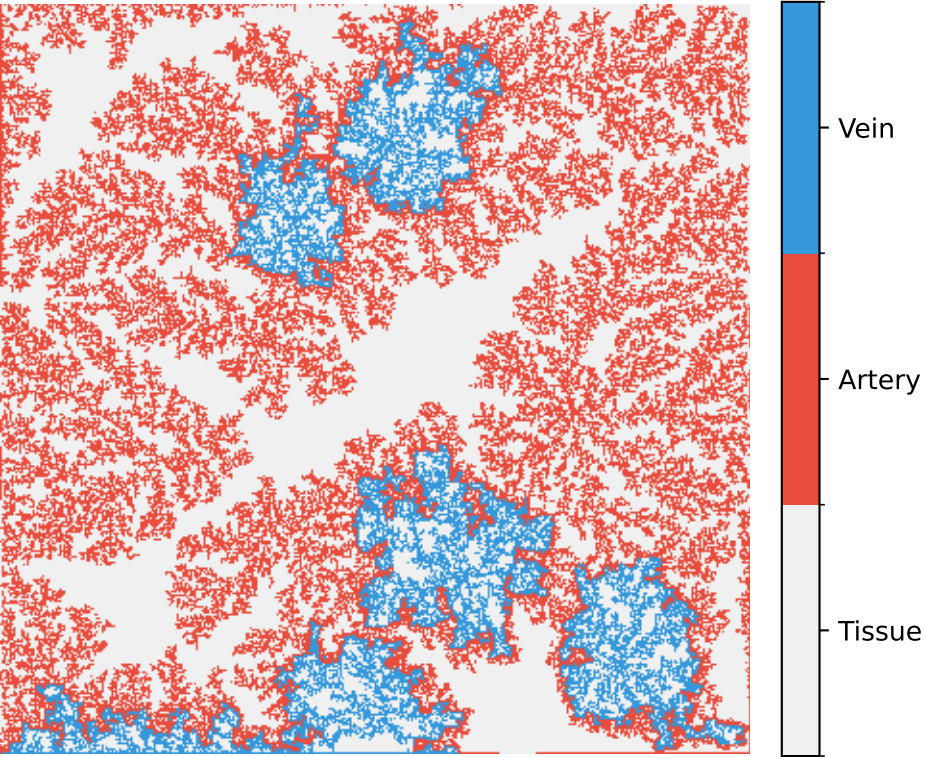
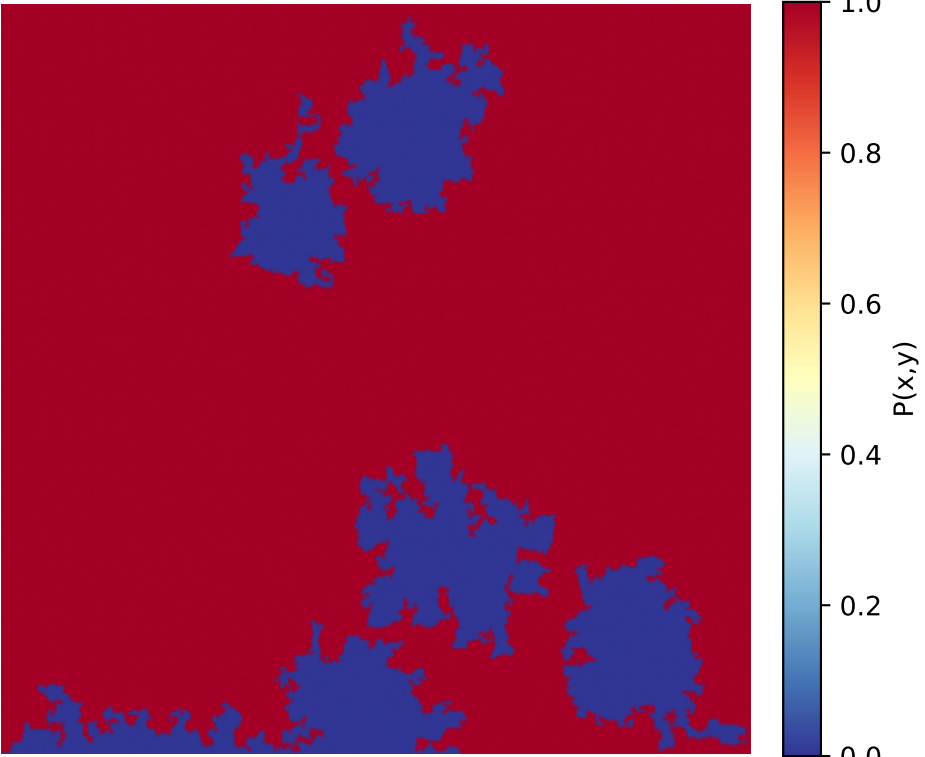


