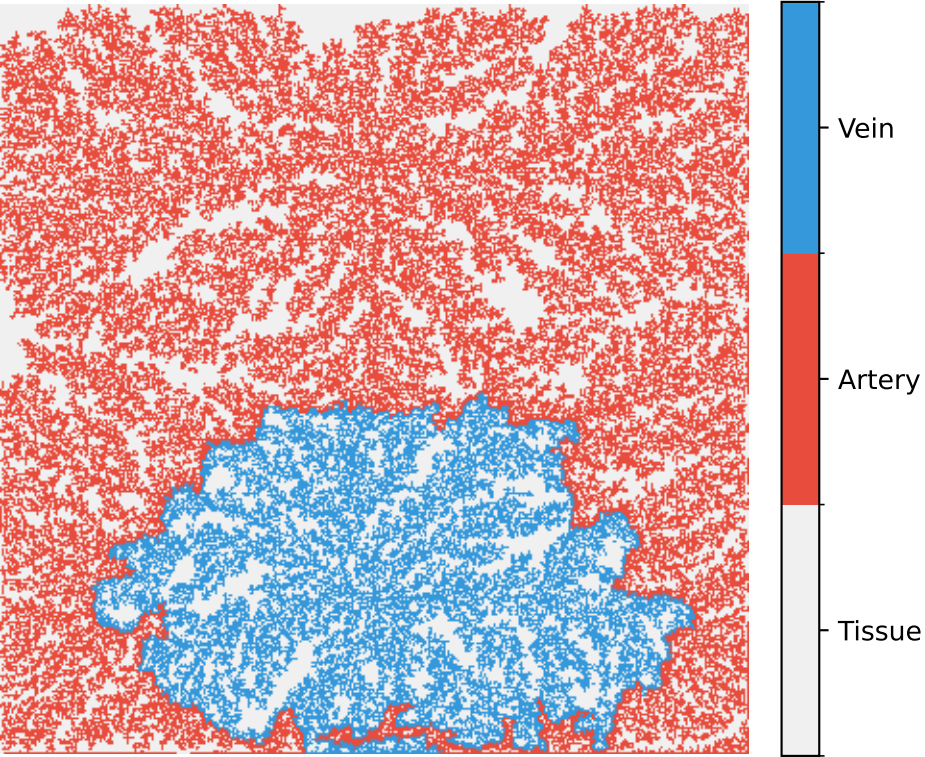
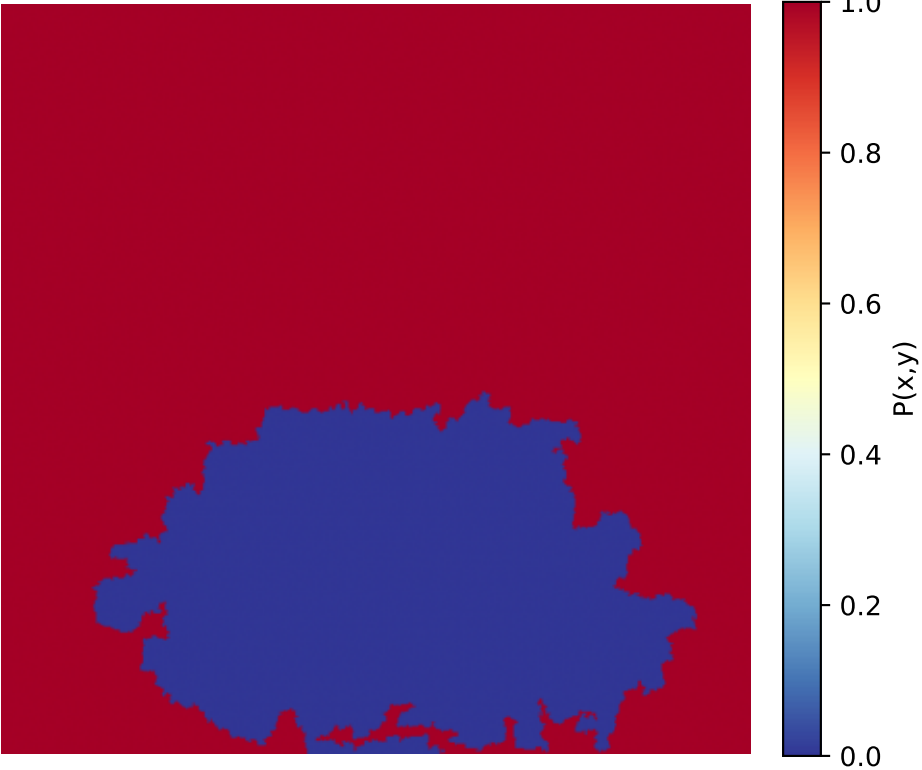


