



Center for Mathematical Sciences

RESEARCH WORKSHOP OF THE ISRAEL SCIENCE FOUNDATION

ON

**Nonlinear PDE and Boundary
Value Problems with Measure Data**

1-5 March, 2010



Technion-Israel Institute of Technology

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**Nonlinear PDE and Boundary Value Problems
with Measure Data**

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The conference is held on the occasion of **the 60th birthday** of

**Marie-Françoise Bidaut-Véron
and Laurent Véron's**

Funding for the workshop was obtained from

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and

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Organizing Committee: Emmanuel Lesigne, Moshe Marcus, Yehuda Pinchover

Scientific Committee: Guy Barles, Moshe Marcus, Yehuda Pinchover

Nonlinear PDE and Boundary Value Problems with Measure Data

Technion - Israel Institute of Technology

PROGRAM

All lectures will be held at Room 232, Amado Mathematics Building,


Technion

Monday 1 March

09:15-09:30 Opening and greetings

09:30-10:20 James Serrin

Entire solutions of completely coercive quasilinear elliptic equations


10:20-11:00 

11:00-11:50 Gianni Dal Maso

Quasistatic evolution for Cam-Clay plasticity

12:00-12:50 Fred Weissler

Multi-profile, multi-scale asymptotic limits of global solutions of evolution equations

12:50-15:00 Lunch Break 

15:00-15:50 Philippe Souplet

Asymptotic behavior of solutions of a parabolic system arising in a

selection-migration model in population genetics

16:00-16:50 Matania Ben-Artzi

Scalar conservation laws on a half-line: A parabolic approach

17:15-19:00 **Reception** at the Faculty Lounge, 8th Floor, Amado Mathematical Building



Tuesday 2 March

09:00-09:50 Vladimir Maz'ya

Higher order elliptic problems in non-smooth domains

09:50-10:30



10:30-11:20 Igor Verbitsky

Green's function estimates for some linear and nonlinear operators

11:30-12:20 Andrey Shishkov

Very singular solutions of semi-linear parabolic equations with degenerate

absorption potential

12:20-14:20 Lunch Break




14:20-15:10 Marec Fila

Homoclinic and heteroclinic orbits for a semilinear parabolic equation

15:20-16:10 Pavol Quittner

Singularities versus boundedness of solutions of superlinear elliptic boundary value problems

16:10-16:45 


16:45-17:35 Jesus Ildefonso Diaz

On the differentiability of very weak solutions with right hand side data integrable with respect to the distance to the boundary

Wednesday 3 March

09:30-10:20 Catherine Bandle

Large solutions to semilinear elliptic equations with Hardy potential and exponential nonlinearity

10:20-11:00 

11:00-11:50 Ross Pinsky

The Fujita exponent for semilinear heat equations with quadratically decaying potential or in an exterior domain

12:00-12:50 Yves Belaud

Finite extinction time for non-negative solutions of some parabolic equations



12:50-15:00 Lunch Break

15:00-15:50 Alessio Porretta

On the construction of p -harmonic functions in a cone

16:00-16:50 Lucio Boccardo

Dirichlet problems with singular convection terms and applications

19:30-22:00 **Banquet** at the Tanduka Restaurant, Yoqneam Moshava

Thursday 4 March

09:30-10:20 Francois Murat

A priori estimate and existence for elliptic problems with subquadratic
gradient
dependent terms

10:20-11:00



11:00-11:50 Alano Ancona

On positive harmonic functions in cones and cylinders

12:00-12:50 Augusto Ponce

How do isolated singularities look like?

12:50-15:00 Lunch Break



15:00-15:50 Petru Mironescu

Singularities and phases of circle-valued maps

16:00-16:50 Thierry Raoux

Inverse spectral results for Schrödinger operators on the unit interval

Friday 5 March

09:30-10:20 Juan Luis Vazquez

Porous medium flow with fractional diffusion

10:30-11:20 Ireneo Peral

Remarks on elliptic problems involving the Hardy potential

11:20-11:50



11:50-12:40 Stanislav Pohozaev

Critical nonlinearities in partial differential equations

13:00 – 14:30 Lunch at Greg Cafe