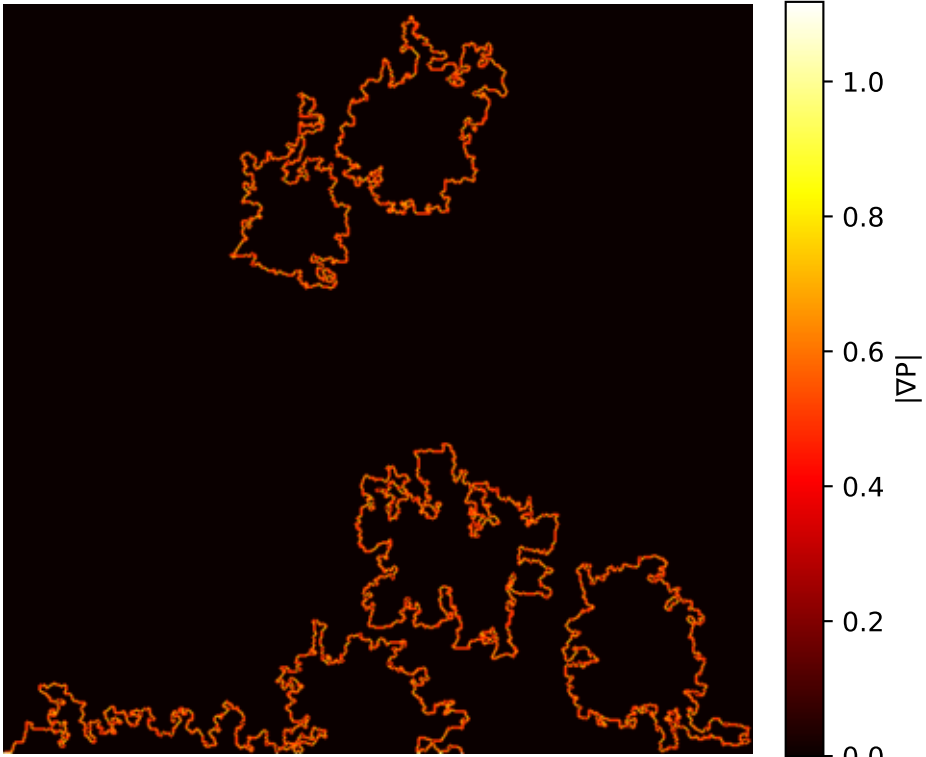
Final Vascular Structure
(Red: Artery, Blue: Vein)



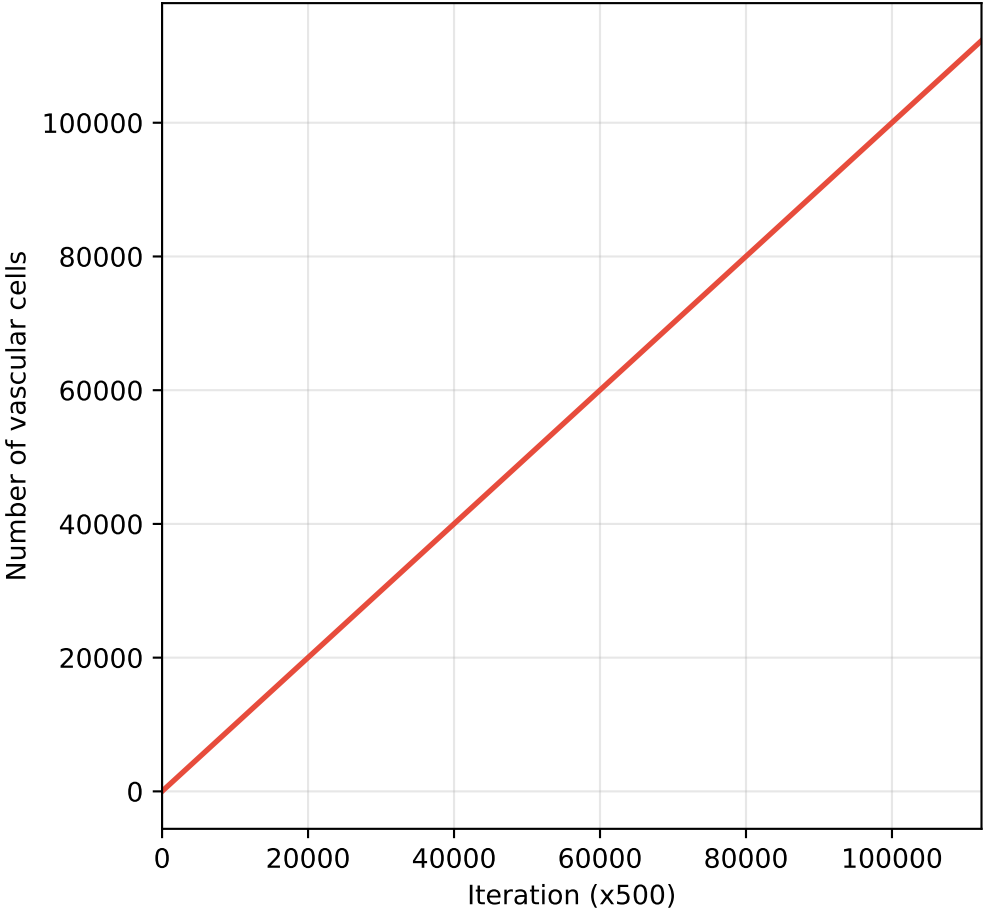
Final Pressure Field
($\nabla^2 P = 0$, BC: Neumann)



