

“Ettore Majorana” Centre for Scientific Culture  
International School of Mathematics “G. Stampacchia”  
52th Workshop

**Nonlinear optimization, variational inequalities  
and equilibrium problems**

2 – 10 July 2010

Erice, Italy

**LIST OF THE INVITED  
AND THE CONTRIBUTED LECTURES**

## Invited lectures

**E. Birgin**

*Practical Augmented Lagrangian Methods*

**C. A. Floudas**

*De Novo Design of Proteins and Protein-Peptide Complexes: Advances and Challenges*

**D.Y Gao**

*Canonical Duality Theory: Unified Understanding for Global Optimization Problems in Complex Systems*

**E. K. Lee**

*Machine Learning Framework for Classification in Medicine and Biology*

**M. Locatelli**

*On convex envelopes and underestimators for bivariate functions*

**J. Morgan**

*Regularization and selection methods for bilevel optimization problems and two-stage noncooperative games*

**E.A. Nurminski**

*Fejer processes with diminishing disturbances and applications optimization and variational inequalities*

**J.-S. Pang**

*Cognitive Radio Systems: Game-Theoretic Models Solution Theory, and Distributed Algorithms*

**M.J.D. Powell**

*On the convergence of trust region algorithms for unconstrained minimization without derivatives*

**F. Rendl**

*An Eigenvalue optimization approach to the Bandwidth and Vertex-Separator Problem in Graphs*

**K. Scheinberg**

*Accelerating first order methods for convex optimization problems arising in machine learning*

**M. Sciandrone**

*Decomposition methods for constrained convex optimization problems*

**V. Simoncini**

*Solution of structured algebraic linear systems in PDE-constrained optimization problems*

**H. Wolkowicz**

*Theory and Applications of Degeneracy in Cone Optimization*

**Y.-X. Yuan**

*Recent Advances in Numerical methods for Nonlinear Equations and Nonlinear Least Squares*

## Invited sessions

- **LARGE SCALE SPARSE OPTIMIZATION**

organized by K.Scheinberg

**R. Hauser**

*A Parallel SVD Algorithm for Use in Matrix-Completion Problems*

**M. Pontil**

*Multi-task Learning: Theory and Practice*

- **MACHINE LEARNING OPTIMIZATION**

organized by M.Sciandrone

**M. Gaudioso**

*DC models for classification problems*

**C. S. Ong**

*Learning the Kernel*

**S. Villa**

*A regularization approach to nonlinear variable selection*

- **SEMIDEFINITE PROGRAMMING**

organized by F.Rendl

**C. Helmberg**

*Towards Second Order Implementations of the Spectral Bundle Method*

**L. Palagi**

*Improving the SDP bound for  $\{-1, 1\}$  quadratic problems by using RLT constraints*

**V. Piccialli**

*SpeedDP: a fast method for solving the SDP relaxation of Max Cut*

**A. Wiegele**

*Semidefinite Relaxations for Non-Convex Quadratic Mixed-Integer Programming*

## Contributed lectures

**A. S. Belenky**

*Equilibrium points in two-person games on polyhedral sets of connected strategies*

**G. Bigi**

*Beyond canonical DC programming*

**I. M. Bomze**

*Certificates for copositive programming*

**M. De Santis**

*A Newton-type feasible method for large scale minimization problems with bound constraints*

**D. Di Lorenzo**

*Machine Learning for Global Optimization*

**G. Di Pillo**

*An approach to constrained global optimization based on exact penalty functions*

**D. di Serafino**

*Efficient Preconditioning of Sequences of Linear Systems in Optimization*

**M. Fukuda**

*Applying optimization techniques in computational chemistry*

**J.C. Gilbert**

*How the augmented Lagrangian algorithm deals with an infeasible convex quadratic optimization problem*

**E. Gorgone**

*Quadratic corrections in cutting plane models*

**L. Lampariello**

*Partial Penalization for the Solution of Generalized Nash Equilibrium Problems and QVIs*

**N. Langenberg**

*On proximal-like methods for equilibrium programming*

**V. Latorre**

*Black box method in cross-validation for Support Vector Machines*

**J. L. Morales**

*Numerical Methods for LCPs that arise in American Options Pricing*

**Z. Nanievich**

*Variational Inequality Approach to Economic Equilibrium Problem with Application to Pareto Optimization*

**L. Niu**

*Training max-margin sequence models with relaxed slack variables*

**A. Ochal**

*Optimal control for integrodifferential hemivariational inequalities*

**M. Passacantando**

*Gap functions and penalization for solving equilibrium problems with nonlinear constraints*

**C. Pearce**

*Laurent series for inversion of linearly perturbed bounded linear operators on Banach space*

**M. Piacentini**

*On the convergence of a Jacobi-type algorithm for Singly Linearly-Constrained Problems Subject to simple Bounds*

**A. L. Pogosyan**

*Newton-type methods for the lifted mathematical programs with complementarity constraints*

**R. A. Polyak**

*Nonlinear Equilibrium vs. Linear Programming for limited resources allocation*

**F. Rinaldi**

*Derivative-free methods for mixed-integer optimization*

**S. Sagratella**

*A potential-reduction method for the solution of generalized Nash equilibrium problems*

**S. A. Santos**

*On second-order optimality conditions for multiobjective optimization*

**J. Schwientek**

*Multi-body design centering: An approach for solving cutting and packing problems in a continuous framework*

**M. T. Surowiec**

*A Variational-Analytic Approach to Elliptic Mathematical Programs with Equilibrium Constraints*

**D. A. Tarzia**

*Convergence of distributed optimal control problems governed by elliptic variational inequalities*

**F. Troeltzsch**

*Numerical analysis of nonlinear elliptic optimal control problems of semi-infinite type*

**M. Yamashita**

*Enclosing Ellipsoids of Semi-algebraic Sets and Error Bounds in Polynomial Optimization*