Volume 4, Issue 3

December 2014

2014

Newsletter of the International Society of Difference Equations

INTERNATIONAL SOCIETY OF
DIFFERENCE EQUATIONS

http://isdeds.com

TABLE OF CONTENTS

Edited by Małgorzata Guzowska

12/19/2014

A Letter from the President

ISDE

2013 Best JDEA Paper Award

First of all, let me introduce the winners of the 2013 Best JDEA Paper Award: **Ferenc Bartha**, **Ábel Garab**, and **Tibor Krisztin** have authored the winning paper, entitled "Local stability implies global stability for the 2-dimensional Ricker map". This paper was published in the Journal of Difference Equations and Applications, volume 19, number 12 (2013), pages 2043—2078. The award-winning paper was announced during the 2014 General Meeting of the Society on July 22 during ICDEA 2014 in Wuhan, China. This conference marked the twentieth anniversary of our ICDEA conference series. The first ICDEA was held May 25—28, 1994, at Trinity University in San Antonio, Texas. For more information on the 20th International Conference on Difference Equations and Applications, see the next page of my letter. I would also like to remind participants that the deadline to contribute to the Proceedings of ICDEA 2014 is January 15, 2015. Springer will publish these proceedings, and the title of the book will be "Difference Equations, Discrete Dynamical Systems, and Applications—Proceedings of the 20th International Conference on Difference Equations and Applications, Wuhan, China, July 21—25, 2014". The editors for the proceedings are **Martin Bohner**, **Ondřej Došlý**, and **Yiming Ding**. The proceedings will be published in the first half of 2015.

Martin Bohner

ISDE President

2016 ICDEA Conference of the Society

It is a pleasure for me to announce to the society that on December 3, 2014, the ISDE Board of Directors unanimously approved a proposal submitted by ISDE members **Hideaki Matsunaga**, **Yoshihiro Hamaya**, and **Naoto Yamaoka** to hold ICDEA 2016 in Osaka, Japan, July 17—22, 2016. The 22nd International Conference on Difference Equations and Applications will be organized by Osaka Prefecture University (OPU) and it will be held at the satellite campus of OPU located in the heart of Osaka under the auspices of ISDE. Osaka Prefecture has, although being the smallest prefecture in Japan, a population of 8.8 million or roughly 7% of the entire population, making it the third most populous prefecture after Tokyo and Kanagawa Prefectures. You may find more information about Osaka on *www.ms.osakafu-u.ac.jp/~hideaki/OsakaOfficial-GuidebookDigest.pdf* and also on *www.pref.osaka.lg.jp/en*. You should already mark your calendars now in order to not miss this exciting conference, the second ICDEA in Japan after Kyoto in 2006.

A Letter from the President

ISDE

2014 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 2014 ICDEA took place at Wuhan Institute of Physics and Mathematics in Wuhan, China, July 21—25, 2014. 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 2014, in particular the Chair of the Organizing Committee, **Yiming Ding**.

PODE, Progress on Difference Equations, is the other conference series of our society. It is held annually since 2007. The 2014 PODE took place at Izmir University of Economics in Izmir, Turkey, May 21—24, 2014. 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 2014, in particular the Chair of the Organizing Committee, **Ünal Ufuktepe**.
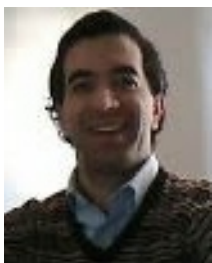
A Letter from the President

