International Society of Difference Equations

TABLE OF CONTENTS

NEWSLETTER

of the International Society of Difference Equations

Volume 10 | Issue 1 | January 2025

International Society of Difference Equations

ISDE   ISDE

http://isdeds.com/

International Society of Difference Equations

A LETTER FROM THE PRESIDENT

Dear ISDE members,

Warmest regards and best wishes for a wonderful New Year! I hope the holiday season brought you joy, and that 2025 fulfills all your aspirations.

Board of Directors Update

The ISDE Society is governed by a Board of Directors of nine members elected every two years during odd-numbered years. The current board - Martin Bohner, Elena Braverman, Jim Cushing, Saber Elaydi, Laura Gardini, René Lozi, Adina Sasu, Jianshe Yu, and Weinian Zhang - began their two-year term on August 1, 2023. I am honored to serve as President, with René Lozi as Vice President.

New elections will take place in the coming months, scheduled for April 2025. We invite you to nominate eligible candidates and submit your preferences to help shape the future leadership of our society.

Highlights from 2024

- **ECIT 2024 Conference**

  In May 2024, we successfully held the European Conference on Iteration Theory (ECIT-2024) in Lisbon, Portugal. Organized by Henrique Oliveira, Luís Silva, and João Alves, the conference honored the memory of Prof. Alexander Sharkovsky (1936-2022), a mathematical genius. The event featured engaging scientific presentations on discrete dynamical systems and difference equations, enriched by personal anecdotes from Prof. Sharkovsky's family members.

- **ICDEA 2024 Conference**

  Our Annual Conference, ICDEA 2024, took place in Paris under the skilled organization of Prof. Thomas Michelitsch and several board members. Despite some organizational challenges, the conference was a tremendous success thanks to our members and participants' dedication and support. We appreciate your patience and collaboration, which made the event both memorable and productive.

Upcoming Conferences in 2025

I am pleased to invite you to participate in the following upcoming ISDE conferences:

1. **PODE-2025 (Progress on Difference Equations)**
   - **Dates:** May 28-30, 2025
   - **Location:** Cartagena, Spain
   - **Organizers:** Jose S. Cánovas and colleagues
   - **Registration:** [PODE-2025 Registration](#)

2. **ICDEA 2025 (30th International Conference on Difference Equations and Applications)**
   - **Dates:** July 15-19, 2025
   - **Location:** Guangzhou, China
   - **Organizers:** Bo Zheng and the School of Mathematics and Information Science, Guangzhou University
   - **Conference Website:** [ICDEA 2025](#)

Guangzhou offers a beautiful setting for our 30th ICDEA. The conference will feature numerous plenary speakers and promises to be a fruitful gathering. We encourage you to participate and present your work. Additionally, you can propose Special Sessions - details will be available on the ICDEA website soon: Special Sessions Information.

Financial support for participation may be available through the society. Application forms can be found on the conference website.

Become a Sponsoring Member

We invite all members to become sponsoring members. The Board has introduced three new categories of sponsorship, offering benefits such as reduced fees for ISDE conferences: Become a Sponsoring Member

Your strong support is crucial for the continued success of our society. Other donations are also greatly appreciated: Donate to ISDE

Annual Meeting at ICDEA 2025

The annual meeting of ISDE will take place during ICDEA 2025. We will announce the Best JDEA-24 paper and the winner of the biannual Bernd Aulbach Prize. They will be invited to deliver a plenary talk at the conference.

Stay Connected

For updated information about ISDE and its activities, visit our homepage: ISDE Homepage and refer to the latest Newsletter.

Ensure your membership details are current by accessing the ISDE Membership Directory with your login credentials provided via email. If you need to update your account information, such as your email address, please contact me at laura.gardini@uniurb.it.

If your photo is not displayed with your name on the ISDE website, kindly send it to Prof. Davide Radi at davide.radi@unicatt.it for inclusion.

Looking Ahead

While we are preparing for the Annual Conference 2025 in Guangzhou, we are also excited to announce future conferences:

- **ICDEA 2026:** Milan, Italy (31st International Conference on Difference Equations and Applications)
- **ECIT 2026:** Kristiansand, Norway (25th European Conference on Iteration Theory)
- **ICDEA 2027:** Osaka, Japan (32nd International Conference on Difference Equations and Applications)

Thank you for your continued support and active participation in ISDE. Together, we will achieve new heights in the study of difference equations and their applications.

