

**EFFICIENT SPLINE METHODS FOR COMPLEX  
(ISO)GEOMETRIC MODELING AND SIMULATION OF  
COUPLED PROBLEMS**

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**ABSTRACT**

With the emergence of advanced numerical methods for solving partial differential equations using spline-based functions, such as Isogeometric Analysis, the construction of appropriate function spaces capable of representing complex geometries with high regularity or possessing local refinement/coarsening properties has become increasingly crucial in particular in dealing with coupled problems. The primary objective of this symposium is therefore to bring together experts who can share their theoretical findings, algorithms, and efficient implementations, as well as applications, related to the development of complex analysis-suitable geometries, potentially involving multiple patches, with high regularity. Additionally, topics of interest for the symposium include local refinement and coarsening, adaptivity, and other relevant areas. Numerical studies from any field of Computational Mechanics for coupled problems, both in the boundary-fitted or in the immersed framework, are highly encouraged.