

## **Synergies in computational mechanics and geometry: A symposium in honor of Professor Thomas J.R. Hughes**

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Over the last decade, many researchers have devoted significant efforts to develop computational techniques that overcome difficulties encountered by classical discrete approximations (e.g., finite differences, finite volumes, and finite elements) when dealing with geometrical issues. Some of the important goals of these efforts have been the development of simple, robust, and efficient strategies for mesh generation and refinement in complex geometrical configurations and to derive discrete methods that preserve the structure (e.g., conservation properties, symmetries) of underlying continuous differential system. Various methods have emerged within this philosophy: for example, isogeometric analysis, mimetic finite differences, symplectic integrators, meshless, particle, and subdivision-based methods.

The purpose of this minisymposium is to honor Professor Thomas J. R. Hughes on the occasion of his 65th birthday, bringing together experts in geometry, differential geometry, and analysis interested in developing the next generation of numerical procedures that will overcome these challenges.