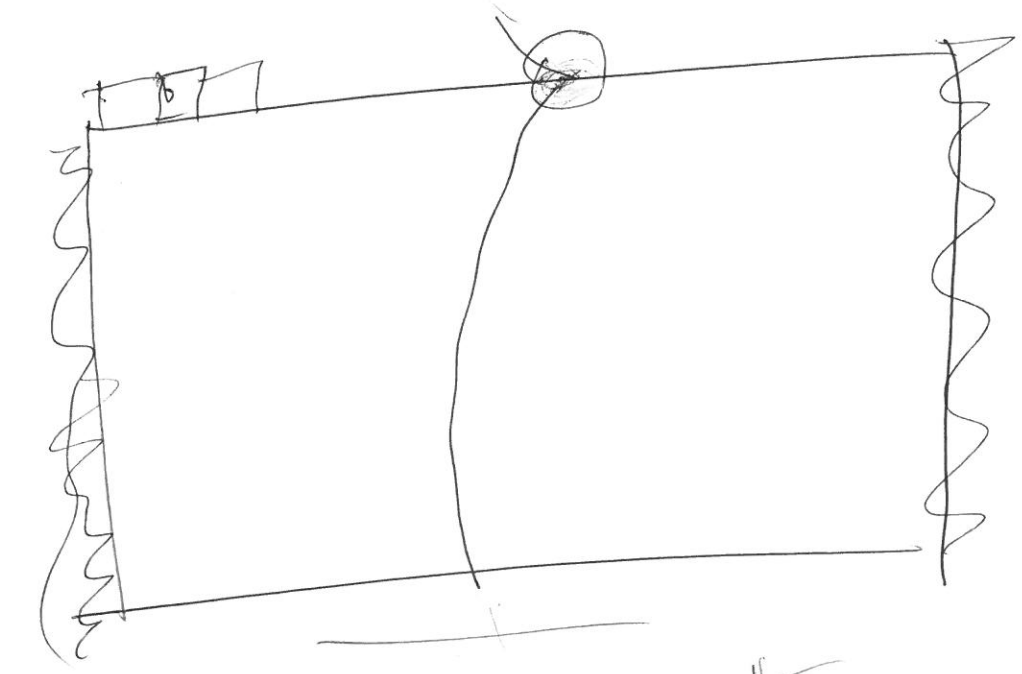
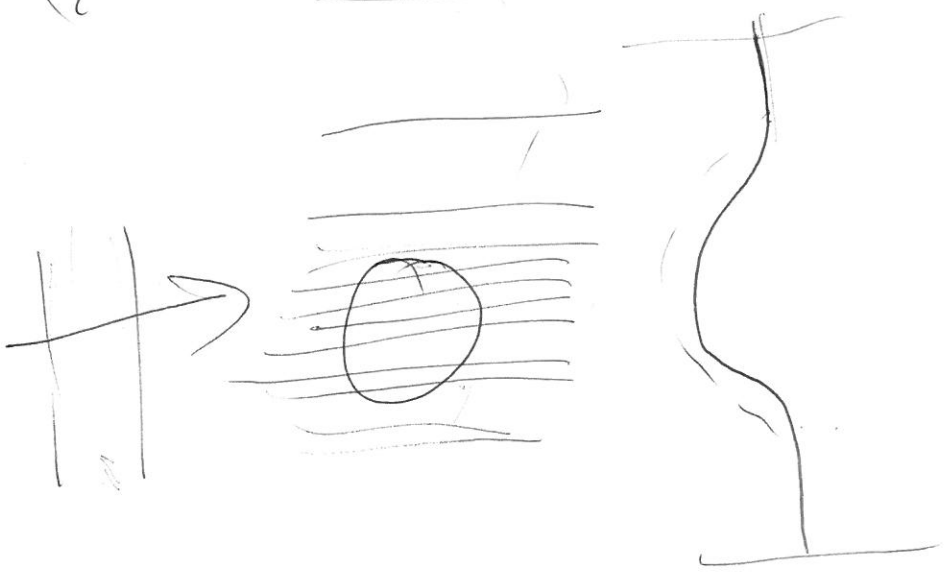
