

**THE FOURTH INTERNATIONAL CONFERENCE
ON UNIFORM DISTRIBUTION THEORY
(UDT 2014)
OSTRAVICE, CZECH REPUBLIC
JUNE 30 – JULY 4, 2014**

ABSTRACT. This volume contains papers originally presented or inspired by the Fourth International Conference on Uniform Distribution Theory being held in Ostravice, Czech Republic, June 30 – July 4, 2014. We summarize some details and results of the conference. More informations can be found at <http://ntc.osu.cz/UDT2014>

Preface

This conference continues the series of conferences on Uniform Distribution theory. The first conference was held in Marseilles, CIRM, France, January 21 – 25, 2008. It was organized by Vladimír Baláž and Pierre Liardet, with more than 70 participants representing 16 countries and 42 talks was given. The proceeding of this Conference was published by the journal Uniform Distribution Theory vol. 3, no. 2, 2008.

The second conference was held in Strobl am Wolfgangsee, Austria, July 5 – 9, 2010. It was organized by Friedrich Pillichshammer, with 55 participants representing 16 countries and 40 talks and proceedings was published by the same journal vol. 6, no. 1, 2010.

The third one took place in Smolenice, Slovakia, June 25 – 29, 2012. It was organized by Oto Strauch and Vladimír Baláž, with 48 participants representing 15 countries and 40 talks were given. Proceedings of this conference was published in the same journal, vol. 8, no. 1, 2013.

The Fourth International Conference on Uniform Distribution Theory was held in Ostravice, Czech Republic, June 30 – July 4, 2014. The main organiser was Ladislav Mišík. The program of the fourth conference consisted of the 7 plenary talks and 21 regular talks covering topics from Number Theory that

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can be summarized under the key words: *pseudorandom binary lattices, discrepancy theory, diaphony, Salem numbers, zeta function, (t, e, s) -sequences, digital sequences, multivariate integration, accumulation points of sequences, density of sets of positive integers, distribution of digits, strong uniform distribution, random numbers generators, measures of uniformity, dynamical systems, automatic sequences and normal numbers.*

We therefore can conclude that these four conferences met the original goal to serve as a forum for the discussion and exchanges of information on the research developments, and applications on all topics related to Probabilistic Number Theory. The next UDT conference will be held in Sopron, Hungary, and it will be organized by András Sárközy and Attila Pethő.

Scientific Committees

- *Vladimír Baláž* — Slovak Technical University, Bratislava
- *Jarmila Doležalová* — The Union of Czech mathematicians and Physicists, Ostrava
- *Ladislav Mišík* — University of Ostrava
- *Štefan Porubský* — Institute of Computer Science Academy of Sciences of the Czech Republic, Prague
- *Jan Štěpnička* — University of Ostrava
- *Oto Strauch* — Mathematical Institute of the Slovak Academy of Sciences, Bratislava
- *Jan Šustek* — University of Ostrava
- *János T. Tóth* — University J. Selye, Komárno
- *Zuzana Václavíková* — University of Ostrava

Organizing Institutes

Institute of Mathematics, Slovak Academy of Sciences, Bratislava
Faculty of Chemical and Food Technology, Bratislava
Faculty of Sciences, University of Ostrava
University of J. Selye, Komárno

List of lectures

Plenary talks

KARMA DAJANI: *A dynamical approach to N -continued fractions expansions*

MICHAEL DRMOTA: *Subsequences of automatic sequences and uniform distribution*

VASSIL S. GROZDANOV: *The hybrid weighted diaphony*

RADHAKRISHNAN NAIR: *Strong uniform distribution*

FRIEDRICH PILLICHSHAMMER: *The discrepancy of infinite digital sequences—
—new results and open questions*

ANDRÁS SÁRKÖZY: *On finite pseudorandom binary lattices*

OTO STRAUCH: *Distribution of leading digits of number*

Contributed talks

SILVIYA BAYCHEVA: *Multivariate integration in weighted Sobolev spaces and its connections with the diaphony*

JÓZSEF BUKOR: *On two problems on convergence to a density*

PAULIUS DRUNGILAS: *On relations for rings generated by algebraic numbers and their conjugates*

FERDINÁND FILIP: *The structure of weighted densities*

ANDRIUS GRIGUTIS: *An inequality for the Selberg zeta-function*

CHRISTELLE GUICHARD: *On convergent sequences of Salem numbers from Garsia numbers*

TAMÁS HERENDI: *Efficient method for random number generation on FPGAs*

MARIA RITA IACÒ: *Optimal bounds for integrals with respect to copulas and applications*

