

Maestro Seminar of the Chair of Optimization and Control

Winter semester 2017-2018,

Wednesday at 10:15 - 11:45, room 1177

Prof. Migorski & dr hab. Ochal

October 11, 2017

Stanislaw Migorski

An Introduction.

• October 18, 2017

Agnieszka Kałamajska (University of Warsaw)

Extension theorems dealing with weighted Orlicz-Slobodetskii space. Abstract: We discuss trace extension theorems between weighted Orlicz-Sobolev spaces of functions defined on bounded domain Ω in \mathbb{R}^n and weighted Orlicz-Slobodetski spaces of functions defined on the boundary of Ω . This gives a new tool to deal with inhomogeneous boundary value problems for degenerate elliptic PDEs.

• October 25, 2017

(1) Luca Vilasi (University of Messina)

Half Laplacian equations in bounded domains. Abstract: In this seminar I will focus on a fractional elliptic equation governed by the half Laplacian in a smooth bounded domain of \mathbb{R}^n and with Dirichlet conditions on the boundary. By assuming a suitable growth of the nonlinearity in addition to some (technical) algebraic conditions, I will show the existence of at least three L^1 -bounded weak solutions. My approach relies upon Caffarelli-Silvestre's extension method and some variational methods for smooth functionals defined on reflexive Banach spaces.

(2) Marek Galewski (Politechnika Lodzka)

On a global implicit function theorem for locally Lipschitz mappings in finite dimensional spaces. Abstract: This talk is based on our joint research with Marius Radulescu. We concentrate on providing conditions under which a locally Lipschitz mapping $F: E \rightarrow E$, where E is a finite dimensional Euclidean space, is a diffeomorphism. Next, we generalize this result to get a global implicit function theorem. Applications to algebraic equations are given. On a global invertibility of locally Lipschitz mappings on \mathbb{R}^n .

(3) Michał Beldzinski (Politechnika Lodzka)

Application of a global diffeomorphism theorem to the solvability of abstract equations.

- **November 8, 2017**

Anna Ochal

Existence results for perturbed compact operator with applications to variational inequalities.

- **November 15, 2017**

Michał Jureczka

Numerical analysis of stationary variational-hemivariational inequalities with applications in contact mechanics.

- **November 22, 2017**

Biao Zeng

Optimal Control of a Class of Variational–Hemivariational Inequalities in Reflexive Banach Spaces, part I.

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- **November 29, 2017**

Biao Zeng

Optimal Control of a Class of Variational–Hemivariational Inequalities in Reflexive Banach Spaces, part II.

- **December 6, 2017**

Justyna Ogorzały

History-Dependent Nonlinear Inclusions and Variational-Hemivariational Inequalities with Applications to Contact Mechanics.

- **December 13, 2017**

Anna Kulig

Optimal control for antiplane frictional contact problems involving nonlinearly elastic materials of Hencky type, part 1.

- **December 20, 2017**

Anna Kulig

Optimal control for antiplane frictional contact problems involving nonlinearly elastic materials of Hencky type, part 2.

- **January 3, 2018**

There will be no seminar on that day.

- **January 10, 2018**

Shengda Zeng

A regularization method for a viscoelastic contact problem.

- **January 17, 2018**

Kristina Kozić

Mathematical modeling of vascular stents. Based on "Mathematical modeling of vascular stents" in SIAM J. Appl. Math. 70, 2010.

- **January 24, 2018**

Michal Jureczka

Numerical analysis of stationary variational-hemivariational inequalities with applications in contact mechanics, part II.