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Newsletter of the International Society of Difference Equations



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Newsletter Editor: Małgorzata Guzowska



A Letter from the President

December 18, 2017

Board Elections

In May 2017, the new ISDE Board of Directors was elected and the results were announced on June 19, 2017. The new members of the ninth ISDE Board of Directors are **Martin Bohner** (Missouri University of Science and Technology, Rolla, Missouri, USA), **Elena Braverman** (University of Calgary, Calgary, Alberta, Canada), **Jim Cushing** (University of Arizona, Tucson, Arizona, USA), **Saber Elaydi** (Trinity University, San Antonio, Texas, USA), **Małgorzata Guzowska** (University of Szczecin, Szczecin, Poland), **István Györi** (University of Pannonina, Veszprém, Hungary), **Stefan Hilger** (Katholische Universität Eichstätt,

Eichstätt, Germany), **Allan Peterson** (University of Nebraska, Lincoln, Nebraska, USA), and **Stefan Siegmund** (Technische Universität Dresden, Dresden, Germany). The new Board of Directors then elected **Martin Bohner** as President and **Saber Elaydi** as Vice President. According to the ISDE Bylaws, the new Board and the new President and Vice President shall serve a two-year term that has begun on August 1, 2017. During the last few months, the new Board has considered several ICDEA proposals and already has identified the successful proposals for ICDEAs 2019–2022. I will present details on page 3 of this letter.

I would like to thank all ISDE members for participating in the Board elections and also all new Board members for their willingness to serve on the ISDE Board of Directors. I would also like to thank the outgoing Board for their work during the past two years, in particular Past President **Christian Pötzsche**. It is a honor and pleasure for me to serve our society as the next President following **Bernd Aulbach** (2001–2005), **Saber Elaydi**, (2005–2009), **Jim Cushing** (2009–2013), **Martin Bohner** (2013–2015), and **Christian Pötzsche** (2015–2017). I will continue to promote our society and its goals in the spirit of my predecessors.



Martin Bohner
ISDE President

Prizes awarded by the Society

The most prestigious award of our society, the Bernd Aulbach Prize, is awarded biennially for significant contributions to the areas of difference equations and/or discrete dynamical systems. In 2017, the Bernd Aulbach Prize was awarded to **Saber Elaydi** (Trinity University, San Antonio, Texas). The prize was awarded for the first time in

2011 to **Alexander Sharikovskiy** (National Academy of Sciences of Ukraine, Kiev, Ukraine), then in 2013 to **Mihał Misiurewicz** (IUPUI, Indianapolis, Indiana, USA), and in 2015 to **Jean Mawhin** (Université Catholique de Louvain, Louvain, Belgium). See later in the Newsletter for a summary of Professor Elaydi's accomplishments.

Another prize given by the society is the prize for the best JDEA paper. This prize is awarded annually. In 2017, the recipient of this prize was **Stephen Baigent** (University College London, London, UK). See later in the Newsletter for details about the winning paper.





A Letter from the President

2017 Conferences of the Society



ICDEA, the International Conference on Difference Equations and Applications, is the flagship conference of our society. It is held annually since 1994. The 2017 ICDEA took place at West University of Timișoara in Timișoara, Romania, July 24–28, 2017. The conference was a big success, and I refer to the summary that appears later in the Newsletter. The society is indebted to the organizers of ICDEA 2017, in particular the Chair of the Organizing Committee, **Adina Lumința Sasu**.



PODE, Progress on Difference Equations, is the other conference series of our society. It is held annually since 2007. The 2017 PODE took place at the University of Urbino in Urbino, Italy, May 29–31, 2017. This conference was also a big success, and I refer to the summary that appears later in the Newsletter. The society thanks the organizers of PODE 2017, in particular the Chair of the Organizing Committee, **Laura Gardini**.





A Letter from the President

Upcoming Conferences of the Society



ICDEA 2018 is just around the corner, so please mark your calendars to attend this exciting event at Technische Universität Dresden in Dresden, Germany, May 21–25, 2018. The Chair of the Organizing Committee is **Stefan Siegmund**. The conference website is www.icdea2018.de. More information can be found later in this Newsletter. I am looking forward to seeing many of our society members in Germany!



ICDEA 2019, the 25th International Conference of Difference Equations and Applications, will be held at the University College London in London, UK. The Chair of the Organizing Committee is **Stephen Baigent**, the 2017 recipient of the best JDEA paper prize.

ICDEA 2020, the 26th International Conference of Difference Equations and Applications, will be held at the University of Sarajevo in Sarajevo, Bosnia–Herzegovina. The Chair of the Organizing Committee is **Senada Kalabušić**, an ISDE member since 2004.



