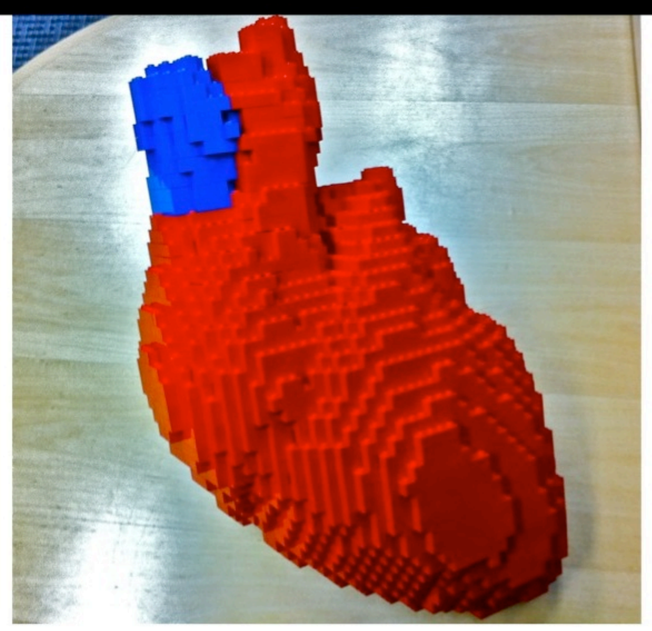
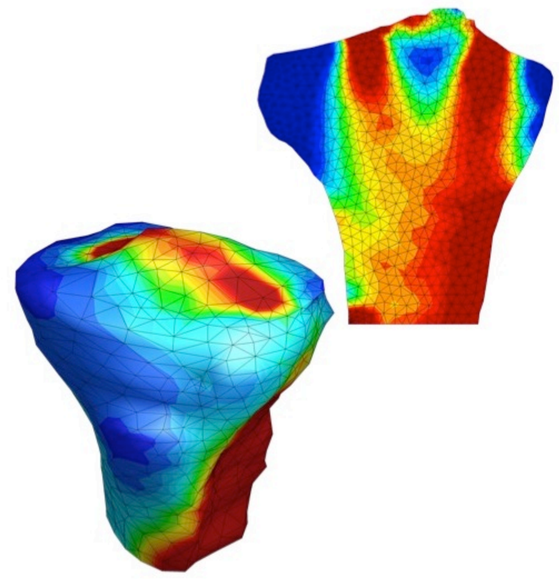
new course announcement winter 2014

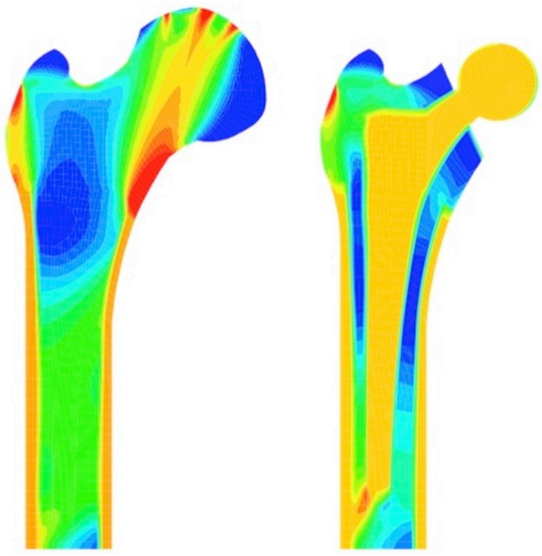
me337 mechanics of growth

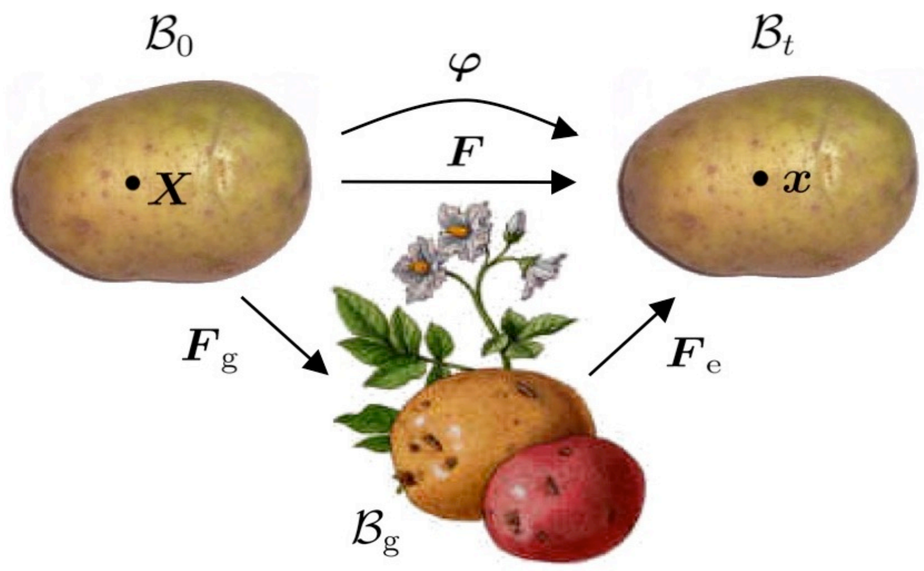
a project-based course on growing tissues and scientific writing

