CONSTRUCTIVE METHODS FOR NON-LINEAR BOUNDARY VALUE PROBLEMS

9 July – 12 July, 2015, Miskolc, Hungary

organized by

**Institute of Mathematics,
University of Miskolc, Hungary**

and

Institute of Mathematics of the Academy of Sciences of Czech Republic

in cooperation with

**Miskolc Regional Committee
of the Hungarian Academy of Sciences,
Junior Mathematical Society Miskolc**

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Constructive Methods for Non-Linear Boundary Value Problems, Sixth International Workshop-2015,
9 July - 12 July, 2015, Miskolc, Hungary (http://www.uni-miskolc.hu/~matbvp)

Venue of the conference

The venue of the Workshop-2015 is at the **University of Miskolc**, located at the following address:
3510, Miskolc – Egyetemváros, `http://www.uni-miskolc.hu/`

At the **University Campus** you will find both the conference hall XXXV. building C/2 (see: http://www.uni-miskolc.hu/terkep) and rooms of the **Uni-Hotel**, http://www.uni-hotel.hu/.

The GPS coordinates of the Uni-Hotel are:

48.079126 , 20.771106

Travelling by car to Miskolc

The city is easily accessible by car and by train from Budapest (185 km), Kosice (90 km), Baia-Mare (210 km), Chop/Záhony (140 km).

Travelling by train to Miskolc:

The trains start from the Keleti Railway Station of Budapest.
The interactive time table of the Hungarian State Railways can be found at the MÁV-START web page: http://elvira.mav-start.hu
You can also reach Miskolc from *Košice* by a direct train.

Local transport from Miskolc Railway Station (Miskolc-Tiszai pályaudvar) to the University Campus.

Take any tram line No. 1 or 2 and get off at the third stop
(**Szinvapark**).
 Cross the street parallel with the train line and take the bus No.12 or
20 (20 minutes) into the direction of University Campus. In the
Campus get off at the first stop near the UNI-HOTEL.
You will need to buy 2 prepaid tickets at the railway station in a
newspaper kiosk and validate them on the tram/bus.
If you share a taxi the minimum cost a HELLO-Taxi or a NON-
STOP- Taxi is about 1.500 HUF from Railway Station to University
Campus (UNI-HOTEL). (Ask for the special price for the University,
because other taxi companies may ask double or more.)

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Other Information

- **The poster lecture are requested to prepare no more than 10 pages size A/4.**
- **Please, don't forget to bring swimming suits with you !**
- about Miskolc: http://www.miskolc.hu/
- about University of Miskolc: http://www.uni-miskolc.hu/
- about the Uni-Hotel , http://www.uni-hotel.hu/
- about Miskolc Mathematical Notes: http://mat76.mat.uni-miskolc.hu/~mnotes/
- about Miskolc-Tapolca Cave Bath**** (www.barlangfurdo.hu)
- The interactive time table of the Hungarian State Railways can be found at the MÁV-START web page: http://elvira.mav-start.hu

PROGRAM

July 9, Thursday

Venue of the conference lectures : Conference Hall XXXV. building C/2

13:00 – 19:00	*Registration*
19:15 - 19:45	*A short opening address.* *Péter Körtesi (University of Miskolc)* *Introduction to the history of University of Miskolc*
20:00	*Welcome dinner*

July 10, Friday

Venue of the conference lectures : Conference Hall XXXV. building C/2

7:00	*Breakfast*
8:10 – 8:40	*Zhenhai Liu (Guangxi University for Nationalities, Nanning, China)* *Differential Variational Inequalities*
8:45 – 9:15	**Irena Rachunkova (**Palacky University of Olomouc, Czech Republic**), András Rontó (**Institute of Mathematics AS of Czech Republic, Brno**), Lukas Rachunek (**Palacky University of Olomouc, Czech Republic**)** and **Miklós Rontó (**University of Miskolc, Hungary**)** *Constructive method for state-dependent impulsive boundary value problem*
9:20 – 9:50	**Adrian Petrusel** (Babes- Bolyai University, Cluj-Napoca, Romania) *Vector-valued metric approach in the theory of differential equations an inclusions*

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9:55 – 10:25	**Iván Szántó** (University of Federica Santa Maria,Valparaiso, Chile) *Limit cycles and invariant centers for an extended Kukles system curves*
10:30 – 10:45	***Break. Conference group photo in front of the main building of the University of Miskolc***
10:45 – 11:15	**Svatoslav Stanek** (Palacky University of Olomouc, Czech Republic) *Periodic problem for the generalized Basset fractional differential equation*
11:20 – 11:50	**Milan Tvrdy** (Institute of Mathematics AS of Czech Republic, Prague, Czech Republic) *Bounded convergence theorem for abstract Kurzweil-Stieltjes integrals*
11:55 – 12:25	**Ioan A. Rus** (Babes- Bolyai University , Cluj-Napoca, Romania) *Functional differential equations with retarded argument from step method to an iterative algorithm*
12:30	***Lunch***
13:40 – 14:10	**Jan Tomecek** (*Palacky University of Olomouc, Czech Republic*) *Boundary value problem for impulsive differential equation with phi-Laplacian and state-dependent impulses*
14:15 – 14:45	**László Simon** (L. Eötvös University of Budapest, Hungary) *Semilinear hyperbolic functional differential equations*
14:50 – 15:20	**Josef Diblik** (Brno University of Technology, Brno, Czech Republic) *Exponential stability conditions for systems of linear delay differential equations*
15:25 – 15:55	**Irina Astashova** (Lomonosov Moscow State University, Moscow, Russia) *On oscillatory solutions to ordinary differential equations with power nonlinearity*