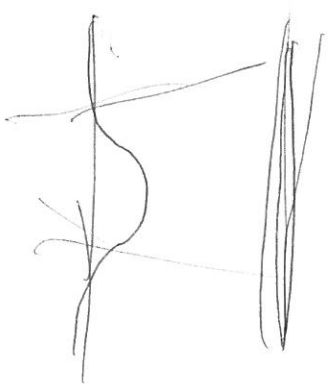
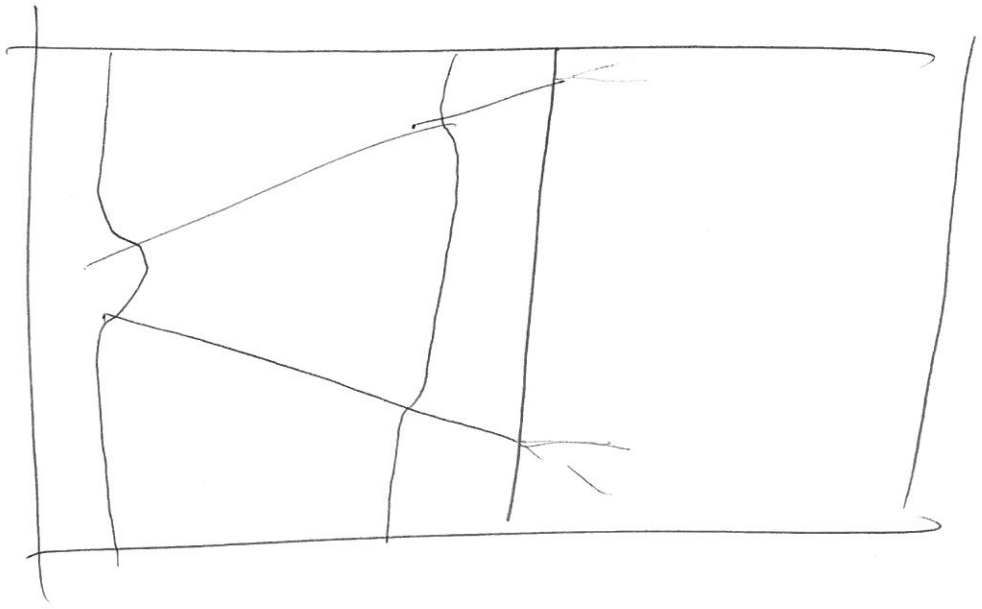
Annual Review FM on BC's collaius