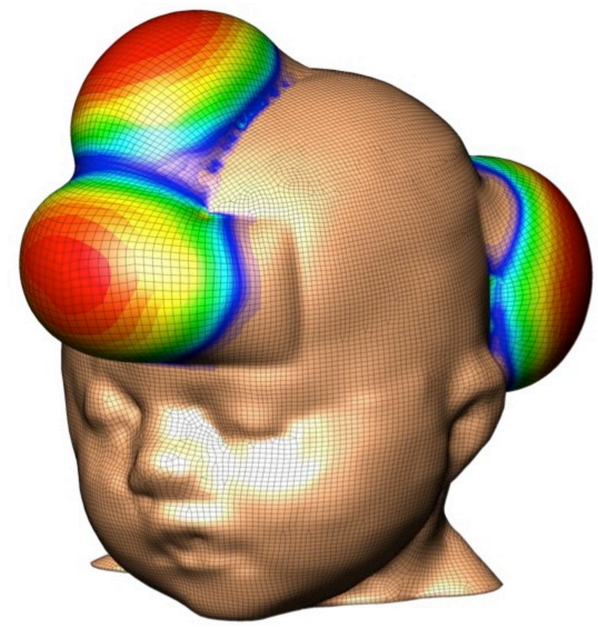
winter 2014
me 337
tue / thu
11:00 – 12:15
530/127

