

Timeline and Presentation Venue (draft)

A polynomial chaos-based method for the continuous spectrum biphasic poroviscoelastic model of articular cartilage

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This project took place primarily over spring term, 2012. Currently, the timeline is as follows:

Week	Activities
1,2	Background research on articular cartilage, BVPE model, partial differential equations and other related topics, with an emphasis on previous work on polynomial chaos from an analytical perspective, sketched out mechanics for application to a computer model
5,6	Implemented the BVPE model of articular cartilage in MATLAB using an advection/diffusion model
7,8	Improved MATLAB model (using the Crank-Nicolson theta method) and implemented polynomial chaos into the mathematical model
9,10	(Projected) Polynomial chaos method compared for accuracy, efficiency to existing numerical solution methods. Final draft of project documents created. Project presented at CUE, submitted to ScholarArchive.

Note that as this project has not been officially presented in public (CUE is not until next week), final loose ends are still being tied up. Current intention is present at the Celebrating Undergraduate Excellence event on May 31, 2012 in the Memorial Union Ballroom. Presentation format is like to be a poster, other events are likely as well.