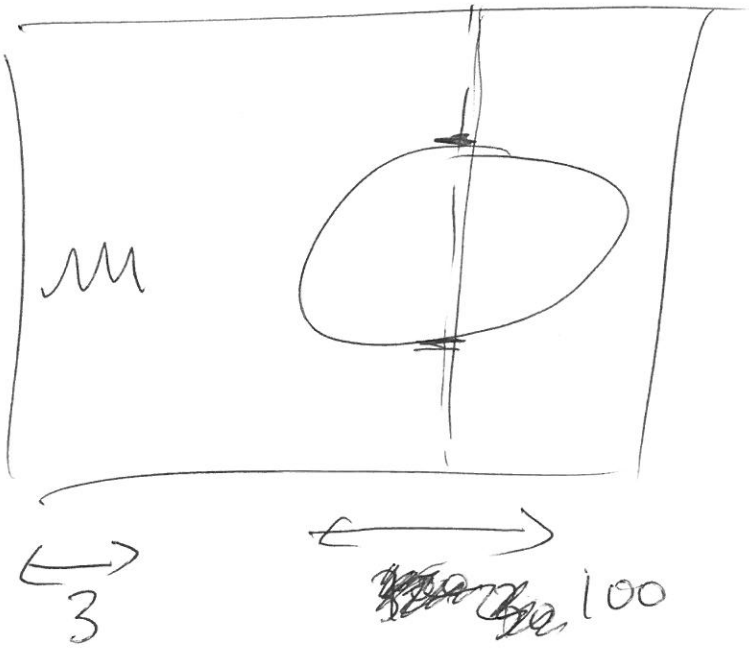




Beam-interface

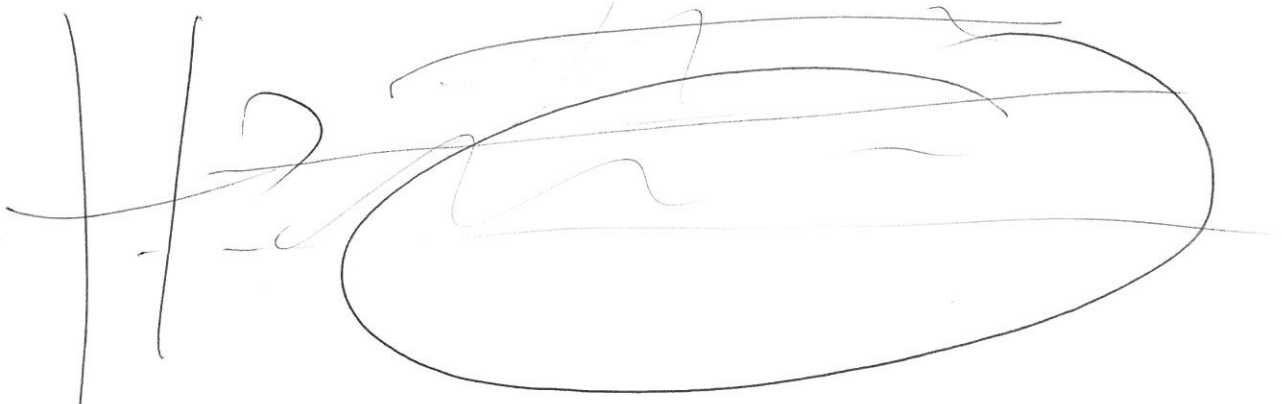


US-lung



~ 1000 x 500 full domain

500 x 500 half domain



capillary

~~10~~ μm

λ

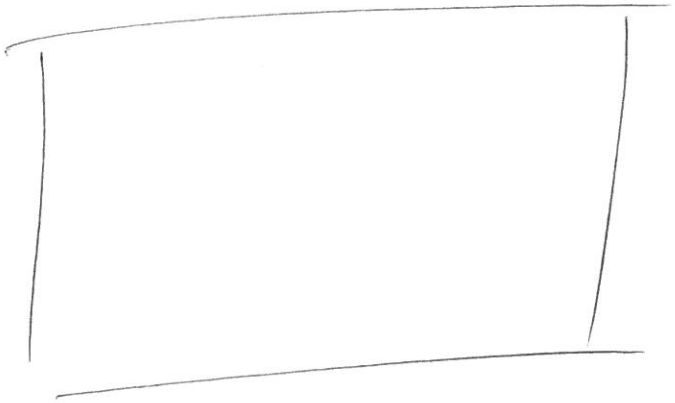
1mm

lung

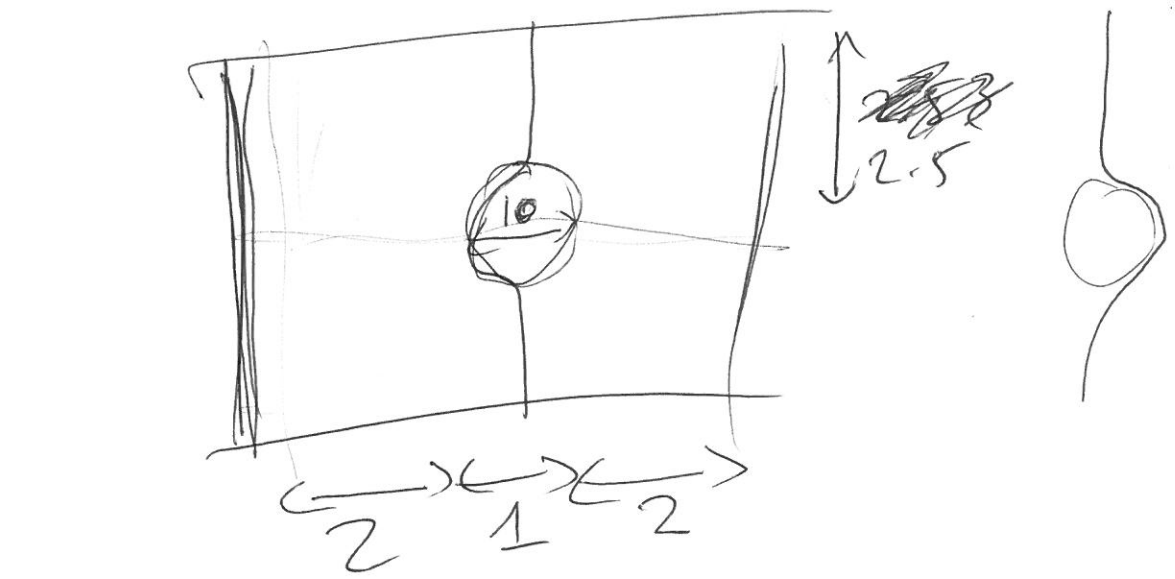
10cm

×~~100~~

×100



4S-capillary

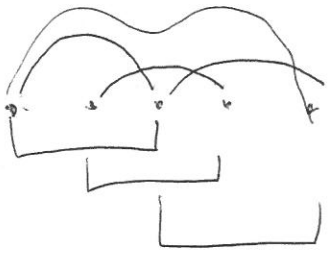


300

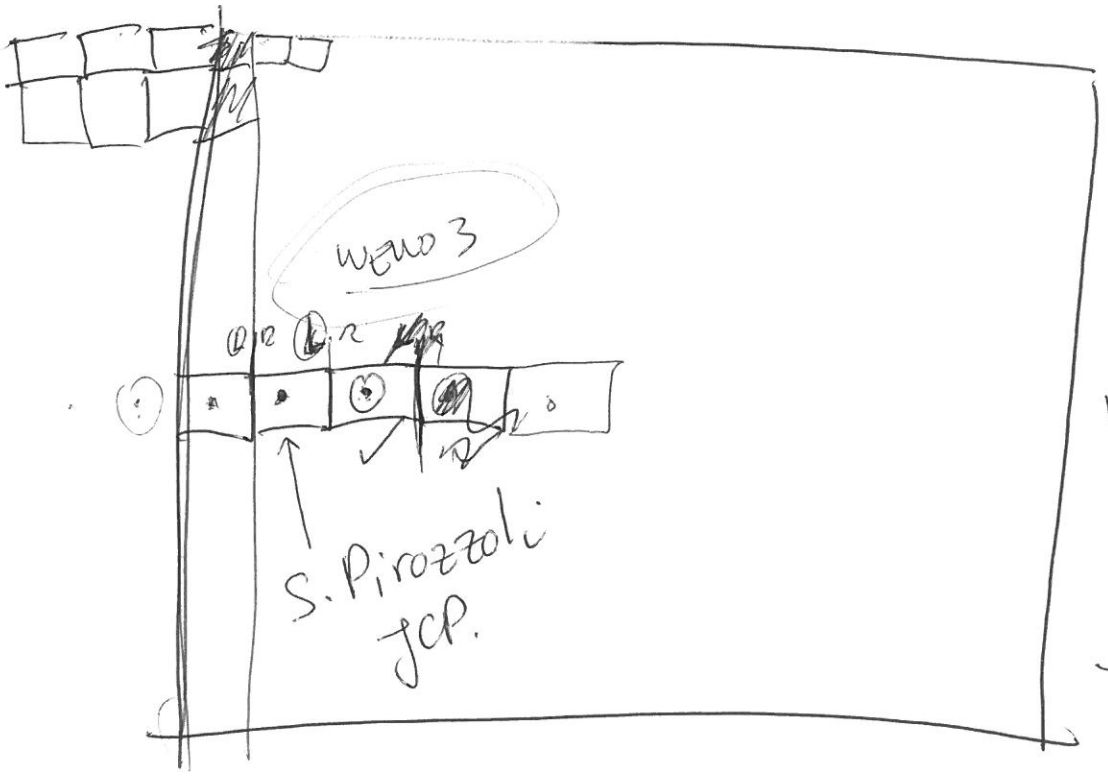
50 x 25 w/ linearly varying BC

3000 x 25

FV: $\frac{d}{dt}\bar{q}_i = -\frac{f_{i+1/2} - f_{i-1/2}}{\Delta x}$



FD: $\frac{d}{dt} q_i = -\frac{f_{i+1/2} - f_{i-1/2}}{\Delta x} \Big\} \left.\frac{\partial f}{\partial x}\right|_i$



FV

$\bar{q}_i$

Compute $q^L_{i+1/2}, q^R_{i+1/2}$ (WENO)

Riemann solver → $q_{i+1/2}$ ⇒ $f_{i+1/2}$

FD

q_i

$f^{\pm}_i = f_i \pm \alpha q_i$

WENO → $f^{+/-}_{i+1/2}$

combine $f^+_{i+1/2}, f^-_{i-1/2}$ for $f_{i+1/2}$

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- From Educational portal new
- online publication