

## Natural reserves in Messina



Le montagne dei porri



Capo Peloro



Le montagne delle felci



I laghetti di Marinello

## Scientific and Organizing Committee

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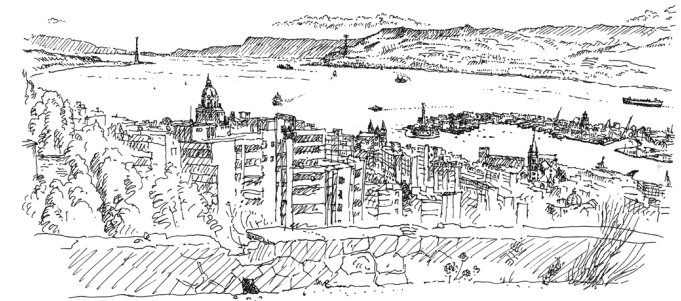
Facoltà di Ingegneria,  
Contrada Di Dio (S. Agata)  
98166 Messina

[ww2.unime.it/VTSMENDIP10](http://ww2.unime.it/VTSMENDIP10)



INTERNATIONAL WORKSHOP ON

## VARIATIONAL, TOPOLOGICAL AND SET-VALUED METHODS FOR NONLINEAR DIFFERENTIAL PROBLEMS



April 14-16, 2010

Aula Magna- Engineering Faculty  
Messina



### Wednesday April 14th

- 8:30-9:00 **Registration**
- 9:00-10:00 *Opening Cerimony - Welcoming Remarks of Authority*  
Chairman: G. Villari
- 10:00-11:00 **J. MAWHIN** (Louvain)  
*Periodic solutions of the relativistic forced pendulum equation*
- 11:00-11:30 *Coffee Break*
- 11:30-12:30 **F. ZANOLIN** (Udine)  
*Nonlinear pendulum-type equations under slowly varying perturbations*
- 12:30-13:00 **F. PAPALINI** (Ancona)  
*Heteroclinic solutions of boundary value problems on the real line involving general nonlinear differential operators*
- Lunch*
- 15:00-16:00 **V. FERONE** (Napoli)  
*Isoperimetric inequalities and rearrangements: recent developments and applications*
- 16:00-16:40 *Coffee Break*

#### PARALLEL SESSIONS

##### Aula Magna

##### Aula 321

Chairman: V. Coti Zelati

Chairman: V. Radulescu

- |       |  |   |
|-------|--|---|
| 16:40 | <b>K. DABROWSKI</b> (Torun)<br><i>Bifurcations of solutions of elliptic differential equations and autonomous Hamiltonian systems</i>                    | <b>M. SPADINI</b> (Firenze)<br><i>Harmonic solutions of periodic retarded functional perturbations of autonomous ODEs on manifolds</i>  |
| 17:00 | <b>G. SMYRLIS</b> (Athens)<br><i>A Bifurcation - Type Theorem for the positive solutions of a nonlinear Neumann problem with concave and convex term</i> | <b>A. CALAMAI</b> (Ancona)<br><i>Continuation results for forced oscillations of constrained motion problems with infinite delay, and applications to the retarded spherical pendulum</i> |
| 17:20 | <b>L. BIACINO</b> (Napoli)<br><i>Searching for general methods to determine the box dimension of the graph of a holder function</i>                      | <b>E. TORNATORE</b> (Palermo)<br><i>Multiple solutions for a mixed boundary value problem</i>   |
| 17:40 | <b>A. BOSCAGGIN</b> (Trieste)<br><i>Subharmonic solutions of planar Hamiltonian systems: a rotation number approach</i>                                  | <b>F. FARACI</b> (Catania)<br><i>On a compact embedding of symmetric Sobolev spaces in the low dimensional case</i>   |
| 18:00 | <b>A. PORTALURI</b> (Lecce)<br><i>Morse theory for a fourth order elliptic equation with exponential nonlinearity</i>                                    | <b>G. MOLICA BISCI</b> (Reggio C.)<br><i>Multiple solutions for elliptic Dirichlet problems</i>   |

### Thursday April 15th

Chairman: J. Mawhin

- 9:00-10:00 **V. RADULESCU** (Bucharest)  
*Combined effects and singular phenomena in nonlinear elliptic equations*
- 10:00-11:00 **S. TERRACINI** (Milano)  
*Symbolic dynamics and parabolic trajectories in the n-centre and n-body problems*
- 11:00-11:30 *Coffee Break*
- 11:30-12:30 **V. COTI ZELATI** (Napoli)  
*Soluzioni stazionarie per equazioni di Schroedinger pseudo relativistiche nonlineari*
- 12:30-13:00 **L. MALAGUTI** (Modena)  
*On second-order boundary value problems in Banach spaces: a bound sets approach*
- Lunch*
- 15:00-16:00 **G. VILLARI** (Firenze)  
*Lins-De Melo-Pugh conjecture for polynomial Lienard equations of degree 3. Can the classical Massera Theorem be of some help?*
- 16:00-16:40 *Coffee Break*