2015 Conferences of the Society

I am very happy to announce that on October 9, 2014, the ISDE Board of Directors has approved a proposal submitted by **Rui Ferreira** and **César Silva** to hold PODE 2015 at the Universidade da Beira Interior (UBI) in Covilha, Portugal, June 15—18, 2015. Progress on Difference Equations is the society's other (besides ICDEA) conference series and has been held annually since 2007 in Germany, Poland, Greece, Ireland, USA, Poland, and Turkey. UBI was founded in 1979 and awards all university academic degrees in several fields. It is located in the city of Covilha, one of the main urban centers of the Beira Interior region, in Central Portugal. The Chair of the Organizing Committee for PODE 2015 is **Rui Ferreira**, and the other members of the Organizing Committee are **César Silva**, **Hélder Vilarinho**, **Pedro Patricio**, **Sandra Vaz**, **Gastão Bettencourt**, and **António Benro**. The Scientific Committee for PODE 2015 consists of **Martin Bohner** (chair),

Saber Elaydi, **Stefan Hilger**, **Donal O'Regan**, **Chris Tisdell**, **Zuzana Došlá**, **Mário Bessa**, and **César Silva**. Currently, the Scientific Committee is selecting the plenary speakers for the conference. More and updated information about PODE 2015 can be found on the conference website at *www.pode2015.ubi.pt*. Please mark your calendars and make sure not to miss this exciting conference.

As was announced previously, ICDEA 2015 will be held at Białystok University of Technology in Białystok, Poland, July 19—25, 2015. The Chair of the Organizing Committee is **Agnieszka Malinowska**. The other members of the Organizing Committee for ICDEA 2015 are **Zbigniew Bartosiewicz**, **Ewa Girejko**, **Alina Gleska**, **Małgorzata Guzowska**, **Klara Janglajew**, **Małgorzata Migda**, **Dorota Mozyrska**, **Ewa Pawluszewicz**, and **Ewa Schmeidel**. The Scientific Committee for ICDEA 2015 consists of **Zbigniew Bartosiewicz**

(chair), **Zuzana Došlá**, **Ülle Kotta**, **Agnieszka Malinowska**, **Małgorzata Migda**, **Michał Misiurewicz**, **Mihály Pituk**, **Christian Pötzsche**, and **Ewa Schmeidel**. The plenary speakers for ICDEA 2015 will be **Jacek Banasiak** (Poland), **Martin Bohner** (USA), **István Győri** (Hungary), **Tibor Krisztin** (Hungary), **Jaume Llibre** (Spain), **Michał Misiurewicz** (USA), **Mihály Pituk** (Hungary), **Ryszard Rudnicki** (Poland), **Stefan Siegmund** (Germany), and **L'ubomir Snoha** (Slovakia). The conference website is *icdea.wi.pb.edu.pl*. The first announcement of the conference appears later in this Newsletter. ICDEA 2015, being the 21st of the society's flagship conference series, will be ISDE's highlight for 2015, and I hope that a large number of the society's members will be able to attend this exciting event.

A Letter from the President

ISDE Membership

A few days ago, the number of ISDE members hit the 600 mark. During 2014, the society has grown from 537 members to 606 members, an increase of more than 10%. These members are from 71 different countries (an increase by 3 countries compared to the last year), showing that ISDE is truly an international and global society. More and more researchers are getting interested in research areas related to difference equations, discrete dynamical systems, and applications to other areas of science. That said, I ask all of you to help in recruiting even more new members. If you know anybody working in difference equations and/or discrete dynamical systems who is not yet an ISDE member, please take a moment to invite this person to become a member of the society. Applying for ISDE membership is easy: Just go to the society's website at *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. 2015 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. Please consider changing your regular membership into a 2015 sponsoring membership.

As I have announced previously, the society now has an 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. This password was sent to you by e-mail; if you cannot find it, just ask me and I will resend it. The membership directory contains the members' photos, institutions, e-mail addresses, web sites, links to their publications (through MathSciNet), and other information pertinent to the member (e.g., the year when the person joined ISDE). Please check all this information carefully and let me know if any of it needs to be changed. In order to gather this information, I have went through many old e-mails and even through a pile of the first 129 paper membership application forms that were airmailed to me by ISDE's founder and first president, the late Professor Bernd Aulbach, exactly 11 years ago, on December 22, 2003.

