THE VIRTUAL ELEMENT METHODS. AN OVERVIEW

F. Brezzi
Istituto di Matematica Applicata e Tecnologie Informatiche E. Magenes
Consiglio Nazionale delle Ricerche
Pavia, Italy
brezzi@imati.cnr.it

The talk will recall the basic principles, the main features, and some more recent results of the Virtual Element Methods. The method is a member of the family of "Galerkin Methods" for dealing with the numerical solution of Partial Differential Equations, and is particularly aimed at the use of decompositions of the computational domain in polygons of polyhedral of very general shape, including elements with curved edges. Some applications to classical Engineering problems will also be outlined.