#### PARALLEL SESSIONS

##### Aula Magna

##### Aula 321

Chairman: S. Terracini

Chairman: V. Ferone

- |       |  |  |
|-------|--|--|
| 16:40 | <b>S. MITROKHIN</b> (Moscow)<br><i>About one differential operator of the fourth order with summable potential</i>   | <b>S. MATUCCI</b> (Firenze)<br><i>On some boundary value problems for second order nonlinear differential equations</i>                        |
| 17:00 | <b>A. FARES</b> (Le Havre)<br><i>Infinite matrix theory and application to infinite linear systems of differential equations</i>   | <b>R. SERVADEI</b> (Cosenza)<br><i>Nonexistence for p-Laplace equations with singular weights</i>  |
| 17:20 | <b>M. GARRIONE</b> (Trieste)<br><i>A generalization of Landesman-Lazer conditions for first order planar systems with double resonance</i>                                 | <b>S. A. MARANO</b> (Catania)<br><i>On the structure of the critical set of non-differentiable functions with a weak compactness condition</i> |
| 17:40 | <b>P. RUBBIONI</b> (Perugia)<br><i>On semilinear differential inclusions with lower Scorza-Dragnoni nonlinearities</i>   | <b>G. BONANNO</b> (Messina)<br><i>Critical points theorems for <math>C^1</math>-functionals via non-smooth analysis</i>                        |
| 18:00 | <b>I. BENEDETTI</b> (Firenze)<br><i>Existence results for quasilinear variational inequalities involving multivalued maps</i>  | <b>R. LIVREA</b> (Reggio C.)<br><i>Periodic solutions for second order Hamiltonian systems</i>   |
| 18:20 | <b>L. FATTORUSSO</b> (Reggio C.)<br><i>Interior differentiability results for non linear variational parabolic systems with non linearity <math>1 &lt; q &lt; 2</math></i> | <b>A. IANNIZZOTTO</b> (Catania)<br><i>Infinitely many bounded solutions for the p-Laplacian with nonlinear boundary condition</i>              |
| 20:30 | <i>Social Dinner at "Casa Major Restaurant" of Capo Peloro Resort</i>  |  |

### Friday April 16th

Chairman: F. Zanolin

- 9:00-10:00 **D. MOTREANU** (Perpignan)  
*Multiple solutions for quasilinear Neumann problems*
- 10:00-11:00 **B. RICCERI** (Catania)  
*Yet another survey of problems and perspectives in nonlinear analysis*
- 11:00-11:30 *Coffee Break*
- 11:30-12:30 **N. S. PAPAGEORGIU** (Athens)  
*Resonant nonlinear Neumann problems with indefinite weights*
- 12:30-13:00 **C. MARCELLI** (Ancona)  
*Continuous dependence in front propagation of convective reaction-diffusion equations*
- Lunch*

#### PARALLEL SESSIONS

##### Aula Magna

##### Aula 321

Chairman: D. Motreanu

Chairman: B. Ricceri

- |       |   |  |
|-------|---|--|
| 15:00 | <b>S. EL MANOUNI</b> (Riyadh, KSA)<br><i>On some nonlinear anisotropic equations of infinite order</i>                                      | <b>M. TAVERNISE</b> (Cosenza)<br><i>Compactness in vector-valued function spaces</i>   |
| 15:20 | <b>F. DALBONO</b> (Lisboa)<br><i>A multiplicity result for a class of strongly indefinite asymptotically linear second order systems</i>    | <b>G. RICCOBONO</b> (Palermo)<br><i>On the existence of multiple solutions for Sturm-Liouville boundary value problems</i>                   |
| 15:40 | <b>P. CANDITO</b> (Reggio C.)<br><i>Nonlinear discrete boundary value problems investigated via critical point methods</i>                  | <b>S. D'ASERO</b> (Catania)<br><i>On removability of the isolated singularity for solutions of high order elliptic equations</i>             |
| 16:00 | <i>Coffee Break</i>   |  |
|       | Chairman: N.S. Papageorgiou    Chairman: S.A. Marano  |  |
| 16:40 | <b>S. MOSCONI</b> (Catania)<br><i>Hodge decomposition methods for magnetohydrodynamics</i>  | <b>M. B. DONATO</b> (Messina)<br><i>On the existence of a competitive equilibrium with utility function: a variational approach</i>          |
| 17:00 | <b>A. BARBAGALLO</b> (Catania)<br><i>Variational formulation for dynamic oligopolistic market equilibrium problem with long-term memory</i> | <b>M. MILASI</b> (Messina)<br><i>A formulation of an economic equilibrium problem in terms of a generalized quasi-variational inequality</i> |