With my Best Regards and wishes for a happy holiday season and a peaceful and prosperous New Year 2015,

Newsletter Editor: Małgorzata Guzowska

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 2014

The 20th Annual International Conference on Difference Equations and Applications (ICDEA 2014) took place at Wuhan (Hubei, China), from July 21 to 25, 2014.

Professor Yiming Ding chaired the organizing committee and is to be highly commended for the overwhelming success of the conference. Special topic sessions focused on all areas of Difference Equations, Discrete Dynamical System, Fractal Geometry, Difference Equation and Biomedical Models, Discrete Models in Natural Science, Social Sciences and Engineering. Special thanks go to the conference committees:

Scientific Committee:

Luis Alseda
Yongluo Cao
Robert Devaney
Yiming Ding
Ondrej Dosly
Peter Kloeden
Eduardo Liz
Michal Misiurewicz
Sandra Pinelas
Mihaly Pituk
Christian Pötzsche
Hal Smith
Jun Wu

Organizing Committee:

Yiming Ding (WIPM, Chair)
Xia Cao (WIPM, Secretary)
Hongfei Cui (WIPM)
Ziqing Zhang (WIPM)
Jihua Ma (Wuhan University)

During the conference, plenary addresses were given by:

Lluis Alseda (Universitat Autònoma de Barcelona, Spain)

Ziyad Al-Sharawi (Sultan Qaboos University, Oman)

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

Ai-hua Fan (Université de Picardie Jules Verne, France)

Peter Kloeden (University of Frankfurt, Germany)

Piotr Oprocha (AGH University of Science and Technology, Poland)

Kenneth Palmer (National Taiwan University, Taiwan, China)

Weixiao Shen (National University of Singapore, Singapore)

Roderick Wong (City University of Hong Kong, Hong Kong, China)

Xiangdong Ye (University of Science and Technology of China, China)

Huijiang Zhao (Wuhan University, China)

PODE 2014

The conference **Progress on Difference Equations 2014 (PODE 2014)** took place the İzmir University of Economics in İzmir, Turkey from May 21 to May 24, 2014.

The organizers, led by Professor Ünal Ufuktepe, chair of the Organizing Committee and Saber Elaydi, 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. Also, a special session on fractional difference equations was organized.

Special thanks go to the conference committees:

Scientific Committee:

Saber Elaydi, Trinity University (Chair)
Murat Adıvar, İzmir University of Economics
Lluis Alseda, Universitat Autonoma de Barcelona
İsmihan Bayramoğlu, IEU
Martin Bohner, Missouri S&T
Gusein Guseinov, Atılım University
Istvan Gyori, University of Pannonia
Billur Kaymakçalan, Çankaya University
Hüseyin Koçak, University of Miami
Gerry Ladas, University of Rhode Island
Agnieszka Malinowska, Bialystok University
Michal Misiurewicz, Indiana University
Ünal Ufuktepe, İzmir University of Economics
Ağacık Zafer, Middle East Technical University

Organizing Committee:

Ünal Ufuktepe, İzmir University of Economics (Chair)
Mehmet Ünal, Çanakkale 18 Mart University
Güvenç Arslan, İzmir University of Economics
Aslı Güldürdek, İzmir University of Economics
Cihangir Kan, İzmir University of Economics
Necla Kayaalp, İzmir University of Economics
Halis Can Koyuncuoğlu, İzmir University of Economics
Murat Özkut, İzmir University of Economics

Plenary addresses were given by:

Murat Adıvar
Izmir University of Economics
Izmir, Turkey

Martin Bohner
Missouri S&T
Rolla, MO, USA

Saber Elaydi
Trinity University
San Antonio, TX, USA

Mats Gyllenberg
University of Helsinki
Helsinki, Finland

Billur Kaymakçalan
Çankaya University
Ankara, Turkey

Stefan Siegmund
Technische Universität Dresden
Dresden, Germany

ICDEA 2015
19 -25 July 2015
Białystok

FIRST ANNOUNCEMENT

THE 21ST INTERNATIONAL CONFERENCE ON DIFFERENCE EQUATIONS AND APPLICATIONS

The twenty first International Conference on Difference Equations and Applications will be held in the Bialystok University of Technology (Białystok, Poland) from July 19 to 25, 2015. The conference is organized by the Bialystok Branch of the Polish Mathematical Society, under the auspices of the International Society of Difference Equations (ISDE).