During the first ICDEA conference in San Antonio in 1994, six participants stepped up in the end and offered their organization of the next ICDEAs, so ICDEAs 2–7 were determined right then and there. Now we have experienced a Déjà vu of this situation: After ICDEA 2017 in Timișoara, the new ISDE Board of Directors has received several ICDEA proposals. Four of them were determined to be successful, and I am very happy to announce that the ISDE Board of Directors has approved the following four proposals for ICDEAs 2019–2022.

ICDEA 2021, the 27th International Conference on Difference Equations and Applications, will be held at CentralSupélec in Gif-sur-Yvette, France. The Chair of the Organizing Committee is **Sorin Olaru**.

ICDEA 2022, the 28th International Conference of Difference Equations and Applications, will be held at Sorbonne University in Paris, France. The Chair of the Organizing Committee is **Svetlin Georgiev**.



Any ISDE member who wishes to organize an upcoming ICDEA or PODE conference is cordially invited to submit a proposal to me or any of the members of the ISDE Board of Directors. Guidelines for preparing proposals for ICDEA conferences are available on the ISDE website at <http://isdeds.com>. No special format is required for proposals for PODE conferences. From now on, as per a decision during the general meeting of the society in Timișoara, PODE conferences will take place in odd-numbered years and will merge with ECIT (European Conference on Iteration Theory), which will take place in even-numbered years. Information about ECIT 2018 can be found later in this Newsletter.

I am looking forward to receiving your proposals for organizing these important conferences. Successful organizations will continue to demonstrate that the area of difference equations and its applications is an active and important area of research in mathematics.



A Letter from the President

Newsletter Editor/Webmaster/Membership Directory



I am happy to announce that the Board of Directors appointed **Ewa Schmeidel** (University of Białystok, Poland) as Newsletter Editor and the current Treasurer, **Agnieszka Malinowska**



(Białystok University of Technology, Poland), as Webmaster. Please send any items for inclusion to the newsletter to eschmeidel@math.uw.b.edu.pl and any suggestions for the website to abmalina@wp.pl. On this occasion, I would also like to thank ISDE Director **Małgorzata Guzowska** (University of Szczecin, Poland) for her outstanding six-year long work as Newsletter Editor and Webmaster.



I would like to remind the society members about the html version of the current ISDE Membership Directory. This directory is available only to ISDE members. You may go to the society's website at <http://isdeds.com> and then click on "Members". From there, the ISDE Membership Directory is available by entering a password. If you forgot this password, please send an e-mail to bohner@mst.edu, I will

respond with the password. Moreover, if you find any errors or would like me to change any of the information given in there, please inform me by e-mail.

During ICDEA 2017 in Timișoara, the number of ISDE members hit the 700 mark. As of today, we have 720 members. The year 2017 has seen an increase by 42 members. We truly are an international society, and this is manifested by the fact that our members are based in 76 different countries. The countries with the most members are (in that order) USA (155), China (56), Poland (44), India (40), Turkey (38), Portugal (36), Czech Republic (21), Japan, Spain (each 18), Germany, Romania, Russia (each 16), Ukraine (14), Italy, UK (each 12), Egypt, Greece, Iran, Pakistan (each 11), and Canada, France (each 10).

That said, I ask all of you to help in recruiting even more new members for our society. If you know anybody working in the areas of difference equations and/or discrete dynamical systems, please

take a moment to invite this person to become an ISDE member. Applying for ISDE membership is easy: Just go to <http://isdeds.com> and click on "Membership application" and fill in the requested information. The applicant has the option to apply for regular membership (which is free of charge) or to become a sponsoring member of the society. Sponsoring membership is 100 USD a year, and the dues can be paid conveniently online using a credit card or PayPal. The funds received through sponsoring memberships help to support the society's activities in developing and enhancing research and education in difference equations and discrete dynamical system. As an ISDE Sponsoring Member, you will receive a reduced registration fee for the annual ICDEA conference and a one-year online subscription to JDEA.

With my Best Regards and Best Wishes for the Holiday Season and a Happy New Year 2018,

M. Bohner

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.

I would also like to introduce the new Webmaster and Newsletter Editor: **Agnieszka Malinowska** and **Ewa Schmeidel**.

All information may be emailed (from now on) to:
Agnieszka Malinowska a.malinowska@pb.edu.pl or
Ewa Schmeidel eschmeidel@math.uwb.edu.pl



With Best Regards
Małgorzata Guzowska

A handwritten signature in blue ink that reads "M. Guzowska".