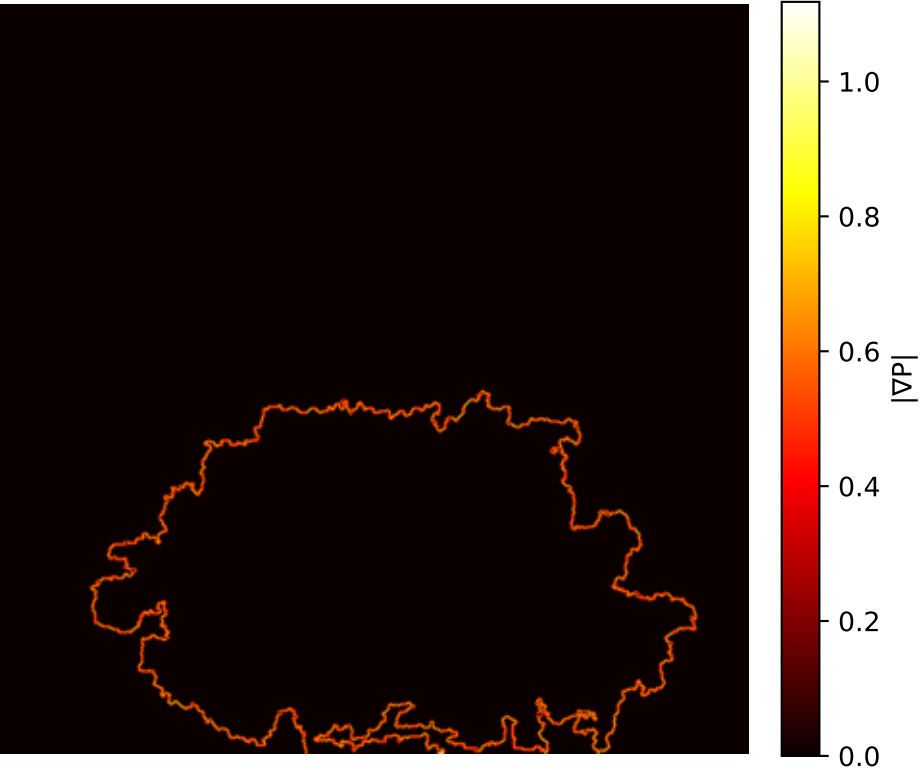
Final Vascular Structure  
(Red: Artery, Blue: Vein)



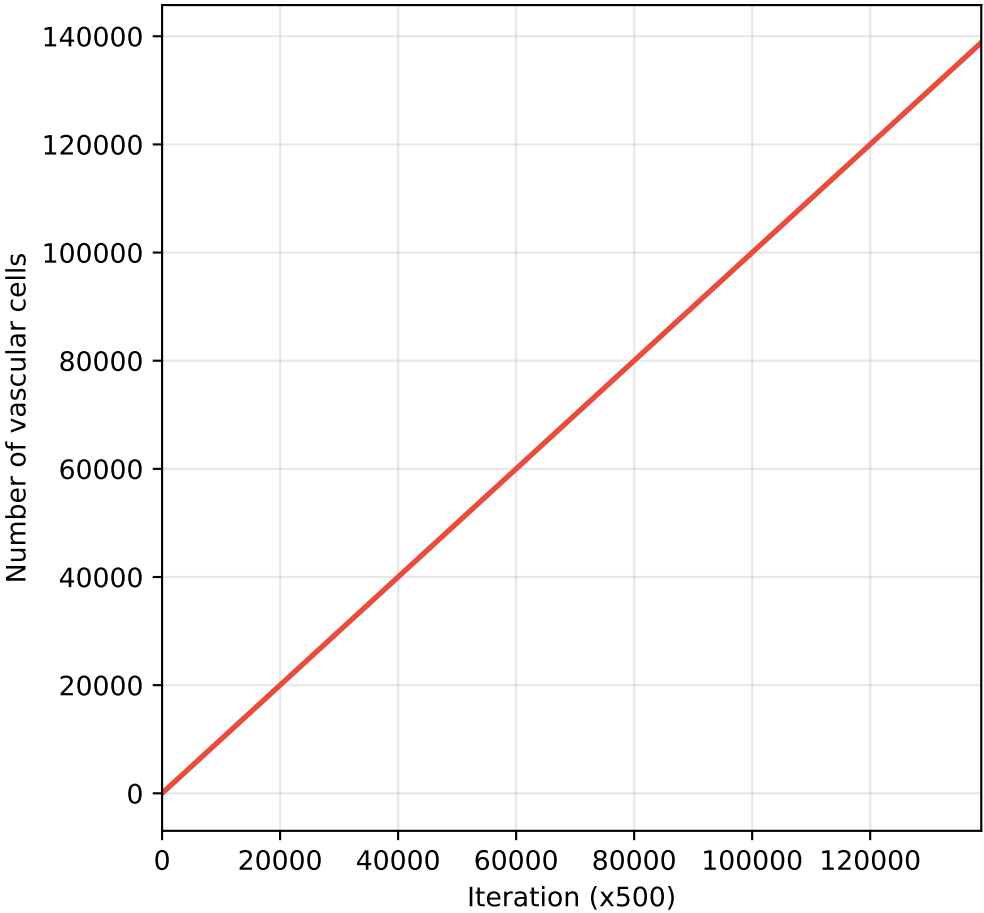
Final Pressure Field  
( $\nabla^2 P = 0$ , BC: Neumann)