The purpose of the conference is to bring together experts and novices in the theory and applications of difference equations, broadly defined, and discrete dynamical systems. The plenary speakers are experts chosen from the many areas of difference equations and experts on dynamical systems. Contributed talks are welcome and will be considered.

The previous conferences were held in the cities of Wuhan (China) in 2014, Muscat (Oman) in 2013, Barcelona (Spain) in 2012, Trois-Rivieres (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.

Białystok is the biggest city of the North-East part of Poland. It is a home of three public universities and several private colleges. Bialystok is surrounded by four national parks, of which the Bialowieza National Park is one of the most famous parks in Poland and the Biebrza National Park is the biggest one. Bialystok is the capital of the Podlasie province, which, besides unspoiled nature, offers rich culture with ethnic and religious diversity.

Best Regards,

On behalf of the Scientific Committee   and the Organizing Committee

Prof. Zbigniew Bartosiewicz (Chair)   **Dr. Agnieszka B. Malinowska (Chair)**

Contact
For any information you can contact us at
icdea2015@gmail.com

Web page
More information and updates will be found in the icdea2014website: http://icdea.wi.pb.edu.pl/

Conference organizers

ISDE SPONSORING MEMBERS 2014

Alexander Sharkovsky
Institute of Mathematics
NASU
Kiev, Ukraine

Vlajko L. Kocic
Xavier University of Louisiana
New Orleans, LA, USA

Göran Högnäs
Åbo Akademi University
Finland

Evelina Lapierre
Departament of Mathematics
Johnson & Wales University
Providence, Rhode Island , USA

Jaroslav Smital
Silesian University
Czech Republic

Adel Antippa
Department of Physics
Université du Québec à Trois-
Rivières
Trois-Rivières, Québec, Canada

Ziyad AlSharawi
Department of Mathematics
Sultan Qaboos Univeristy
Al-Khoud, Muscat, Oman

Martin Bohner
Department of Mathematics and
Statistics
Missouri S&T
Rolla, Missouri, USA

Jim M. Cushing
Department of Mathematics
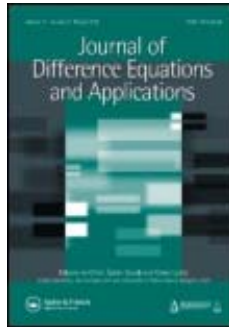The University of Arizona
Tucson, AZ , USA

Kenneth Berenhaut
Department of Mathematics
Wake Forest University
Winston-Salem, NY, USA

Raghib Abu-Saris
Walden University
Minneapolis, MN, USA

JOURNAL OF DIFFERENCE EQUATIONS AND APPLICATIONS
VOLUME 20, ISSUE 1-4, 2014

Sponsoring members of ISDE receive an online only subscription to JDEA as a benefit of membership. To become a sponsoring member go to the *Membership Application* on ISDE web page: **http://www.isdeds.com/**

ISDE CALENDAR

- 18-22 May 2015, **International Conference on Differential & Difference Equations and Applications 2015**, Departamento de Ciências Exatas e Naturais, Military Academy, Amadora, Portugal. Information: https://sites.google.com/site/sandrapinelas/icddea-2015

- 27-30 May 2015, **Seventh International Conference on Dynamic Systems and Applications**, Morehouse College, Atlanta, Georgia, USA, e-mail: icdsa7@yahoo.com