CONFERENCE REPORTS

ICDEA 2017

The 23rd **International Conference on Difference Equations and Applications** (ICDEA 2017) took place at the **Timișoara, Romania**, from **July 24 to 28, 2017**. The conference was organized by **West University of Timișoara**, under the auspices of the **International Society of Difference Equations (ISDE)**.

The conference hosted **110** registered participants from 36 countries and 10 colleagues and students from **West University of Timișoara** and **Polytechnic University of Timișoara**.



Group picture, ICDEA 2017, Timișoara (Romania),



The organizers, led by Professor **Adina Luminița Sasu**, Chair of the Organizing Committee and **Saber Elaydi**, Chair of the Scientific Committee are to be congratulated for putting together this successful 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

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 Timișoara 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 Mureșan** (Department of Computer Science),

Claudia Zaharia (Department of Mathematics)

During the conference, plenary addresses were given by

Stephen Baigent (University College London, United Kingdom)

Josef Diblík (Brno University of Technology, Czech Republic)

Saber Elaydi (Trinity University, USA)

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)

Alberto Adrego Pinto (LIAAD-INESC TEC and University of Porto, Portugal)

Gergely Röst (Bolyai Institute, University of Szeged, Hungary and University of Oxford, United Kingdom)

Hal Smith (Arizona State University, USA)



Best JDEA Paper 2016 Award

A central point in the program of each ICDEA is to announce the Best JDEA Paper Prize. In 2016, it went to **STEPHEN BAIGENT** (UCL, Gower Street, London, UK) for the paper “**Convexity of the carrying simplex for discrete-time planar competitive Kolmogorov systems**”, J. Difference Equ. Appl. 22 (no. 5), 609–622, 2016. Congratulations!



Stephen Baigent and Saber Elaydi (Editor-in-Chief of JDEA)

Abstract of the paper:

We consider the geometry of carrying simplices of discrete-time competitive Kolmogorov systems. An existence theorem for the carrying simplex based upon the Hadamard graph transform is developed, and conditions for when the transform yields a sequence of convex or concave graphs are determined. As an application, it is shown that the planar Leslie–Gower model has a carrying simplex that is convex or concave.

SABER ELAYDI

THE BERND AULBACH PRIZE LAUREATE

Professor **Saber Elaydi** is the winner of the **Bernd Aulbach Prize 2017**. The prize was established in 2009 by ISDE in order to honor the founding member and first President of ISDE, the late Bernd Aulbach, who passed away in 2005, now 12 years ago. The Bernd Aulbach Prize is awarded every two years by the International Society of Difference Equations, for significant contributions to the areas of difference equations and/or discrete dynamical systems.

This year, the sponsors for the Bernd Aulbach Prize were the **German Business Club from Banat** represented by their **President Mr. Peter Hochmuth** and **West University of Timisoara Foundation**.



Mr. Peter Hochmuth- German Business Club from Banat, **Saber Elaydi** - The Aulbach Prize Laureate, **Martin Bohner** – ISDE President

Professor **Saber Elaydi** obtained his PhD in Mathematics at the University of Missouri in Columbia in 1978. In the eighties, he held various positions as professor in the US and other countries. Since 1991, Professor Elaydi holds a position of Full Professor in the Department of Mathematics at Trinity University in San Antonio, Texas.

During his scientific career, Professor Elaydi has made remarkable contributions to the field of difference equations and dynamical systems, including applications to mathematical biology, economy and neurosciences. He authored more than 100 articles and two monographs. Professor Elaydi is the author of the remarkable monograph *An Introduction to Difference Equations* (third edition, Springer, New York, 2005) with almost 2500 citations on Google Scholar. Another major achievement is his book *Discrete Chaos: Applications in Science and Engineering* (second edition, Chapman & Hall / CRC London, 2008). Both monographs are intensively used by researchers and scientists and represent a source of inspiration for new generations of mathematicians.

Professor Elaydi served the scientific community in many respects. In 1994, Professor Elaydi organized in San Antonio, Texas, the first international conference ever on difference equations: The International Conference on Difference Equations and Applications - ICDEA 1. Professor Saber Elaydi was deeply involved in every meeting since 1994, when he succeeded to bring together internationally recognized experts and also novices. He was Keynote Speaker at many ICDEA conferences. In addition,



Professor Elaydi encouraged the organization of the younger sibling of ICDEA - the conference Progress on Difference Equations (PODE).

