

ADAPTIVE SPLINE TECHNOLOGIES

C. GIANNELLI<sup>\*</sup>, C. MANNI<sup>†</sup>, H. SPELEERS<sup>†</sup> AND R. VÁZQUEZ<sup>††</sup>

<sup>\*</sup> Dipartimento di Matematica e Informatica “U. Dini”, University of Florence  
Viale Morgagni 67/A, 50134 Florence, Italy  
[carlotta.giannelli@unifi.it](mailto:carlotta.giannelli@unifi.it), <https://people.dimai.unifi.it/giannelli/>

<sup>†</sup> Dipartimento di Matematica, University of Rome “Tor Vergata”  
Via della Ricerca Scientifica 1, 00133 Rome, Italy  
[manni@mat.uniroma2.it](mailto:manni@mat.uniroma2.it), <https://www.mat.uniroma2.it/~manni/>  
[speleers@mat.uniroma2.it](mailto:speleers@mat.uniroma2.it), <https://www.mat.uniroma2.it/~speleers/>

<sup>††</sup> Departamento de Matemática Aplicada and Centro de Investigación y Tecnología Matemática  
de Galicia, Universidade de Santiago de Compostela,  
Rúa Lope Gómez de Marzoa, 15782 Santiago de Compostela, Spain  
[rafael.vazquez@usc.es](mailto:rafael.vazquez@usc.es)

ABSTRACT

Isogeometric analysis was originally proposed considering polynomial and rational tensor-product B-spline constructions. A lot of research has been successively devoted to developing spline tools to properly combine computer aided design methods and standards with numerical methods for partial differential equations in different directions. In particular, several alternatives to overcome the limitations of the tensor-product model and enable local refinement possibilities were proposed over the years, as for example T-splines, LR B-splines, THB-splines, and different spline constructions on triangulations. This minisymposium aims at showcasing the state of the art and presenting recent developments in the field of adaptive spline technologies and related extensions, as well as applications for the design of adaptive isogeometric methods. Both theoretical and application-oriented contributions from any field of (iso-)geometric design and analysis are highly encouraged.