- 27-30 May 2015, **Fifth International Conference on Neural, Parallel & Scientific Computations**, Morehouse College, Atlanta, Georgia, USA, e mail:icnpsc5@yahoo.com

- 8-12 June 2015, **Micro and Macro Systems in Life Sciences**, Będlewo, Poland. Information: http://microandmacro.icm.edu.pl/

- 15-18 June 2015, Progress on Difference Equations (PODE 2015) will take place in the Universidade da Beira Interior in Colvilha, Portugal. http://www.pode2015.ubi.pt

- 12-15 July 2015, **EUROXVII Annual Conference** (EURO 2015 is the premier European conference for Operational Research and Management Science) will be hosted at the University of Strathclyde in Glasgow. Information: http://www.euro2015.org/

- 19-25 July 2015, **The International Conference on Difference Equations and Applications (ICDEA 2015)** will take place in the Bialystok University of Technology in Bialystok, Poland. http://icdea.wi.pb.edu.pl

BOOKS AUTHORED BY ISDE MEMBERS

- **Creators of Mathematical and Computer Sciences** by Ravi Agarwal and Syamal Sen, Springer, 2014, 495 pages

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

- **Geometric Theory of Discrete Nonautonomous Dynamical Systems** by Pötzsche, Christian, Springer | 2010 | ISBN: 3642142575 | 398 pages | File type: PDF | 3,2 mb

- **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

- **Almost Automorphic Type and Almost Periodic Type Functions in Abstract Spaces** by Toka Diagana, New York Springer. 2013, 303 pages.

- **Difference and Differential with Applications in Queueing Theory** by Aliakbar Montazer Haghighi and Dimitar P. Mishev, John Wiley & Sons, 2013, 424 pages.

- **Stability Analysis via Matrix Functions Method** by A. A. Martynyuk, 2013 Part I, 262p. and Part II, 130p. www.bookboon.com Section Statistics and Mathematics.

- **Weakly Connected Nonlinear Systems. Boundedness and Stability of Motion**, by A. Martynyuk, L. Chernetskaya and V. Martynyuk, 2013, CRC Press, Taylor and Francis, 212p., Zbl pre06110079.

- **Stability Theory of Solutions of Dynamic Equations on Time Scales** by A. A. Martynyuk, Kiev: Phoenix, 2012, 277 pages.

- A Special Issue dedicated to the international workshop "**Infinite and Infinitesimal in Mathematics, Computing and Natural Sciences**" held in Cetraro, Italy, 17–21 May 2010, has been published in the international journal Applied Mathematics and Computation (Elsevier, Impact Factor = 1.534), volume 218, Issue 16, Pages 7977-8216 (15 April 2012). http://www.sciencedirect.com/science/journal/00963003

- **Local Analytic Classification of q-Difference Equations** by Jean-Pierre Ramis, Jacques Sauloy, Changgui Zhang.

- **Uncertain Dynamical Systems: Stability and Motion Control** by A.A. Martynyuk and Yu.A. Martynyuk-Chernienko, CRC Press Taylor and Francis Group, A Chapman and Hall Book, 2012.

ISDE BOARD OF DIRECTORS 2013—2015

**Martin Bohner
President**

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

**Jim Cushing
Vice President**

University of Arizona, Tucson, Arizona, USA

Linda Allen

**Texas Tech
University, Lubbock,
Texas, USA**

Ondřej Došlý

**Masaryk University,
Brno, Czech
Republic**

Saber Elaydi

**Trinity University,
San Antonio, Texas,
USA**

István Győri

**University of
Pannonina, Veszprém,
Hungary**

Gerasimos Ladas

**University of Rhode Island,
Kingston, Rhode Island, USA**

Allan Peterson

**University of Nebraska,
Lincoln, Nebraska, USA**

Christian Pötzsche

**Alpen-Adria University,
Klagenfurt, Austria**

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.

International Society of Difference Equations
ISDE

ISDE

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