Together with Professor Bernd Aulbach, Professor Saber Elaydi was one of the founding members of the International Society of Difference Equations (ISDE). The society was founded during ICDEA 6, which was held in Augsburg, Germany, in 2001. Professor Elaydi has been elected to the Board of Directors of ISDE since 2001, serving the ISDE aims with great devotion. Professor Elaydi was elected the second President of ISDE and served two terms from 2005 to 2009.

In 1995, Professor Saber Elaydi founded, together with Professor Gerry Ladas, the first journal dedicated to difference equations: The *Journal of Difference Equations and Applications* (JDEA, Taylor & Francis). JDEA is the official journal of ISDE and a world-leading journal in the field. In 2006, Professor Saber Elaydi co-founded, together with Professor Jim Cushing, a new journal, the *Journal of Biological Dynamics* (JBD), published by Taylor & Francis, that focuses on the analysis of dynamic models arising from biological processes. Since 2006, Professor Elaydi has served as Co-Editor-in-Chief of the Journal of Biological Dynamics, jointly with Professor Cushing.

Professor Elaydi is one of the remarkable mathematicians of our time, who obtained outstanding results and at the same time created a strong community working on difference equations and discrete dynamical systems. There is no doubt that the name Saber Elaydi is synonymous with a life dedicated to difference equations and discrete dynamical systems.

PODE 2017

The conference **Progress on Difference Equations 2017 (PODE 2017)** took place in **Urbino, Italy** from **May 29 to May 31, 2017**.



Professor **Laura Gardini** 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 systems.

The conference addressed difference equations, discrete dynamical systems, and functional equations and their applications.



Group picture, PODE 2017, Urbino (Italy),

Scientific Committee:

Stephen Baigent (UK)
Saber Elaydi (USA)
Laura Gardini (Italy)
Małgorzata Guzowska (Poland)
Stefan Siegmund (Germany)

Organizing Committee:

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



ICDEA
2018

24TH INTERNATIONAL CONFERENCE
ON DIFFERENCE EQUATIONS
AND APPLICATIONS

MAY 21 – MAY 25, DRESDEN, GERMANY

The **24th International Conference on Difference Equations and Applications (ICDEA 2018)** will be held at **Technische Universität Dresden, Germany** from **May 21 to 25, 2018**. ICDEA is the official conference of the International Society of Difference Equations (ISDE) and hosts its General Meeting.

The purpose of ICDEA 2018 is to bring together experts and students in the theory and applications of difference equations and discrete dynamical systems.

As part of the General Meeting of ISDE, the "Best JDEA Paper Prize" will be awarded for the best paper published in the Journal of Difference Equations and Applications (JDEA) in 2017.

There will be **plenary talks** (50 min + 10 min) and **contributed talks** (25 min + 5 min). Internet access will be available in all lecture rooms, as well as the usual technical facilities like laptops, overhead projectors and blackboards. Coffee breaks will take place in front of or near the conference lecture rooms.

The previous conferences were held in **Timișoara** (Romania) in 2017, **Osaka** (Japan) in 2016, **Białystok** (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, **Munich** (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, **Veszprém** (Hungary) in 1995 and **San Antonio** (Texas, USA) in 1994.

Plenary speakers are experts chosen from the many areas of difference equations, discrete dynamical systems and their interplay with nonlinear science. Contributed talks in any area of difference equations and discrete dynamical systems are welcome.

<https://www.icdea2018.de/>

PLENARY SPEAKERS

Elena Braverman (University of Calgary, Canada)
Bob Devaney (Boston University, USA)
Katrin Gelfert (Universidade Federal do Rio de Janeiro, Brazil)
Roman Simon Hilscher (Masaryk University, Czech Republic)
Yun Kang (Arizona State University, USA)
Bernd Krauskopf (University of Auckland, New Zealand)
Rafael de la Llave (Georgia Institute of Technology, USA)
Alexandra Rodkina (The University of the West Indies, Jamaica)
Eric van Vleck (University of Kansas, USA)

SCIENTIFIC COMMITTEE

Zuzana Došlá – Chair, Masaryk University, Brno, Czech Republic
Martin Bohner, Missouri University of Science and Technology, Rolla, Missouri, USA
Saber Elaydi, Trinity University, San Antonio, Texas, USA
Małgorzata Guzowska, University of Szczecin, Szczecin, Poland
Christian Pötzsche, Alpen-Adria Universität Klagenfurt, Klagenfurt, Austria
Adina Luminița Sasu, West University of Timișoara, Timișoara, Romania
Stefan Siegmund, Technische Universität Dresden, Dresden, Germany
Hal Smith, Arizona State University, Tempe, Arizona, USA
Petr Stehlík, University of West Bohemia, Pilsen, Czech Republic

