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International Society of
Difference Equations

ISDE   ISDE

Newsletter of the International Society of Difference Equations

INTERNATIONAL SOCIETY OF
DIFFERENCE EQUATIONS

http://isdeds.com

TABLE OF CONTENTS

Newsletter Editor: Małgorzata Guzowska

Letter from the president

Dear Friends, Dear Colleagues and Dear ISDE Members,

First of all, I would still like to give you my best wishes for an exciting and successful year 2017.

Let me recapitulate our activities in 2016: The PODE Meeting (Riga, Latvia, May 17-20, organised by Inese Bula and Maruta Avotiņa, http://www.lu.lv/pode2016/) featured four plenary talks and 31 contributed talks. The traditionally larger ICDEA Meeting was held Osaka (Japan, July 24-29, organised by Yoshihiro Hamaya, Hideaki Matsunaga, Masakazu Onitsuka and Naoto Yamaoka,
http://www.atalacia.com/icdea2016/osaka/index.html).
We are grateful to the organisers of both conferences for their great job and their essential contribution to our society.

A central point in the program of each ICDEA, and one of my favourite obligations as president, is to announce the Best Paper prize. In 2015 it went to **J. Epperlein, S. Siegmund and P. Stehlík: Evolutionary games on graphs and discrete dynamical systems,** JDEA 21(2), 2015, 72-95. Congratulations!

This brings me to various announcements for the still new 2017:

- **PODE 2017** (May 29-31) will be in Urbino Italy. For further information see http://www.mdef.it/meetings-workshops/pode-2017/

- **The 23rd ICDEA** (July 24-28) is in Timișoara, Romania. All necessary information is contained on the website https://icdea2017.uvt.ro

This year also gives us the opportunity to award the next **Bernd-Aulbach-Prize**. We are looking for suggestions.

Finally, we have to elect a new president. The last two years were an exiting time and I am grateful for your trust. However, I will not be available as president for the following two years. On the one hand, I still feel a bit too young for representative duties. On the other hand, I would like to focus more on my favourite obsession: Mathematics. I hope for your understanding and assure that I gladly accept other responsibilities in our society.