Best Wishes,

Laura Gardini
President, ISDE

Urbino, January 10, 2025

FOREWORD

Dear ISDE members,

The present Newsletter of the *International Society of Difference Equations* brings together information about the society's events that took place in the last year: ECIT 2024 and ICDEA 2024, as well as about the upcoming conferences: PODE 2025 and ICDEA 2025.

This Newsletter was elaborated as a teamwork, with the support of society members. The part regarding the ISDE conferences organized in 2024 was prepared jointly with Saber Elaydi, Laura Gardini, René Lozi and Henrique Oliveira. The section on ICDEA 2024 uses photos received from Ziyad Al-Sharawi, Tatyana Perevalova and Wirot Tikjha. The presentations of the upcoming ISDE conferences were achieved with the support of Jose Cánovas, Jim Cushing, Saber Elaydi, Laura Gardini and Bo Zheng. I would like to express my special thanks to all of them for this collaboration. Furthermore, we are all very grateful to the colleagues who provided us with photos for this newsletter, and to all those who contributed to its accomplishment.

I hope you will enjoy reading this newsletter and that you will attend our society's future conferences and events. Moreover, I look forward to meeting you in person somewhere soon!

With my best wishes,
Adina Luminița Sasu

Timișoara, January 11, 2025

ECIT 2024

The [24th European Conference on Iteration Theory (ECIT 2024)](#) took place in Vimeiro, Portugal, between Monday, 27th May 2024 and Friday, 31st May 2024.

The central topic of this conference was iteration theory and among the main topics there were discrete dynamical systems, functional equations, difference equations and their applications to biology, physics, economics, and engineering.

The conference was organized under the auspices of the [International Society of Difference Equations](#).

The members of the Scientific Committee coordinated by Professor [Laura Gardini](#) and the organizers Professors [Henrique Oliveira](#), [Luís Silva](#) and [João Alves](#) are warmly congratulated for this very nice event.

ECIT 2024 Group photo

More photos can be seen at: https://ecit2024.isel.pt/?page_id=331

The conference **ECIT 2024** was dedicated to the memory of Oleksandr Mykolayovych Sharkovsky, who passed away on November 21, 2022 - see also the in memoriam presentation on the conference website: https://ecit2024.isel.pt/.

On May 29th, 2024, a special session was organized in honor of O. M. Sharkovsky, to celebrate his life and scientific contributions, hosted by Professor Francisco Balibrea. Conference participants were delighted to meet some of the family members and former PhD students of the late Professor Sharkovsky and to share beautiful memories with them.

Special thanks go also to the conference committees of **ECIT 2024** for all the work they have done.

Scientific Committee

- ➢ **Laura Gardini**, DESP, University of Urbino, Italy – **coordinator**
- ➢ **Francisco Balibrea Gallego**, University of Murcia, Spain
- ➢ **Wolfgang Förg-Rob**, University of Innsbruck, Austria
- ➢ **Daniele Fournier-Prunaret**, INSA, Toulouse, France
- ➢ **Armengol Gasull**, University Autonoma of Barcelona, Catalonia, Spain
- ➢ **Witold Jarczyk**, University of Zielona Góra, Poland
- ➢ **Henrique Oliveira**, University of Lisbon, Portugal
- ➢ **Peter Raith**, University of Vienna, Austria
- ➢ **Marek Cezary Zdun**, Pedagogical University of Kraków, Poland

Local Organizing Committee

- ▪ **Henrique Oliveira**
- ▪ **Luís Silva**
- ▪ **João Alves**

Conference Website

>> More details and information about this conference can be found on its website:

https://ecit2024.isel.pt/

ICDEA 2024

The [29th International Conference on Difference Equations and Applications](#) was be held on 24-28 June 2024 in Paris, France. The conference was organized under the auspices of the [International Society of Difference Equations](#). The aim of the conference was to bring together both experts and novices in the theory of difference equations, discrete dynamical systems and their applications to various sciences. The 29th ICDEA was organized in hybrid mode, allowing both in-person and online attendance, and attracted 166 registered participants from around the world. The conference in Paris hosted 149 presentations, among which 106 onsite talks and 43 virtual talks, being a memorable event in society's history.

