



Αθήνα, 3/5/2017

ΔΙΑΔΕΞΗ

Ομιλητής: Andrea Cangiani
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Τίτλος: «A Posteriori Error Estimation and Adaptivity for the Virtual Element Method »

Περίληψη: We present a posteriori error analyses for the Virtual Element Method (VEM) applied to second order elliptic and parabolic problems. The resulting error estimators are of residual-type and apply on very general polygonal/polyhedral meshes. They are fully computable in the sense that they rely only on quantities available from the Virtual Element solution, namely its degrees of freedom and element-wise polynomial projection. The error estimators are used to drive adaptive mesh refinement in a number of test problems, including reaction-diffusion systems relevant to cyclic competition models from mathematical biology. The VEM mesh generality makes mesh adaptation particularly simple to implement since elements with consecutive co-planar edges/faces are allowed and, therefore, locally adapted meshes do not require any post-processing. Furthermore, mesh generality opens the way to endless possibilities on how one may refine and coarsen. The design of adaptive algorithms able to exploit such flexibility is, however, a non-trivial task and something that we just started to explore.

Joint work with E. H. Georgoulis, T. Pryer, O. Sutton.

Η ομιλία θα δοθεί την **Τετάρτη 10 Μαΐου 2017** και **ώρα 12:30**, στην Αίθουσα Σεμιναρίων του Τομέα Μαθηματικών, κτ. Ε', 2ος όροφος.

Η Επιτροπή Σεμιναρίων