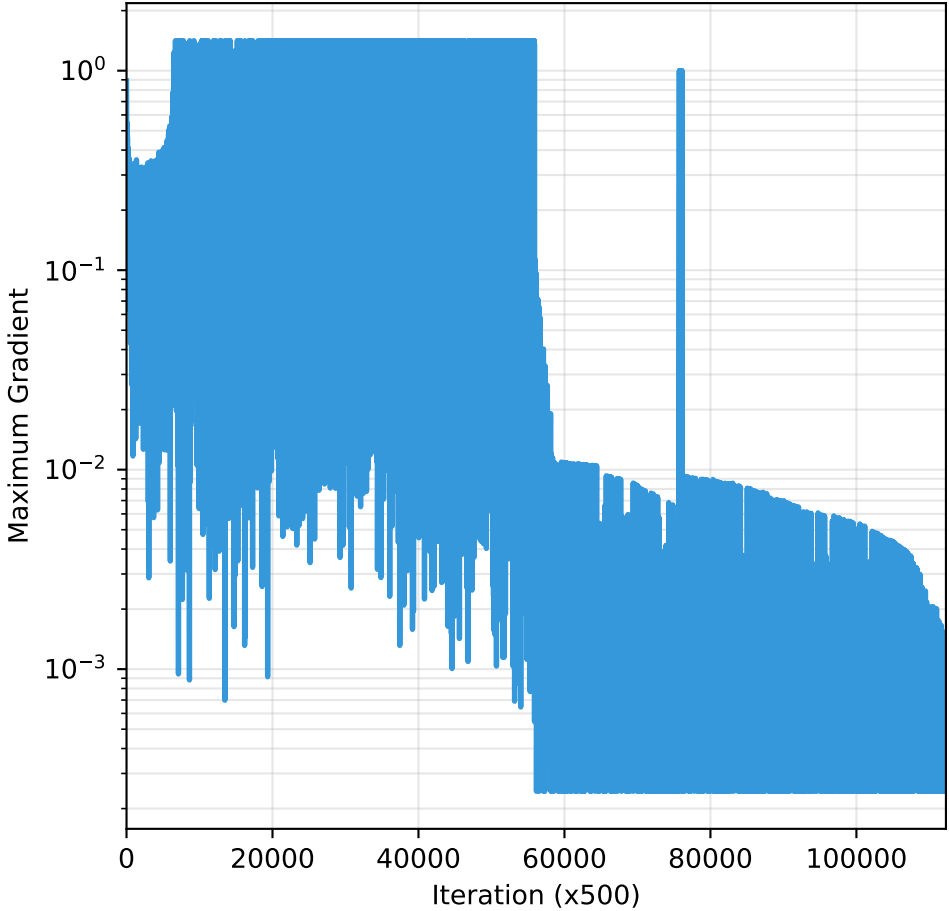
Magnitude $|\nabla P|$
(shear stress)



Vascular Network Growth



Pressure Field Dynamics



MODEL CONFIGURATION

Grid: 512x512
Backend: CUDA (GPU)

Equation: $\nabla^2 P = 0$ (Laplace)

Boundary Conditions:

- $P = 1.0$ (arteries)
- $P = 0.0$ (veins)
- $\nabla P \cdot n = 0$ (Neumann)

Growth Prob.:

$p_i \propto |\nabla P|^{1.5}$

Statistics:

Iterations: 112266
Vessels: 112276
Fraction: 42.83%
Time: 6515.61s
Speed: 17 iter/s

References:

- Niemeyer et al. (1984)
- Fleury & Schwartz (1999)