



ACCADEMIA NAZIONALE DEI LINCEI

INTERNATIONAL CONFERENCE

## **SOBOLEV SPACES AND PARTIAL DIFFERENTIAL EQUATIONS**

In honour of Vladimir Maz'ya, on the occasion of his 80<sup>th</sup> birthday

17 - 18 May 2018

Organizing Committee: Andrea CIANCHI, Carlo SBORDONE (Chair), Alberto TESEI

### **PROGRAMME**

#### **Thursday 17 May**

- 9.15 Welcome address by the President of the Accademia dei Lincei
- 9.30 Alberto CIALDEA (Università della Basilicata, Potenza): *The scientific work of Vladimir Maz'ya*
- 10.00 Igor VERBITSKY (University of Missouri, Columbia): *Integral inequalities and sublinear elliptic equations*
- 10.45 Coffee break
- 11.15 Vincenzo FERONE (Università di Napoli 'Federico II'): *Weinstock inequality in higher dimensions*
- 12.00 Rupert FRANK (Ludwig-Maximilians-University, Munich): *Classification of positive solutions to a nonlinear biharmonic equation with critical exponent*
- 13.45 POSTER SESSION
- 14.30 Piotr HAJLASZ (University of Pittsburgh): *Sobolev mappings, integrability of the Jacobian and continuity*
- 15.15 Filippo GAZZOLA (Politecnico di Milano): *Linear and nonlinear equations for beams and plates with double piers*
- 16.00 Coffee break
- 16.30 Alexander NAZAROV (Steklov Mathematical Institute, Saint Petersburg): *The boundary point lemma for elliptic and parabolic equations*
- 17.15 Gioconda MOSCARIELLO (Università di Napoli 'Federico II'): *BMO-Type seminorms and Sobolev functions*
- 18.00 Vladimir MAZ'YA (University of Linköping): *Some open problems for nonlinear elliptic operators*

#### **Friday 18 May**

- 9.00 Ari LAPTEV (Imperial College, London - Mittag-Leffler Institut, Stockholm): *Magnetic ring and Hardy's inequalities*
- 9.45 Jan MALY (Charles University, Prague): *Approximation modulus of path families and BV spaces*
- 10.30 Giuseppe MINGIONE (Università di Parma): *Nonlinear potential theory in PDE: from Maz'ya's seminal ideas to recent developments*
- 11.15 Coffee break
- 11.45 Marius MITREA (University of Missouri, Columbia): *Fatou theorems for elliptic systems in uniformly rectifiable domains*
- 12.30 Alexander MOVCHAN (University of Liverpool): *Asymptotic meso-scale approximations to solutions of singularly perturbed problems*

## POSTER SESSION

Angela ALBERICO (CNR, Napoli): *Optimal Sobolev embeddings via Reduction Principles in  $R^n$*

Francesca ANGRISANI (Università di Napoli 'Federico II'): *On functions of Bounded Lower Oscillation*

Sara BARILE (Università di Bari) - Giovany MALCHER FIGUEIREDO (Universidade de Brasilia): *Some existence results for magnetic NLS equations with critical or exponential critical growth*

Diego BERTI (Università di Firenze): *Asymptotic analysis of solutions of boundary problems for the game-theoretic  $p$ -laplacian*

Claudia CAPONE (CNR, Napoli): *Higher differentiability for solutions to a class of elliptic equations with lower order terms*

Iwona CHLEBICKA (Polish Academy of Sciences, Warsaw): *Renormalized solutions in the anisotropic Musielak–Orlicz spaces in absence of Laorentiev's phenomenon*

Giuseppina D'AQUÌ (Università di Messina): *Two non-zero solutions for eigenvalue nonlinear differential problems*

Luigi D'ONOFRIO (Università di Napoli Parthenope): *Note on Lusin (N) condition and the distributional determinant*

Fernando FARRONI (Università di Napoli 'Federico II'): *Weak solutions to parabolic equations with singular convection term*

Maria Rosaria FORMICA (Università di Napoli Parthenope): *On grand and small Lebesgue and Sobolev spaces and some applications to PDEs*

Giovanni FRANZINA (Università di Firenze): *Non local torsion functions and embeddings*

Hongya GAO (Hebei University) - Francesco LEONETTI, Marta MACRÌ (Università dell'Aquila) - Pier Vincenzo PETRICCA: *Regularity for minimizers with positive Jacobian*

Michal LASICA (University of Warsaw e Sapienza Università di Roma): *Regularity of orthotropic total variation minimizers*

Martina MAGLIOCCA (Università di Roma Tor Vergata): *The regularizing effect of superlinear gradient terms in nonlinear parabolic equations*

Francesco PAPPALARDO (Università di Napoli 'Federico II'): *Weighted Hardy inequalities and Kolmogorov type operators perturbed by multipolar inverse square potentials*

Giorgio POGGESI (Università di Firenze): *Quantitative symmetry for overdetermined boundary value problems and related questions in geometry*

Arturo POPOLI (Università di Napoli 'Federico II'): *Unified sharp integrability results for Muckenhoupt and Gehring weights in dimension one*

Roberta SCHIATTARELLA (Università di Napoli 'Federico II'): *Sharp integrability results for solutions to equations of  $n$ -Laplacian type*

Giovanni SCILLA, Francesco SOLOMBRINO (Università di Napoli 'Federico II'): *Multiscale analysis of singularly perturbed finite dimensional gradient flows via minimizing movements*

Sponsored by:

GNAMPA INdAM - Dipartimento di Matematica e Applicazioni 'R. Caccioppoli', Università di Napoli 'Federico II' -  
Dipartimento di Matematica e Informatica 'U. Dini', Università di Firenze

ROMA - PALAZZO CORSINI - VIA DELLA LUNGARA, 10

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Until 10 am access is also possible from Lungotevere della Farnesina, 10