ICDEA 2024 Group Photo

The organizers coordinated by Thomas Michelitsch - the Chair of the Organizing Committee and the members of the Scientific Committee led by René Lozi - the Chair of the Scientific Committee are warmly congratulated for this very successful event.

Scientific Committee

René Lozi - **Chair**
Université Côte d'Azur, France

Linda Allen
Texas Tech University, USA

Iryna Sushko
National Academy of
Sciences of Ukraine, Ukraine

Walter Van Assche
University of Leuven
Belgium

Organizing Committee

Thomas Michelitsch - **Chair**
Institut Jean le Rond d'Alembert, Sorbonne University, France

Members:

* [Bernard Collet](#) (Institut Jean le Rond d'Alembert, Sorbonne University, France)

* [Laura Gardini](#) (University of Urbino, Italy)

* [René Pierre Lozi](#) (Université Côte d'Azur, France)

* [Davide Radi](#) (Università Cattolica del Sacro Cuore and VSB - Technical University of Ostrava, Italy)

* [Alejandro Pérez Riascos](#) (Universidad Nacional de Colombia, Colombia)

* [Wirot Tikjha](#) (Pibulsongkram Rajabhat University, Thailand)

The **Plenary Speakers** at ICDEA 2024 were the following:

Viktor Avrutin

Soumitro Banerjee
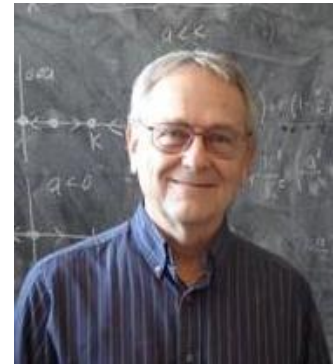

Martin Bohner

Elena Braverman

Guanrong (Ron) Chen

Jim Michael Cushing

Peter Kloeden

Agnieszka Malinowska

Victor Manosa

Maia Martcheva   **Adina Luminiţa Sasu**   **Iryna Sushko**

Prizes awarded during ICDEA 2024

The JDEA Best Paper Prize in 2024 has been awarded to the article:

♦ Shakir Bilal & Ramakrishna Ramaswamy, A higher-dimensional generalization of the Lozi map: bifurcations and dynamics, Journal of Difference Equations and Applications, volume 29 (2023), issue 9-12, pp. 982-993.

and **Shakir Bilal** was invited to give a plenary presentation

Special sessions

ICDEA 2024 hosted the following special sessions:

ICDEA Special Session 1: On connections between differential, delay differential and difference equations, difference models of population dynamics and stochastic effects

Organizer: Elena Braverman

ICDEA Special Session 2: Multidimensional chaos: formation, control and its application

Organizers: Alexey Kazakov, Dmitry Sinelshchikov and Nataliya Stankevich

ICDEA Special Session 3: Bifurcations in Smooth and Nonsmooth Maps: Theory and Applications

Organizers: Davide Radi and Iryna Sushko

ICDEA Special Session 4: Recent advances on time scales and its relation to difference equations

Organizers: Tom Cuchta, Jaqueline Godoy Mesquita and Sabrina Streipert

ICDEA Special Session 5: Construction and Analysis of Discrete Dynamical Systems with Applications to Studying the Dynamics of Biological Populations

Organizers: Paul Salceanu and Amy Veprauskas

ICDEA Special Session 6: Discrete Dynamical Systems and Applications in Mathematical Biology

Organizers: Bo Zheng, Jianshe Yu, Jia Li and Hongpeng Guo

ICDEA Special Session 7: Stability and Bifurcation of Dynamical Systems

Organizers: Adina Luminița Sasu and Weinian Zhang

In each special session, besides the regular participants, there were special invited speakers selected by the organizers, who received certificates attesting this quality on behalf of the ISDE President.

During the conference, the organizers received support from Saber Elaydi, Gian Italo Bischi, Iryna Sushko, Jochen Jungeilges, Tatyana Perevalova and other ISDE members, who sustained this event with devotion and generosity. Thus, ICDEA 2024, besides being an excellent scientific event, represented a remarkable demonstration of solidarity and unity among society members around its objectives and values.