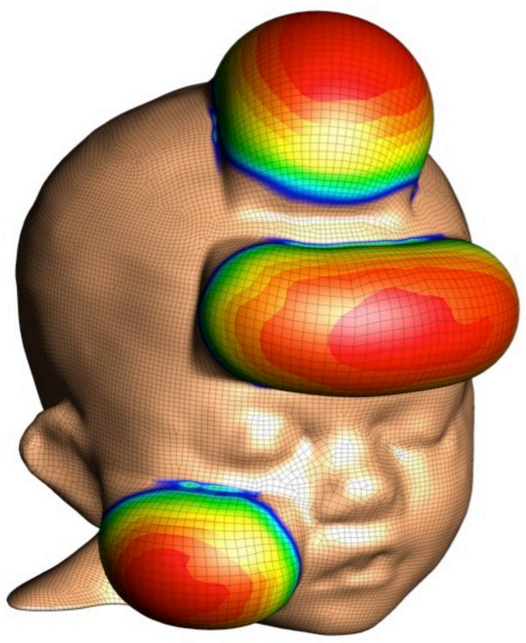


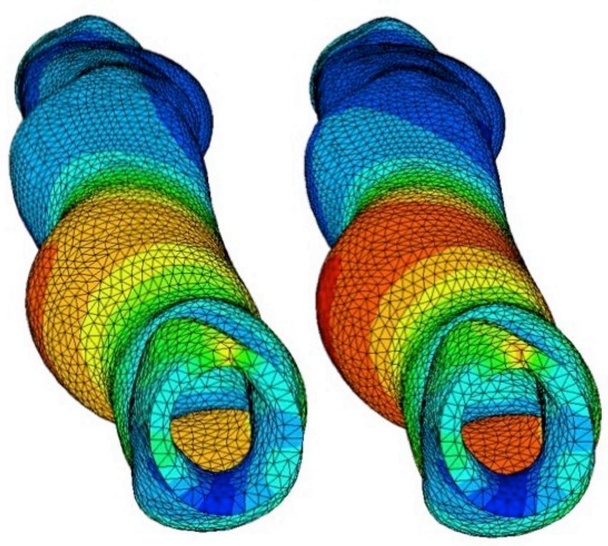


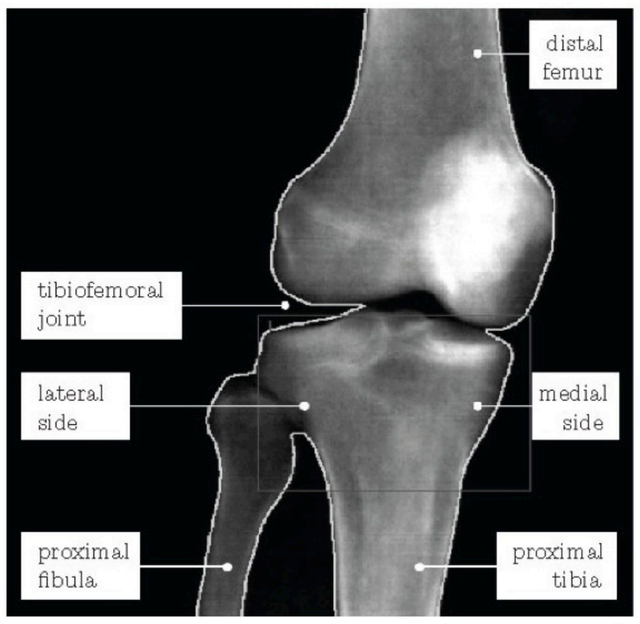






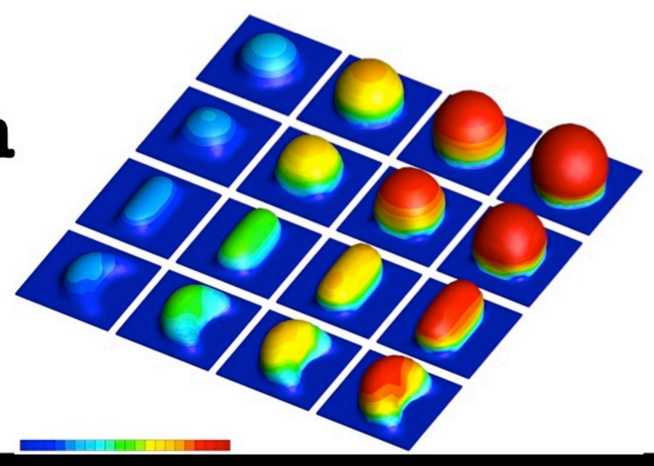


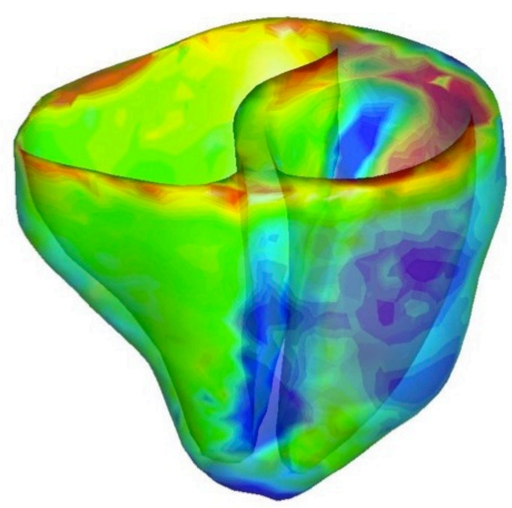


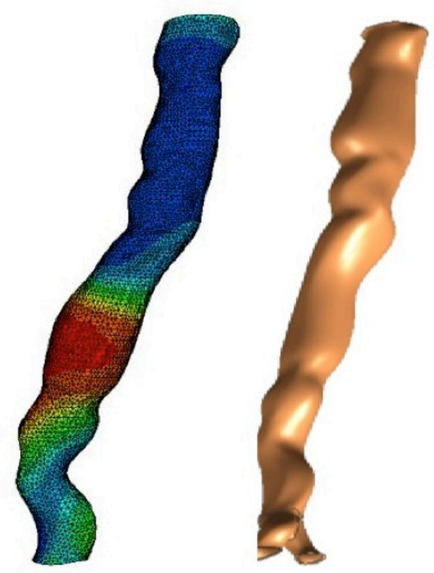


kinematics of finite growth
balance equations
growth laws
finite elements

bone growth
tumor growth
arterial growth
skin growth
muscle growth
cardiac growth







class papers from previous final projects

[1] pang h, shiwalkar ap, madormo cm, taylor re, andriacchi tp, kuhl e. computational modeling of bone density profiles in response to gait: a subject-specific approach. biomech mod mechanobio, doi:10.1007/s10237-011-0318-y.
[2] buganza tepole a, ploch cj, wong j, gosain ak, kuhl e. growing skin - a computational model for skin expansion in reconstructive surgery. j mech phys solids, 2011;59:2177-2190.
[3] taylor re, zheng c, jackson rp, doll jc, chen jc, holzbaur krs, besier t, kuhl e. the phenomenon of twisted growth: humeral torsion in high performance tennis players. comp meth biomech biomed eng. 2009;12:83-93.