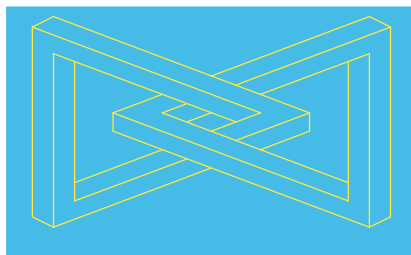


Polskie Towarzystwo Matematyczne – Oddział Warszawski
Instytut Matematyczny Polskiej Akademii Nauk
Międzynarodowe Centrum Matematyczne im. Stefana Banacha

zapraszają na



wykład–kolokwium

We wtorek, 15 kwietnia 2014 roku o godz. 16.30
w Centrum Banacha, ul. Śniadeckich 8, sala 322

Tadeusz Iwaniec (Helsinki & Syracuse)

wyłosi wykład

*Limits of Sobolev Homeomorphisms
and Traction Free Energy-Minimal Deformations*

As we seek greater knowledge about the energy-minimal deformations in Geometric Function Theory and Nonlinear Hyperelasticity, the questions about Sobolev homeomorphisms and their limits become ever more quintessential. We shall discuss the following topics:

- 1) Approximation of Sobolev homeomorphisms with diffeomorphisms
- 2) Its relevance to the regularity of hyperelastic deformations of neo-hookean materials (solution of the Ball-Evans Conjecture)
- 3) p -Harmonic mappings will come into play
- 4) A quest for diffeomorphic approximation in higher dimensions (J. Milnor's isotopy in the 7-sphere)
- 5) Weak and strong limits of Sobolev homeomorphisms are the same; interpenetration of matter may occur
- 6) Monotone Sobolev deformations of planar domains and surfaces (thin plates and films)
- 7) Existence of traction free minimal deformations (no Lavrentiev Phenomenon)
- 8) Hopf-Laplace equation. Lipschitz regularity in spite of collapse of domains
- 9) Nitsche Conjecture; existence of harmonic diffeomorphisms between doubly connected domains.

Theoretical prediction of failure of bodies caused by interpenetration of matter (collapse of domains) is a good motivation that should appeal to Mathematical Analysts and researchers in the Engineering Fields.

Przed wykładem, od godz. 16.00, zapraszamy na spotkanie przy kawie i herbacie w sali klubowej.

Kolokwium będzie połączone z posiedzeniem Seminarium Geometrycznej Teorii Funkcji i Przekształceń IM PAN.

Organizatorzy