Let me close with two words of caution: First, there exist fake websites for the "International Conference on Difference Equations and Applications". Please check and compare them with the website of the society. Second, members of the society were contacted under my fake identity for various favours. Please double-check this and feel free to contact me.
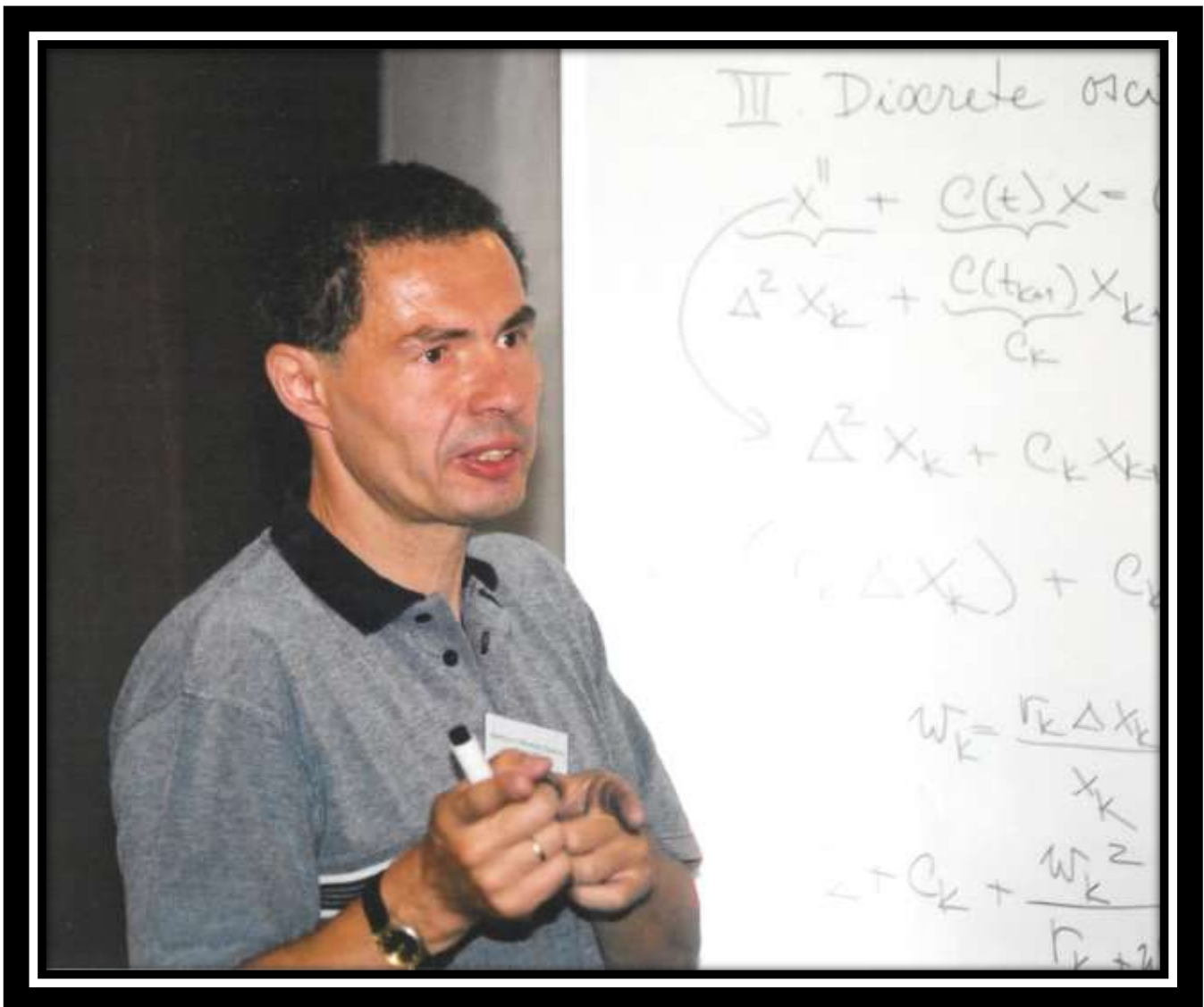
Looking forward to meeting you somewhere soon,
with best regards from Austria,

Christian Pötzsche

ISDE President

Obituary Ondřej Došlý (1956-2016)

Our dear colleague and friend, Professor Ondřej Došlý, died suddenly in November 2016. He was a distinguished scientist and an outstanding pedagogue, a leader of Brno school of differential equations in the last twenty years. Since its foundation in 2001, he was affiliated with the International Society of Difference Equations (ISDE) as an active member. For several years he also served as member of its Board of Directors.

Professor Došlý worked at the Faculty of Science of Masaryk University for more than thirty years. He was a chairman of the Department of Mathematical Analysis, a chairman of the Ph.D. program of mathematics, and a member of the Scientific Board of the faculty.

Professor Došlý started his scientific career under the supervision of Professor František Neuman in the qualitative theory of differential equations. He wrote over 160 original research papers in the theory of differential and difference equations and one highly regarded monograph devoted to half-linear differential equations (Elsevier, 2005). He made essential contributions to the theory of Hamiltonian and symplectic systems and half-linear differential and difference equations. His contribution to the field is highly recognized throughout the world.

Professor Došlý organized several worldwide international conferences on differential and difference equations and their applications, including the annual meeting of ISDE in 2003 or the famous conferences Equadiff in 2009, 1997, and 1985. He also served as a member of the editorial board of several mathematical journals in the field of differential and difference equations.

Ondřej loved teaching mathematics, both lecturing and tutoring students. His lectures on mathematical analysis, optimization theory, or functional analysis were highly regarded by students. He was an advisor of 10 Ph.D. students, most of whom are now active teachers and researchers at different universities in the country. In addition, he was an advisor of more than 70 bachelor and master students. He was not only a respected teacher, but also a kind mentor and friend. He also wrote several textbooks on various topics of mathematics, ranging from basic courses in mathematical analysis to advanced lectures on convex analysis, theory of optimization, and functional analysis.