CHRISTIAN IRRGEHER: *Tractability of multivariate integration in Hermite spaces*

OLEG KARPENKOV: *Gauss-Kuzmin statistics for faces of Klein polyhedra*

VSEVOLOD LEV: *Three measures of uniformity*

SÁNDOR ROLAND MAJOR: *Efficient methods for random numbers generations*

LADISLAV MIŠÍK—JÁNOS TÓTH: *On a class of cardinal densities*

MARIIA MONINA: *On the arithmetic nature of a three-term identity from the elliptic functions theory*

WERNER GEORG NOWAK: *The lattice discrepancy of bodies of rotations with a dent*

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ŠTEFAN PORUBSKÝ: *On common structure of n_k 's for which $n_k \alpha \pmod 1 \rightarrow x$*

JOHANNES SCHLEISCHITZ: *A measure for the accumulation of $(\alpha \zeta^n)_{n \geq 1}$*

JAN ŠUSTEK: *Normal numbers and Cantor expansions*

SHU TEZUKA: *(t, e, s) -sequences in multiple bases*

ROMAN URBAN: *Equidistribution in the dual group of the S -adic integers*

ALEXEY USTINOV: *On statistical properties of 3-dimensional Voronoi-Minkowski continued fractions*

JEAN-LOUIS VERGER-GAUGRY: *On Salem numbers and Zeta functions*

Organizing Committee : *Martin Kolář,
Ondřej Kolouch
Lukáš Novotný
Jan Šustek
Jan Štěpnička
Zuzana Václavíková*

LIST OF PARTICIPANTS

VLADIMÍR BALÁŽ : vladimir.balaz@stuba.sk

SILVIYA BAYCHEVA : silvilota@abv.bg

JOZSEF BUKOR : bukor@selyeuni.sk

KARMA DAJANI : kdajani1@uu.nl,

MICHAEL DRMOTA : michael.drkota@tuwien.ac.at

PAULIUS DRUNGILAS : pdrungilas@gmail.com

FERDINND FILIP : filipff@ujv.sk

ANDRIUS GRIGUTIS : andrius.grigutis@gmail.com

VASSIL STANKOV GROZDANOV : vassgrozdanov@yahoo.com

CHRISTELLE GUICHARD : christelle.guichard@ujf-grenoble.fr

JAROSLAV HANČL : hancl@osucz

TAMÁS HERENDI : herendi@inf.unideb.hu

MARIA RITA IACÒ : iaco@mat.unical.it

CHRISTIAN IRRGEHER : christian.irrgeher@jku.at

OLEG KARPENKOV : o.karpenkov@liverpool.ac.uk

MARTIN KOLÁŘ : martin.kolar@osu.cz

ONDŘEJ KOLOUCH : ondrej.kolouch@osu.cz

MANFRED KÜHLEITNER : manfred.kuehleitner@boku.ac.at

VSEVOLOD LEV : seva@math.haifa.ac.il

SÁNDOR ROLAND MAJOR : major.sandor@inf.unideb.hu

LADISLAV MIŠÍK : ladislav.misik@osu.cz

THE FOURTH INTERNATIONAL CONFERENCE ON UNIFORM DISTRIBUTION THEORY

MARIIA MONINA : monina@iam.khv.ru
RADHAKRISHNAN NAIR : nair@liverpool.ac.uk
LUKÁŠ NOVOTNÝ : lukas.novotny@osu.cz
WERNER GEORG NOWAK : nowak@mail.boku.ac.at
ATTILA PETHŐ : petho.attila@inf.unideb.hu
FRIEDRICH PILLICHSHAMMER : friedrich.pillichshammer@jku.at
ŠTEFAN PORUBSKÝ : porubsky@hotmail.com
ANDRÁS SÁRKÖZY : sarkozy@cs.elte.hu
ADRIÁN SCHEERER : scheerer@math.tugraz.at
JOHANNES SCHLEISCHITZ : johannes.schleischitz@boku.ac.at
OTO STRAUCH : strauch@mat.savba.sk
JÁN ŠUSTEK : jan.sustek@osu.cz
SHU TEZUKA : tezuka@math.kyushu-u.ac.jp
JÁNOS TÓTH : tothj@uj.ssk
ROMAN URBAN : urban@math.uni.wroc.pl
ALEXEY USTINOV : ustinov@iam.khv.ru
ZUZANA VÁCLAVÍKOVÁ : vaclavikova@osu.cz
JEAN-LOUIS VERGER-GAUGRY : jlverger@ujf-grenoble.fr
ALEXANDER ZUEVSKY : alexander.zuevsky@mpim-bonn.mpg.de



Participants of the Fourth International Conference on Uniform Distribution Theory.

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