SIAM/APPLIED AND NUMERICAL ANALYSIS SEMINAR

Date: September 16, 2020

Speaker: Jorg Peters

Title: Semi-structured splines for design & analysis

Abstract: A surprising number of non-linear analysis and optimization challenges on curved spaces are still approached by piecewise linear elements on triangulations. The wrong geometry or analysis space yield discontinuous or step-like predictions that may not converge to the true differentiable solution.

This talk gives a high-level overview of the challenges, uses and current state of splines over semi-structured meshes that aim to model complex (and beautiful) geometry and (engineering analysis) functions on the geometry – in one consistent framework.

The presentation will be rich in pictures and short on complicated formulas. (for the latter please see https://www.cise.ufl.edu/research/SurfLab/pubs.shtml)