Those who knew Ondřej will remember him as a kind, loving, and generous person. He liked active sports, such as football, tennis, or cross-country skiing, playing chess, reading detective novels. He had a special taste for ironic humor. He loved mathematics and his work. But most of all he loved spending time with his family and friends.

Professor Došlý will be missed by all mathematical community.

Roman Šimon Hilscher
Department of Mathematics and Statistics Faculty of Science,
Masaryk University Brno, Czech Republic

INTRODUCTION FROM THE NEWSLETTER EDITOR

Dear Colleagues:

It is my great pleasure to present to you the new issue of the ISDE Newsletter. I hope you will enjoy reading this new issue.

Also thanks to all ISDE members who have sent information for this newsletter.

I would also like to ask the members of the Society to contribute information and articles about their faculties, new books, new conferences, new grants and job opportunities to the newsletter and webpage, as well as any relevant information about mathematics or about our members.

All information may be emailed to:
malgosiaguzowska@gmail.com

With Best Regards
Małgorzata Guzowska

CONFERENCE REPORTS

ICDEA 2016

The 22nd International Conference on Difference Equations and Applications took place at the Osaka, Japan, from July 24 to 29, 2016. The conference was organized by Osaka Prefecture University (OPU), under the auspices of the International Society of Difference Equations (ISDE) and Okayama University of Science (OUS).

Group picture, ICDEA 2016, Osaka (Japan),

Professor Hideaki Matsunaga chaired the organizing committee and is to be highly commended for the overwhelming success of the conference. Special topic sessions focused on the theory and applications of Difference Equations and Discrete Dynamical System.

Special thanks go to the conference committees:

Scientific Committee:

Linda Allen (Texas Tech University, USA) Chair

Meng Fan (Northeast Normal University, China)

Małgorzata Guzowska (University of Szczecin, Poland)

Hideaki Matsunaga (Osaka Prefecture University, Japan)

Stefan Siegmund (Technische Universität Dresden, Germany)

Organizing Committee:

Yoshihiro Hamaya (Okayama University of Science)

Hideaki Matsunaga (Osaka Prefecture University) Chair

Masakazu Onitsuka (Okayama University of Science)

Naoto Yamaoka (Osaka Prefecture University)

During the conference plenary addresses were given by:

- Jim M. Cushing (University of Arizona, USA)
- Saber Elaydi (Trinity University, USA)
- Hiroshi Kokubu (Kyoto University, Japan)
- Ryusuke Kon (University of Miyazaki, Japan)
- Eduardo Liz (Universidade de Vigo, Spain)
- Christian Pötzsche (Alpen-Adria Universität Klagenfurt, Austria)
- Sebastian J. Schreiber (University of California, USA)
- Petr Stehlík (University of West Bohemia, Czech Republic)
- Jianshe Yu (Guangzhou University, China)
- Weinian Zhang (Sichuan University, China)

Special talk of one of the winners of the 2015 Best JDEA Paper Prize

A central point in the program of each ICDEA, and one of my favourite obligations as president, is to announce the Best Paper prize. In 2015 it went to **J. Epperlein, S. Siegmund and P. Stehlík**: *Evolutionary games on graphs and discrete dynamical systems*, JDEA 21(2), 2015, 72-95. Congratulations!

Abstract of the paper:

Evolutionary games on graphs play an important role in the study of evolution of cooperation in applied biology. Using rigorous mathematical concepts from a dynamical systems and graph theoretical point of view, we formalize the notions of attractor, update rules and update orders. We prove results on attractors for different utility functions and update orders. For complete graphs we characterize attractors for synchronous and sequential update rules. In other cases (for k-regular graphs or for different update orders) we provide sufficient conditions for attractivity of full cooperation and full defection. We construct examples to show that these conditions are not necessary. Finally, by formulating a list of open questions we emphasize the advantages of our rigorous approach.