ICDEA 2024 Opening Ceremony

ISDE General Meeting

Winner of the Best JDEA Paper Prize

Next ICDEA - Announcements

ISDE President

ICDEA 2024 Closing Ceremony

Conference Proceedings

The ICDEA 2024 Proceedings will be published in the book entitled *Difference Equations and Discrete Dynamical Systems with Applications*, Editors: Saber Elaydi, Laura Gardini, René Lozi and Davide Radi, within the collection: Springer Proceedings in Mathematics and Statistics.

♦ All the participants are cordially invited to submit their contributions to the ICDEA 2024 Proceedings, as book chapters.

♦♦ The deadline for the manuscripts submissions has been extended to April 1st, 2025.
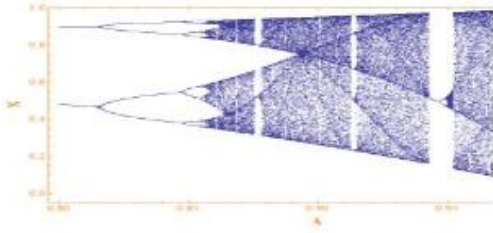

Paris, July 26, 2024

ICDEA 2024 website: More information and details about this conference as well as related announcements can be found on its website:

https://icdea2024.sciencesconf.org/

PODE 2025

Progress on Difference Equations - PODE 2025 will be held at Universidad Politécnica de Cartagena, Cartagena, Spain, in the period 28th-30th May 2025. This is the 14th International Conference which follows those held each year since 2007 on the same topics. After 2017, the conference PODE alternates each year with the European Conference on Iteration Theory - ECIT and therefore is being held every two years.
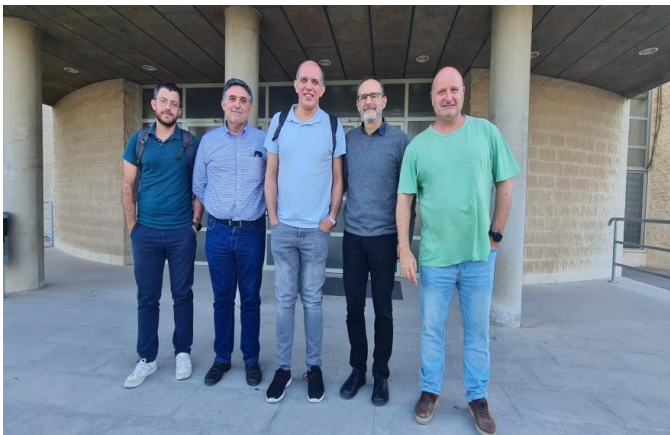

University photos

The conference in Cartagena aims to continue the tradition of previous PODE conferences. The first PODE conference took place at Laufen (Germany, 2007), and was followed by the meetings of Laufen (Germany, 2008), Bedlewo (Poland, 2009), Xanthi (Greece, 2010), Dublin (Ireland, 2011), Richmond (Virginia, USA, 2012), Bialystok (Poland, 2013), Izmir (Turkey, 2014), Covilhã (Portugal, 2015), Riga (Latvia, 2016), Urbino (Italy, 2017), Bragança (Portugal, 2019) and Milan (Italy, 2023).

PODE 2025 is held under the auspices of the International Society of Difference Equations, the Group of Dynamical Systems of Murcia, the Department of Mathematics of the Universidad de Murcia and the Department of Applied Mathematics and Statistics of Universidad Politécnica de Cartagena.

Cartagena is a small city located in the southeast of Spain, with an excellent natural harbor and a rich and beautiful history of more than 2000 years. The conference attendees can enjoy not only the interesting scientific program but also the warm weather, the typical Spanish gastronomy and the nice cultural life of the city.

The conference aims to be a forum for young and senior researchers to share their work and discuss the latest developments in the areas of difference equations, discrete dynamical systems, functional equations and their applications.

Some members of the Organizing Committee of PODE 2025, from left to right: Jose Ginés Espín, Antonio Linero, Gabriel Soler, Víctor Jiménez and Jose S. Cánovas

City view

Registration link: The participants are welcome to register to this important event via:

https://www.dmae.upct.es/~pode25/formulario1.php

The committees of this conference are:

Organizing Committee:

- Jose S. Cánovas, Department of Applied Mathematics and Statistics, Technical University of Cartagena

- María Muñoz Guillermo, Department of Applied Mathematics and Statistics, Technical University of Cartagena

- María del Carmen Ruiz Abellón, Department of Applied Mathematics and Statistics, Technical University of Cartagena