ORGANIZING COMMITTEE:

Stefan Siegmund – Chair, Technische Universität Dresden, Dresden, Germany
Christine Heinke, Technische Universität Dresden, Dresden, Germany
Norbert Koksich, Technische Universität Dresden, Dresden, Germany
Sebastian Mildner, Technische Universität Dresden, Dresden, Germany
Petr Stehlík, University of West Bohemia, Pilsen, Czech Republic
Sascha Trostorff, Technische Universität Dresden, Dresden, Germany
Hannes Weiße, Technische Universität Dresden, Dresden, Germany

<http://www.ecit2018.org/home.html>

ECIT 2018

PLENARY SPEAKERS

Saber N. Elaydi, Trinity University, USA

Laura Gardini, University of Urbino, Italy

Armengol Gasull, Universitat Autònoma de Barcelona, Spain

Witold Jarczyk, The John Paul II Catholic University of Lublin, Poland

Henrique Oliveira, Instituto Superior Técnico de Lisboa, Portugal

Ludwig Reich, Karl-Franzens-Universität Graz, Austria

Jaroslav Smital, Silesian University in Opava, Czech Republic

Marek C. Zdun, Pedagogical University of Cracow, Poland

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Daniele Fournier-Prunaret, Toulouse

Laura Gardini, Urbino

Witold Jarczyk, Zielona Góra

Alexander Sharkovsky, Kyiv

Jaroslav Smital, Opava

Marek Cezary Zdun, Kraków

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M. Teresa de Bustos, Salamanca

Manuel Fernández, Cartagena

Juan L.G. Guirao, Cartagena -- *Co-Chair--*

Víctor Jiménez, Murcia

Antonio Linero, Murcia

Miguel A. López, Cuenca

Raquel Martínez, Cuenca

Silvia Martínez, Albacete

Germán Rodríguez, Cartagena

Gabriel Soler, Cartagena

José C. Valverde, Albacete

Juan A. Vera, Cartagena

ISDE CALENDAR

21-25 May 2018, 24th International Conference on Difference Equations and Applications (ICDEA 2018), <https://www.icdea2018.de/>

30 May-3 June, Dynamic equations on time scales
<https://www.impan.pl/en/activities/banach-center/conferences/18-timescales>

4-8 June 2018, Dynamical Systems, Difference and Functional Equations, In honor of Marek C. Zdun's 70th birthday (DSDFE2018), <http://www.dsdfe.agh.edu.pl/>

3-6 July, European Conference on Iteration Theory (ECIT 2018),
http://www.ecit2018.org/about_ecit_2018.html

25-27 July, 2018, Workshop for Women in Differential Equations, Universidade Federal do ABC (UFABC) in São Paulo, <http://eventos.ufabc.edu.br/wwde2018/>



BOOKS AUTHORED BY ISDE MEMBERS

Functional Numerical Methods: Applications to Abstract Fractional Calculus, by George A. Anastassiou and Ioannis K. Argyros, Springer 2018, <http://www.springer.com/la/book/9783319695259>

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

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

Integral Equations on Time Scales, by Svetlin G. Georgiev, 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 Sigrun Bodine and Donald A. Lutz, ISBN 978-3-319-18248-3, <http://www.springer.com/us/book/9783319182476>

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 Agnieszka B. Malinowska, Tatiana Odziejewicz, and Delfim F. M. Torres, Springer, 2015, <http://www.springer.com/mathematics/book/978-3-319-14755-0>

Difference Equations by Differential Equation Methods, by Peter Hydon, 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, <http://www.springer.com/us/book/9781461490371>

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, <http://www.springer.com/us/book/9783319027463>

ISDE BOARD OF DIRECTORS 2015—2017



Martin Bohner
President

Missouri University of Science and
Technology, Rolla, Missouri, USA



Saber Elaydi
Vice President

Trinity University,
San Antonio, Texas, USA



**Elena
Braverman**

University of Calgary,
Calgary, Alberta, Canada



Jim Cushing

University of Arizona,
Tucson, Arizona, USA



**Małgorzata
Guzowska**

University of Szczecin,
Szczecin, Poland



István Győri

University of
Pannonina, Veszprém,
Hungary



Stefan Hilger

Katholische Universität
Eichstätt-Ingolstadt,
Eichstätt, Germany



Allan Peterson

University of Nebraska,
Lincoln,
Nebraska, US



Stefan Siegmund

Technische Universität Dresden,
Dresden, Germany

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.



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