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PODE 2016

The conference **Progress on Difference Equations 2016 (PODE 2016)** took place in Riga, Latvia from May 17 to May 20, 2016.

The organizers, led by Professor **Inese Bula**, chair of the Organizing Committee and **Christian Pötzsche**, chair of the Scientific Committee are to be congratulated on putting together this successful conference. The conference addressed difference equations, discrete dynamical systems and their applications.

Special thanks go to the conference committees:

Scientific Committee:

Christian Pötzsche, Alpen-Adria Universität Klagenfurt, Austria - Chair,

Andrejs Reinfelds, Latvijas Universitāte, Latvia - Co-Chair,

Inese Bula, Latvijas Universitāte, Latvia.

Martin Bohner, Missouri University of Science and Technology, USA,

Josef Diblik, Vysoke Učeni Technicke v Brne, Czech Republic,

Saber Elaydi, Trinity University, USA,

Michal Misiurewicz, Indiana University, USA,

Ewa Schmeidel, Uniwersytet w Bialymstoku, Poland,

Stefan Siegmund, TU Dresden, Germany,

Cesar M. Silva, Universidade da Beirainterior, Portugal.

Organizing Committee:

Inese Bula, University of Latvia, Latvia - Chair,

Maruta Avotiņa, University of Latvia. Latvia - Co-Chair,

Aija Aņisimova, University of Latvia, Latvia,

Alina Gleska, Poznan University of Technology, Poland,

Michael A. Radin, Rochester Institute of Technology, USA,

Andrejs Reinfelds, University of Latvia, Latvia,

Felix Sadyrbaev, Daugavpils University, Latvia,

Dzintra Šteinberga, University of Latvia, Latvia,

Agnese Šuste, University of Latvia, Latvia.

The 23rd International Conference on Difference Equations and Applications (ICDEA 2017) will be held at West University of Timișoara, Romania, under the auspices of the International Society of Difference Equations (ISDE), July 24 - 28, 2017.

ICDEA 2017 aims to bring together researchers and scientists from around the world, to present, discuss and offer solutions in the fields of difference equations, discrete dynamical systems and their applications to various sciences.

The previous conferences were held in Osaka (Japan) in 2016, Bialystok (Poland) in 2015, Wuhan (Hubei, China) in 2014, Muscat (Oman) in 2013, Barcelona (Spain) in 2012, Trois-Rivières (Quebec, Canada) in 2011, Riga (Latvia) in 2010, Estoril (Portugal) in 2009, Istanbul (Turkey) in 2008, Lisbon (Portugal) in 2007, Kyoto (Japan) in 2006, Münich (Germany) in 2005, Los Angeles (California, USA) in 2004, Brno (Czech Republic) in 2003,Changsha (China) in 2002, Augsburg (Germany) in 2001, Temuco (Chile) in 2000, Poznan (Poland) in 1998, Taipei (Taiwan) in 1997, Weszprém (Hungary) in 1995 and San Antonio (Texas, USA) in 1994.

PLENARY SPEAKERS

Josef Diblík (Brno University of Technology, Czech Republic)

Laura Gardini (University of Urbino "Carlo Bo", Italy)

Armengol Gasull (Universitat Autònoma de Barcelona, Spain)

Thorsten Hüls (Bielefeld University, Germany)

Peter Kloeden (Huazhong University of Science and Technology, Wuhan, China)

Gergely Röst (Bolyai Institute, University of Szeged, Hungary)

Hal Smith (Arizona State University, USA)

Scientific Committee:

Saber Elaydi (Trinity University, USA) - Chair
Martin Bohner (Missouri University of Science and Technology, USA)
Elena Braverman (University of Calgary, Canada)
Mihail Megan (West University of Timișoara, Romania)
Kenneth Palmer (National Taiwan University, Taiwan)
Christian Pötzsche (Alpen-Adria Universität Klagenfurt, Austria)
Adina Luminița Sasu (West University of Timișoara, Romania)