- Gabriel Soler López, Department of Applied Mathematics and Statistics, Technical University of Cartagena

- Antonio Linero Bas, Department of Mathematics, Murcia University

- José Ginés Espín, Department of Mathematics, Murcia University

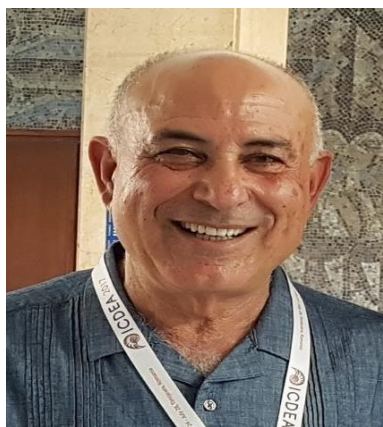- Víctor Jiménez López, Department of Mathematics, Murcia University

Scientific Committee:

- Saber Elaydi, Trinity University, USA

- Laura Gardini, University of Urbino Carlo Bo, Italy

- Armengol Gasull, Universitat Autònoma de Barcelona, Spain

- René Lozi, Université Côte d'Azur, France

- Adina Luminiţa Sasu, West University of Timișoara, Romania

- Lubomir Snoha, Matej Bel University, Slovakia

- Jose S. Cánovas, Technical University of Cartagena, Spain.

City photos

The **Plenary speakers** at **PODE 2025** are the following:

Saber Elaydi
Trinity University
USA

Senada Kalabušić
University of Sarajevo
Bosnia and Herzegovina

Víctor Mañosa
Universitat Politècnica de Catalunya
Spain

Davide Radi
Università Cattolica del Sacro Cuore
Italy

Visions of chaos

Chaos theory is one of the most significant scientific contributions in the last decades. This mathematically beautiful theory can provide remarkable pictures of orbits, attractors, bifurcations and other mathematical objects.

At this conference, an open-door session is planned with posters of remarkable pictures obtained by the iteration of maps. Notably, a broad audience has in mind famous pictures such as the Lorenz attractor, the Julia sets of polynomial complex maps, and the logistic map's bifurcation diagram.

In this context, the organizers have launched a call for collaboration to the scientific community with the message "*We hope you can help us disseminate our mathematical branch among non-scholar people"*.

Those who know some other beautiful dynamic objects are invited to send the information to the e-mail address pode25@upct.es with the details: equations, references, etc. The organizers will make posters with the models for an exhibition that will take place on May 30 in the afternoon, and each poster will acknowledge the person who provided the model.

More city views

Website: The conference webpage is:

https://www.dmae.upct.es/~pode25/

All the information on this conference such as deadlines, scientific program, conference proceedings, accommodation, how to arrive, network activities and social program and other related issues will be announced on this webpage.

ICDEA 2025

The [30th International Conference on Difference Equations and Applications](#) will be held on 15-19 July 2025 in Guangzhou, Guangdong Province, China. The conference is organized by a group of colleagues from Guangzhou University under the auspices of the [International Society of Difference Equations](#).

The aim of the conference is to bring together both experts and novices in the theory and applications of difference equations and discrete dynamical systems and to stimulate collaborations between scientists working in these areas.
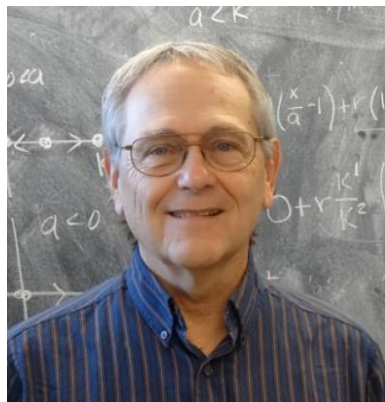
As part of the General Meeting of the ISDE, the biennial award [Bernd Aulbach Prize](#) will be conferred for significant contributions to the areas of difference equations and discrete dynamical systems and the [Best JDEA Paper Prize](#) will be awarded for the best paper published in the [Journal of Difference Equations and Applications](#) (JDEA) in 2024.