16:00 – 16:10	*Break*

16:10 – 16:35   **Jaromir Bastinec** **(**Brno University of Technology,Czech Republic**)**

Interval stability of linear discrete systems with delay and convergence of their solutions

16:40 – 17:05   **Ihor Korol** (Uzhhorod National University, Uzhhorod, Ukraine)

Boundary value problems for differential-algebraic systems

17.10 – 17:30   **Angela Budescu** (Babes- Bolyai University , Cluj-Napoca, Romania)

Variational properties of the solutions to semilinear elliptic problems

17:35 – 17:55   **Iulia Coroian** (Babes- Bolyai University, Cluj-Napoca, Romania)

Fixed point theory for multivalued contractions with respect to a Pompeiu Hausdorff type metric

18:00 – 18:20   **Kateryna Marynets** (Uzhhorod National University, Uzhhorod, Ukraine)

Investigation of boundary value problem with integro-functional boundary restrictions

18:25 – 18:45   **Diana-Raluca Herlea** **(**Babes- Bolyai University, Cluj-Napoca, Romania**)**
Positive solutions to phi-Laplace equations and systems

18:50-19:10   **Sergey Smirnov** **(**University of Latvia, Riga, Latvia**)**
Eigenvalues for third order boundary value problem with integral condition

19:15-19:40   **Felix Sadyrbayev** (University of Latvia, Riga)
To the theory of boundary value problem

19.45-20:10   **Ihor Cherevko** **(**Chernivtsi National University , Chernivtsi, Ukraine**)**

Asymptotic decomposition of multiparameter linear singularly perturbed systems

20:30	*Workshop dinner*

July 11, Saturday

Venue of the conference lectures : Conference Hall XXXV. building C/2

7:00	***Breakfast***

8:40 – 9.00   **Marcel-Adrian Serban** Babes- Bolyai University, Cluj-Napoca, Romania**)**

Functional differential equations with retarded argument: step method iterative algorithm in Matlab

9:05 – 9:25   **Krisztián Hriczó** (Universty of Miskolc, Hungary)

 Forsed convection flow of non-Newtonian fluid in porous medium

9:30-9:50   **Natalija Sergejeva** (University of Latvia, Riga, Latvia)

On some problem with nonlocal conditions

9:55-10:15   **Ivanna Bondar**   (Institute of Mathematics AS of Ukraine, Kiev)

Non-linear boundary value problems for systems of integro-differential equations with impulse action

10:20- 10:30	***Break***

10:30- 10:50   ***Octavia-Maria Bolojan (****Babes- Bolyai University, Cluj-Napoca, Romania****)***

An existence result for implicit first order differential systems with nonlocal conditions

10:55-11:15   **Zdenek Svoboda**   (Brno University of Technology,Czech Republic**)**
Asymptotic properties of the delayed matrix functions

11:20-11:40   **Cristina Urs (**Babes- Bolyai University, Cluj-Napoca, Romania)
Krasnoselskii type theorem for multivalued operators in generalized metric spaces

11:45-12.05   **Calin-Constantin Serban** (West University of Timisoara, Romania)
Boundary value problems for discontinuous perturbations of singular phi-Laplacian operator

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12:10-12:30   **Nadezhda Sveikate** (Daugavpils University, Latvia)
A note on resonant problems

12:35-12:55   **Andrii Sirenko** (Taras Shevchenko National University of Kyiv, Ukraine)
Stability investigation of a nonlinear model describing the dynamics of neural networks

13:00-13:20   *Maria Kudelcikova (University of Zilina, Zilina, Slovakia)*

Positive solutions of advanced differential equations

13:30   *Lunch*

14:30-14:50   **Diana Otrocol** *(*T. Popovicu Institute of Numerical Analysis, Romanian Academy, Cluj-Napoca, Romania*)*

Qualitative properties of solutions of functional-differential equations with maxima, of mixed type

14:55-15:15   **Vasile Glavan** (Institute of Mathematics and Physics, Siedlice University of Natural Sciences and Humanities, Poland*)*

Viability and invariance in set-valued and control dynamics

15:20 – 15:40   **Zoltán Csáti** (University of Miskolc, Hungary)
Spectral method for the time dependent Navier-Stokes equations

15:40-16:05   **Poster session**

- Monica Bota , Veronica Ilea and Marius Bota *(*Babes- Bolyai University, Cluj-Napoca, Romania*)*

About a differential equation arising from economics

*--Yana Varha (*Uzhhorod National University, Uzhhorod, Ukraine)

Constructive existence analysis of two solutions of some non-linear integral boundary value problems

*-Adrian Magdas (*Babes- Bolyai University, Cluj-Napoca, Romania*)*
TBA

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-Vasyl Marynets (Uzhhorod National University, Uzhhorod, Ukraine*)*

On one approach to the investigation of BVPs in the theory of partial differential equations of hyperbolic type in the domains with a complicated structure of boundary

*- **Dzhalladova Irada**(Vadym Hetman Kyiv National Economics University, University of Zilina) **and Ruzickova Miroslava** (University of Zilina, Zilina, Slovakia)*

Asymptotic mean square stability of the zero solution of the stochastic differential equations

*-***Nataliya Shchobak** (Uzhhorod National University, Uzhhorod, Ukraine)

Notes on interval halving procedure for periodic and two-point problems

16.10 -19:00	*Trip by bus to Miskolc-Tapolca Cave Bath (www.barlangfurdu.hu)*
	Please, don't forget to bring with you swimming suits, beachslippers, towel.
20:00	***Dinner . Discussion.***

July 12, Sunday

07:30	***Breakfast. Departure.***