Organizing Committee:

Adina Luminița Sasu (Department of Mathematics) - Chair

Flavia Barna (West University of Timişoara Foundation)

Carmen Băbăiță (Rector's Chancellery)

Dan Comănescu (Department of Mathematics)

Marinel Iordan (Department of Information Systems and Digital Communications)

Eva Kaslik (Department of Computer Science)

Bogdan Sasu (Department of Mathematics)

Lavinia Diana Țiplea (Department of Communication, Image and Institutional Marketing)

Daniela Zaharie (Department of Computer Science)

Conference Secretariat: Raluca Mureşan (Department of Computer Science),

Claudia Zaharia(Department of Mathematics)

Contact: For any information you can contact us at icdea2017@e-uvt.ro

More information: https://icdea2017.uvt.ro/

PODE 2017 IN URBINO, ITALY, MAY 29-31, 2017.

Progress of Difference Equations 2017 (PODE 2017) will be held at the **University of Urbino Carlo Bo, Urbino, Italy** under the auspices of the International Society of Difference Equations (ISDE), **May 29 - 31, 2017.**

PODE 2017 is the 11th International Conference which follows those held each year since 2007. This conference continues in the line of other PODE workshops: Laufen (Germany) PODE 2007, Laufen (Germany) PODE 2008, Bedlewo (Poland) PODE 2009, Xanthi (Greece) PODE 2010, Dublin (Ireland) PODE 2011, Richmond (Virginia, USA) PODE 2012, Bialystok (Poland) PODE 2013, Izmir (Turkey) PODE 2014, Covilhã (Portugal) PODE 2015. PODE2016 was held in Riga, Latvia, in May.

This conference, held under the auspicies of the International Society for Difference Equations, aims to be a forum where researchers can share their work and discuss the latest developments in the areas of **Difference Equations, Discrete Dynamical Systems, Functional Equations and their applications.**

From now on the aim is to alternate each year the Conference **PODE** and the Conference **ECIT**.

Under the auspices of the International Society of Difference Equations, the **University of Urbino Carlo Bo**, DESP (School of Economics, Department of Economics, Society, Politics) and the Scientific Commettee of ECIT, for the "European Conference on Iteration Theory" series and SICC (Italian Society for Chaos and Complexity).

Scientific Committee:
Stephen Baigent (UK)
Saber Elaydi (USA)
Laura Gardini (Italy)
Malgorzata Guzowska (Poland)
Stefan Siegmund (Germany)

Organizing Committee:
Gian Italo Bischi (Università di Urbino),
Laura Gardini (Università di Urbino),
Fabio Tramontana (Università Cattolica, Milano).

More information: http://www.mdef.it/meetings-workshops/pode-2017/

ISDE CALENDAR

27-29 April 2017, **International Workshop on Mathematical Methods in Engineering**, will be held in the Ankara, Turkey.
Informations: http://mme2017.cankaya.edu.tr/

08-11 May 2017, **The Cape Verde International Days on Mathematics 2017** (CVIM'2017) will be held in the University of Cape Verde, Campus de Palmarejo. Informations: https://sites.google.com/site/cvim2017/

29-31 May 2017, **Progress on Difference Equations 2017** (PODE 2017)**,** will take place in the Urbino, Italy.
Informations: http://www.mdef.it/meetings-workshops/pode-2017/

5-9 June 2017, **International Conference on Differential and Difference Equations and Applications** (ICDDEA2017) will take place in Amadora, Portugal.
Informations: https://www.congressospco.abreu.pt/ICDDEA-31766.aspxl

24-28 July 2017, **The International Conference on Difference Equations and Applications** (ICDEA 2017) will take place at the West University of Timișoara, Romania.
Informations: https://icdea2017.uvt.ro/

