FONDAZIONE CIME
ROBERTO CONTI

CENTRO INTERNAZIONALE MATEMATICO ESTIVO
INTERNATIONAL MATHEMATICAL SUMMER CENTER

Summer Courses 2017

Summer Courses 2017

Geometry of PDEs and Related Problems

Cetraro (CS), June 19-23, 2017

Scientific directors:

C. Bianchini	Univ. Firenze, Italy
A. Henrot	Inst. Elie Cartan - Univ. de Lorraine, France
R. Magnanini	Univ. Firenze, Italy

Lectures:

X. Cabré	Univ. Polit. Catalunya, Spain	- Stable solutions to some elliptic problems: minimal cones, the Allen-Cahn equation and blow-up solutions
A. Henrot	Univ. Lorraine, France	- Isoperimetric inequalities for eigenvalues of the Laplacian
D. Peralta-Salas	ICMAT, Spain	- Topological aspects of critical points and level sets in elliptic PDE
W. Reichel	Karlsruhe Inst. Tech., Germany	- Symmetry properties for solutions of higher-order elliptic boundary value problems
H. Shahgholian	Royal Inst. Tech., Sweden	- Recent trends in Free Boundary Regularity

New Trends on Analysis and Geometry in Metric Spaces
Joint course with CIRM (Centro Internazionale per la Ricerca Matematica)

Levico Terme (TN), June 26-30, 2017

Scientific directors:

L. Ambrosio	SNS Pisa, Italy
B. Franchi	Univ. Bologna, Italy
I. Markina	Univ. Bergen, Norway
F. Serra Cassano	Univ. Trento, Italy

Lectures:

F. Baudoin	Univ. Connecticut, USA	- Geometric inequalities in sub-Riemannian manifolds
S. Rigot	Univ. Nice Sophia Antipolis, France	- Differentiation of measures in metric spaces
G. Savaré	Univ. Pavia, Italy	- Sobolev spaces, optimal transport and heat flow in metric measure spaces
N. Shanmugalingam	Univ. Cincinnati, USA	- First order analysis in metric measure spaces using upper gradients: functions of bounded variation

Splines and PDEs: Recent Advances from Approximation Theory to Structured Numerical Linear Algebra
CIME-EMS Summer School in Applied Mathematics

Cetraro (CS), July 3-7, 2017

CIME-EMS Summer School in Applied Mathematics

Scientific directors:

T. Lyche	Univ. Oslo, Norway
C. Manni	Univ. Roma Tor Vergata, Italy
H. Speleers	Univ. Roma Tor Vergata, Italy

Lectures:

A. Kunoth	Univ. Köln, Germany	- Adaptive multiscale methods for the numerical treatment of PDEs
T. Lyche	Univ. Oslo, Norway	- Basics on splines with a special focus on local refinement
S. Serra-Capizzano	Univ. Insubria, Italy	- GLT matrices and spectral symbol: a mathematical environment for spectral analysis and fast solvers for linear systems arising from the discretization of integro/differential problems
G. Sangalli	Univ. Pavia, Italy	- Isogeometric analysis: foundations, developments and applications

Mathematical Analysis of the Navier–Stokes Equations: Foundations and Overview of Basic Open Problems

Cetraro (CS), September 4-8, 2017

Scientific directors:

G. P. Galdi	Univ. Pittsburgh, USA
Y. Shibata	Waseda Univ., Japan

Lectures:

G. P. Galdi	Univ. Pittsburgh, USA	- Analysis of basic problems in liquid-solid interaction
M. Hieber	TU Darmstadt, Germany	- Analysis of Incompressible Viscous Fluid Flow: an Approach by Maximal L^p- Regularity
H. Kozono	Waseda Univ., Japan	- Method of the Besov space and its applications to the strong solutions of the Navier-Stokes equations
J. Robinson	Univ. Warwick, UK	- Partial regularity for the 3D Navier Stokes equations and applications
Y. Shibata	Waseda Univ., Japan	- Some free boundary problems for the Navier Stokes equations

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