Guangzhou University

20

The committees of the conference are:

Scientific Committee

Jim Michael Cushing - **Chair**
University of Arizona
USA

René Lozi
Université Côte d'Azur,
France

Adina Luminița Sasu
West University of Timișoara
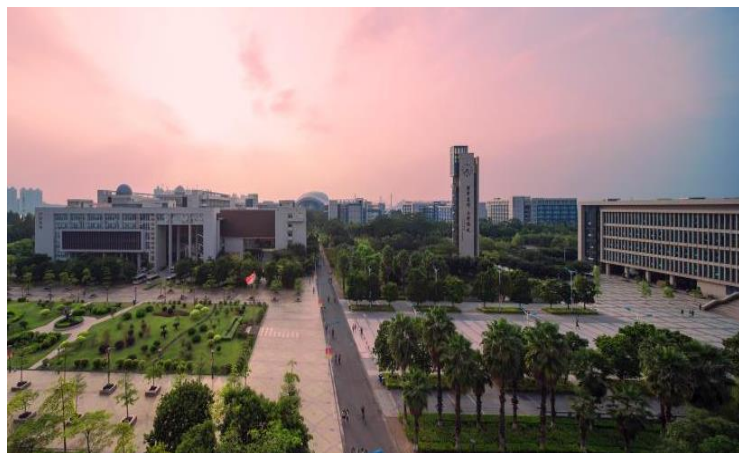Romania

Iryna Sushko
National Academy of Sciences
of Ukraine, Ukraine

Bo Zheng
Guangzhou University,
China

Guangzhou University photos

21

Organizing Committee

Bo Zheng - **Chair**
Guangzhou University, China

Jianshe Yu - **Co-Chair**
Guangzhou University, China

Local Organizing Committee:

Dingyong Bai	Hongpeng Guo	Zhiming Guo	Linchao Hu	Feng Jiao	Jia Li
Yijie Li	Genghong Lin	Yunfeng Liu	Zhigang Liu	Yuhua Long	Qiwen Sun
Kai Wang	Huafeng Xiao	Hong Zhang	Hongling Zhou	Zhan Zhou	

Registration

≫ The participants are welcome to register for this important event via:

https://icdea2025.sciencesconf.org/?lang=en

City view

The **Plenary Speakers** at ICDEA 2025 are the following:

Stephen Baigent

Saber Elaydi

Sorin Olaru

Hinke Osinga

Galina Strelkova

Guo-Cheng Wu

Serhiy Yanchuk

Jianshe Yu

Laureate of the
Bernd Aulbach Prize

Weinian Zhang

Winner of the
Best JDEA Paper Prize

Wei-Mou Zheng

About Guangzhou

Guangzhou is the capital of Guangdong Province in southern China and one of the largest cities in the country. With a history spanning over 2200 years, it is a very important economic and cultural hub, renowned for its trade, local cuisine, along with a rich and fascinating history.

Canton Tower

Nanyue King Museum

Guangdong Museum

Beijing Road

As a key city in the Pearl River Delta, Guangzhou is well-known for its vibrant and active urban life, being often referred to as the **"City of Flowers"** due to its lush greenery and numerous beautiful

parks. Guangzhou plays a crucial role in China's international trade and is home to the Canton Fair, the largest trade fair in China.

Pati Beer Culture and Creative Art Zone

Guangdong Museum of Traditional Chinese Medicine

Conference website:

>> More details and information about the conference can be found on its website:

https://icdea2025.sciencesconf.org/?lang=en

ISDE BOARD OF DIRECTORS 2023-2025

Laura Gardini
University of Urbino
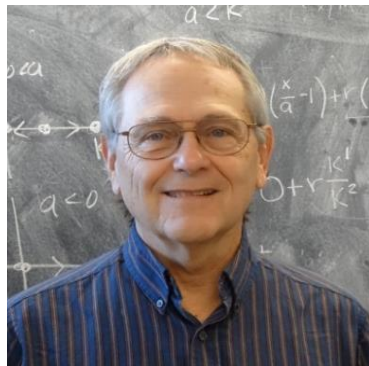Carlo Bo, Italy
President

René Lozi
Université Côte d'Azur,
France
Vice President

Martin Bohner
Missouri University of Science
and Technology
USA

Elena Braverman
University of Calgary
Canada

Jim Michael Cushing
The University of Arizona
USA

Saber Elaydi
Trinity University
USA

Adina Luminița Sasu
West University of Timișoara
Romania

Jianshe Yu
College of Mathematics and
Information Sciences,
Guangzhou, China

Weinian Zhang
School of Mathematics,
Sichuan University, China

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.