

New Trends in Shape optimization

Pisa Centro de Giorgi, July 16 - July 20, Program

Monday, July 16

8:30 - 8:45 Opening of the workshop

8:45 - 9:30 Evans HARRELL (Atlanta): "Eigenvalue distributions and the shapes of graphs"

9:30 - 10:15 Richard LAUGESEN (U. of Illinois, Urbana Champaign): "Sharp spectral bounds and perturbations in two dimensions"

10:15 Coffee break

10:45 - 11:30 Bartłomiej SIUDEJA (U. of Oregon, Eugene): "Sharp spectral bounds in higher dimensions"

11:30 - 12:15 Filippo GAZZOLA (Milano): "Convex shape optimization for the least biharmonic Steklov eigenvalue"

14:30 - 14:50 Cristian ENACHE (Constanta): "Some fully nonlinear elliptic boundary value problems with ellipsoidal free boundaries"

14:50 - 15:10 Antonio GRECO (Cagliari): "Constrained symmetries in elliptic overdetermined problems"

15:10 Coffee break

15:30 Working Group 1 : "Quantitative isoperimetric inequalities" coordinated by Nicola FUSCO

Working Group 2: "Convex Geometry" coordinated by Andrea COLE-SANTI

Tuesday, July 17

8:45 - 9:30 Michel PIERRE (Rennes): "About regularity of optimal shapes with convexity constraint"

9:30 - 10:15 Jimmy LAMBOLEY (Paris-Dauphine): "Polygon as optimal shapes under convexity constraint"

10:15 Coffee break

10:45 - 11:30 Andrea COLESANTI (Firenze): "Functional versions of intrinsic volumes"

11:30 - 12:15 Chiara BIANCHINI (Firenze): "Free boundary problems with non-constant boundary data"

15:00 Working Group 3 "Low eigenvalues of Laplace operator" coordinated by Rick LAUGESEN and Pedro FREITAS

Working Group 4 "Symmetry in shape optimization problems" coordinated by Antoine HENROT

Wednesday, July 18

8:45 - 9:30 Ahmad EL SOUFI (Tours): "Extremal Eigenvalues of the Laplace operator on Euclidean Domains and on compact surfaces"

9:30 - 10:15 Pedro FREITAS (Lisboa): "Spherical symmetrization and the first eigenvalue of geodesic disks on manifolds"

10:15 Coffee break

10:45 - 11:30 Alexandre GIROUARD (Neuchatel-Chambéry): "Shape optimisation for Neumann and Steklov eigenvalues on surfaces and fixed conformal classes of spheres"

11:30 - 12:15 Virginie BONNAILLIE-NOEL (Rennes): "Nodal domains and spectral minimal partitions"

Free afternoon

Thursday, July 19

8:45 - 9:30 Rolando MAGNANINI (Firenze): "Time-invariant surfaces in evolution equations"

9:30 - 10:15 Lorenzo BRASCO (Marseille): "Hot spots and hearts"

10:15 Coffee break

10:45 - 11:30 Yannick PRIVAT (Rennes): "Optimal observability of wave and Schrödinger equations in ergodic domains"

11:30 - 12:15 Gisella CROCE (Le Havre): "On the selection of solutions to a system of eikonal equations"

14:30 - 14:50 Giovanni PISANTE (Napoli): "A quantitative second order minimality criterion for cavities in elastic bodies"

14:50 - 15:10 Nayam AL-HASSEM (Trieste): " p -Compliance Network problems"

15:10 Coffee break

15:30 Working Group 5 "Shape optimization problems among convex domains with various constraints" coordinated by Jimmy LAMBOLEY and Yannick PRIVAT

Working Group 6 "Elasticae, Willmore and Helfrich energy" coordinated by Antoine HENROT

Friday, July 20

8:45 - 9:30 Dorin BUCUR (Chambéry): "Minimization of eigenvalues by free boundary methods"

9:30 - 10:15 Mette IVERSEN (Bristol): "Torsional Rigidity of a Radially Perturbed Ball"

10:15 Coffee break

10:45 - 11:30 Filippo SANTAMBROGIO (Paris Orsay): "Playing with the distance function under variable metrics in shape optimization issues"

11:30 - 12:15 Giuseppe BUTTAZZO (Pisa): "Evolution of domains by spectral flows"

End of the Conference