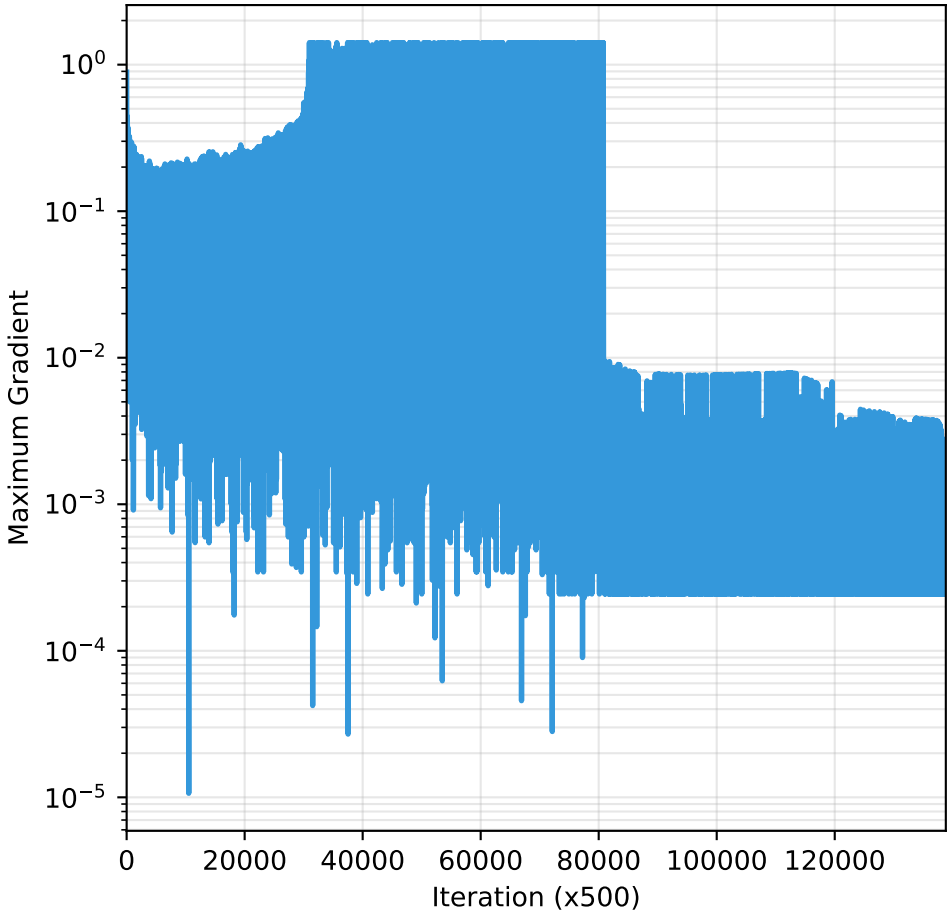
Magnitude  $|\nabla P|$   
(shear stress)



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.:

$p_i \propto |\nabla P|^{1.0}$

Statistics:

Iterations: 138825  
Vessels: 138827  
Fraction: 52.96%  
Time: 1852.19s  
Speed: 75 iter/s

References:

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