24-28 July 2017, **International Conference on Mathematical Modelling in Applied Sciences** (ICMMAS2017) will take place at the Saint Petersburg, Russia.
Informations: http://icmmas.alpha-publishing.net/

BOOKS AUTHORED BY ISDE MEMBERS

Multivariable Dynamic Calculus on Time Scales, by Bohner Martin and Georgiev Svetlin G. Springer 2016, http://www.springer.com/us/book/9783319476193

Applied Impulsive Mathematical Models, by Stamova Ivanka and Stamov Gani. Springer 2016, http://www.springer.com/us/book/9783319280608

Integral Equations on Time Scales, by Georgiev Svetlin G., Springer 2016, http://www.springer.com/gp/book/9789462392274

Nonlinear Interpolation and Boundary Value Problems, by Paul W Eloe (University of Dayton, USA) and Johnny Henderson (Baylor University, USA). World Scientific 2016, http://www.worldscientific.com/worldscibooks/10.1142/9877

Asymptotic Integration of Differential and Difference Equations, by Authors: Bodine, Sigrun, Lutz, Donald A. ISBN 978-3-319-18248-3, http://www.springer.com/us/book/9783319182476

Trends in Abstract and Applied Analysis: Volume 2 **: Nonlinear Interpolation and Boundary Value Problems** By: Paul W Eloe (University of Dayton, USA), Johnny Henderson (Baylor University, USA), ISBN: 978-981-4733-47-2, http://www.worldscientific.com/worldscibooks/10.1142/9877

Difference Equations, Discrete Dynamical Systems and Applications, ICDEA, Wuhan, China, July 21-25, 2014, Editors: Martin Bohner, Yiming Ding, Ondřej Došlý, ISBN: 978-3-319-24745-8 (Print) 978-3-319-24747-2 (Online), http://link.springer.com/book/10.1007%2F978-3-319-24747-2

POSITIVE DYNAMICAL SYSTEMS IN DISCRETE TIME. Theory, Models, and Applications, by Ulrich Krause, De Gruyter Studies in Mathematics 62, 2015, http://www.degruyter.com/view/product/430890

Computational Methods in the Fractional Calculus of Variations, by Ricardo Almeida, Shakoor Pooseh and Delfim F M Torres, Imperial College Press, 2015, http://www.worldscientific.com/worldscibooks/10.1142/p991

Advanced Methods in the Fractional Calculus of Variations, by Malinowska, Agnieszka B., Odzijewicz, Tatiana, and Torres, Delfim F.M, Springer, 2015, http://www.springer.com/mathematics/book/978-3-319-14755-0

Difference Equations by Differential Equation Methods, by Hydon Peter, Cambridge University Press 2015, http://www.kent.ac.uk/smsas/personal/ph282/pub.htm

Infinite-horizon optimal control in the discrete-time framework by Joel Blot and Naila Hayek**,** SpringerBriefs in Optimization, 2014, 124 pages

Quantum Variational Calculus, Series: SpringerBriefs in Electrical and Computer Engineering, Subseries: SpringerBriefs in Control, Automation and Robotics, by Agnieszka B. Malinowska and Delfim F. M. Torres, Series Editors: Basar, Tamer; Bicchi, Antonio; Krstic, Miroslav. Published by: Springer, 2014. Electronic ISBN: 978-3-319-02747-0 Print ISBN: 978-3-319-02746-3 DOI:10.1007/978-3-319-02747-0

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Lincoln, Nebraska, US

GOALS OF THE SOCIETY

To promote difference equations and discrete dynamical systems, defined broadly, as one of the fundamental subjects in Mathematics.

To promote discrete models as models of premiere mathematical importance in the natural sciences, engineering, economics, etc.

To coordinate activities in the area of difference equations such as organizing conferences, annual meetings, workshops, special sessions, etc.

To lend support to researchers in difference equations from developing countries and those who need help by making available copies of research articles, lecture notes, technical reports and books.

To promote the publication of books, monographs, lecture notes and expository articles in the area of difference equations.

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We are on the web
http://isdeds.org/