ISTITUTO DI MATEMATICA APPLICATA E TECNOLOGIE INFORMATICHE (CNR)
DIPARTIMENTO DI MATEMATICA "FELICE CASORATI"
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Seminario di Matematica Applicata

Mercoledì 17 Settembre alle ore 15 precise a Pavia, nella Sala Conferenze dell'IMATI-CNR (ex IAN), il

Prof. Prof. Kunibert G. Siebert
(Universität Augsburg)

terrà la conferenza:

An Adaptive Method for the Computation of Minimal Surfaces

Abstract. Our aim is to compute surfaces of the topological type of the disc that are stationary points of the area functional. Since such computations may be very time consuming, we derive an a posteriori controlled adaptive algorithm based on a recently developed and analyzed finite element method by Dziuk and Hutchinson [1,2,3]. For the implementation of the adaptive solver we use the adaptive finite element toolbox ALBERT [4,5]. Numerical results are presented for the Enneper surface and a minimal surface with boundary on a torus.
This is a joint work with Willy Dörfler, Universität Karlsruhe.

References

[1] G. Dziuk and J. E. Hutchinson. On the approximation of unstable parametric minimal surfaces. *Calc. Var.*, 4:27–58, 1996.
[2] G. Dziuk and J. E. Hutchinson. The discrete Plateau problem: Algorithm and numerics. *Math. Comput.*, 68:1–23, 1999.
[3] G. Dziuk and J. E. Hutchinson. The discrete Plateau problem: Convergence results. *Math. Comput.*, 68:519–546, 1999.
[4] A. Schmidt and K. G. Siebert. ALBERT: An adaptive hierarchical finite element toolbox. Manual. Preprint 06-2000, Univ. Freiburg., 2000.
[5] A. Schmidt and K. G. Siebert. ALBERT - Software for scientific computations and applications. *Acta Mathematica Universitatis Comenianae*, 70:199–229, 2001.

La S.V. è cordialmente invitata.

☕ Dopo la conferenza sarà organizzato un breve rinfresco ☕