

Programme on
“Modern Maximal Monotone Operator Theory: From Nonsmooth Optimization
to Differential Inclusions”

January 28 – March 8, 2019

organized by

Heinz H. Bauschke (U of British Columbia), Radu I. Boţ (U Vienna), H el ene Frankowska (U
Paris VI), Michael Hinterm uller (Weierstrass Inst. Berlin), D. Russell Luke (U G ottingen)

Workshop 1 on

“Nonsmooth and Variational Analysis”

January 28 – February 1, 2019

• **Monday, January 28, 2019**

09:00 – 09:35 **Registration & Opening**

09:35 – 10:10 **R. Tyrrell Rockafellar**

Decomposition algorithms for generalized equation problems with elicitable monotonicity

10:10 – 10:40 *Coffee / Tea break*

10:40 – 11:15 **Rafal Goebel**

Lyapunov-like tools for pointwise asymptotic stability of a set of equilibria

11:15 – 11:50 **Szil ard L aszl o**

A second order dynamical approach with variable coefficients to nonconvex smooth minimization

11:50 – 12:25 **Ewa Bednarczuk**

On dynamical system related to a class of proximal primal-dual best approximation method

12:25 – 14:00 *Lunch break*

14:00 – 14:35 **Franco Rampazzo**

Higher order necessary conditions for impulsive optimal control problems: a set-separation approach

14:35 – 15:10 **Vincenzo Basco**

Necessary conditions for infinite horizon optimal control problems under state constraints and Hamilton-Jacobi-Bellman equations

15:10 – 15:40 *Coffee / Tea break*

15:40 – 16:15 **Elsa Maria Marchini**

Second order necessary conditions for infinite dimensional control problems

16:15 – 16:50 **Piernicola Bettiol**

A necessary condition in the calculus of variations and some applications

17:00 – **Welcome Reception**

• **Tuesday, January 29, 2019**

09:00 – 09:35 **Michel Th era**

Metric regularity and directional metric regularity of multifunctions

09:35 – 10:10 **Xiao-qi Yang**

On error bound moduli for locally Lipschitz and regular functions

10:10 – 11:15 *Coffee / Tea break*

11:15 – 11:50 **Boris Mordukhovich**

Criticality of Lagrange multipliers in conic programming with applications to superlinear convergence of SQP

11:50 – 12:25 **Diethard Klatte**

On extensions of Newton's method for equations and inclusions

12:25 – 14:00 *Lunch break*

14:00 – 14:35 **Georg Pflug**

Stochastic constrained optimization in Hilbert spaces with applications

14:35 – 15:10 **D. Russell Luke**

Variational analysis of random function iterations

15:10 – 15:40 *Coffee / Tea break*

15:40 – 16:15 **Ulisse Stefanelli**

The WIDE variational principle for nonlinear evolution

16:15 – 16:50 **Adrian Petruşel**

Variational analysis concepts in coincidence point theory

• **Wednesday, January 30, 2019**

09:00 – 09:35 **Marc Quincampoix**

On a multiagent Bolza control problem

09:35 – 10:10 **Hélène Frankowska**

Domain invariance for local solutions of semilinear evolution equations in Hilbert spaces

10:10 – 10:40 *Coffee / Tea break*

10:40 – 11:15 **Terence Bayen**

About the minimal time crisis problem

11:15 – 11:50 **Wojciech Kryszewski**

Semigroup and resolvent invariance of convex sets

11:50 – 12:25 **Shu Lu**

Statistical inference for piecewise normal distributions and application to stochastic variational inequalities

12:25 – 14:00 *Lunch break*

14:00 – 14:35 **Josef Hofbauer**

Monotone operators and ODEs - some examples

14:35 – 15:10 **Constantin Zălinescu**

On Lagrange multipliers in convex entropy minimization

15:10 – 15:40 *Coffee / Tea break*

15:40 – 16:15 **Stephen Simons**

Quasidense multifunctions

16:15 – 16:50 **Orestes Bueno**

Remarks on p -cyclically monotone operators

18:00 – **Workshop Dinner at Heuriger Schübel Auer**

- **Thursday, January 31, 2019**

09:00 – 09:35 **Fredi Tröltzsch**

Sparse optimal control for a semilinear heat equation with mixed control-state constraints

09:35 – 10:10 **Vladimir Veliov**

Metric regularity properties of the optimality mapping for ODE optimal control

10:10 – 10:40 *Coffee / Tea break*

10:40 – 11:15 **Richard Vinter**

Multifunctions of bounded variation and control theory applications

11:15 – 11:50 **Asen Dontchev**

Uniform strong regularity, Newton's method, and model predictive control

11:50 – 12:25 **Carlos Rautenberg**

Parabolic quasi-variational inequalities with gradient and obstacle type constraints

12:25 – 14:00 *Lunch break*

14:00 – 14:35 **Samir Adly**

Nonconvex degenerate sweeping process

14:35 – 15:10 **René Henrion**

Robust control of a sweeping process with probabilistic end-point constraints

15:10 – 15:40 *Coffee / Tea break*

15:40 – 16:15 **Aris Daniilidis**

Linear structure of Lipschitz functions that saturate their Clarke subdifferential

16:15 – 16:50 **André Uschmajew**

Critical points of quadratic low-rank optimization problems

- **Friday, February 1, 2019**

09:00 – 09:35 **Michael Hintermüller**

A function space framework for structural total variation regularization with applications in inverse problems

09:35 – 10:10 **Jose-Francisco Rodrigues**

On a class of nonlocal variational and quasivariational inequalities

10:10 – 10:40 *Coffee / Tea break*

10:40 – 11:15 **Juan-Enrique Martínez-Legaz**

On the structure of higher order Voronoi cells

11:15 – 11:50 **Teemu Pennanen**

Convex duality in nonlinear optimal transport

11:50 – 12:25 **Didier Aussel**

New existence results for quasivariational inequalities on product spaces: why, what and how?

12:25 – 12:35 **Closing**

All talks take place at ESI, Boltzmann Lecture Hall!