

OP-SF NET – Volume 23, Number 2 – March 15, 2016

The Electronic News Net of the
SIAM Activity Group on Orthogonal Polynomials and Special Functions

<http://math.nist.gov/opsf>

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Calendar of Events:

March 17–21, 2016

Number Theory in honor of Krishna Alladi's 60th birthday

University of Florida, Gainesville, Florida, USA

<http://www.qseries.org/fgarvan/alladi60.html>

March 22–24, 2016

40th South African Symposium of Numerical and Applied Mathematics (SANUM)

University of Stellenbosch, South Africa

<http://sanum.github.io>

May 6–7, 2016

Orthonet 2016,

Third meeting of the Spanish net of orthogonal polynomials and approximation theory,
Albarracín (Teruel), Universidad de Zaragoza, Spain

<https://iuma.unizar.es/es/actividades/orthonet-2016>

May 20, 2016

5^{èmes} Journées Approximation 2016,
International Conference on Constructive Complex Approximation
Laboratoire Paul Painlevé, Université de Lille, France
<http://math.univ-lille1.fr/~bbecker/ja2016>

June 5–10, 2016

XII international Conference on Approximation and Optimization
Havana University, Cuba
<http://gama.uc3m.es/appopt>

June 6 – June 8, 2016

Second joint Conference of the Belgian, Royal Spanish and Luxembourg Mathematical Societies
Special Session on Orthogonal Polynomials and Special Functions
Universidad de la Rioja, Logroño, Spain
<http://bsl.unirioja.es>

June 27 – July 1, 2016

Abecederian of SIDE (ASIDE) 12 Summer School,
Centre de Recherches mathématiques, Université de Montréal, Montréal, Quebec, Canada
<http://www.crm.umontreal.ca/ASIDE16>

July 3–9, 2016

Symmetries and Integrability of Difference Equations 12,
Hôtel Le Chanteclerc, Saint Adèle, Québec, Canada
http://www.crm.umontreal.ca/2016/SIDE12/index_e.php

July 11–15, 2016

OPSF–S6 Summer School on Orthogonal Polynomials and Special Functions,
Dedicated to the memory and legacy of Frank W. J. Olver,
[Norbert Wiener Center for Harmonic Analysis and Applications,](http://www.norbertwiener.umd.edu/Education/OPSFS6)
University of Maryland, College Park, Maryland, USA
<http://www.norbertwiener.umd.edu/Education/OPSFS6>

July 20–22, 2016

The 41st International Symposium on Symbolic and Algebraic Computation (ISSAC) 2016,
Wilfrid Laurier University, Waterloo, Ontario, Canada
<http://www.issac-conference.org/2016>

August 8–12, 2016

Dunkl operators, special functions and harmonic analysis,
Universität Paderborn, Paderborn, Germany
<https://math.uni-paderborn.de/arbeitsgruppen/arbeitsgruppe-harmonische-analyse/dunkl2016>

August 22–26, 2016

Conference on Methods of Modern Mathematical Physics,
A Young Researcher Symposium on the Occasion of the 70th Birthday of Barry Simon,
Fields Institute, Toronto, Canada
<http://www.fields.utoronto.ca/programs/scientific/16-17/modern-physics>

August 28–September 1, 2016

Frontiers in Mathematical Physics,
A Conference on the Occasion of Barry Simon's 70th Birthday,
CRM, Montreal, Canada
http://www.crm.umontreal.ca/2016/Simon16/index_e.php

November 28–December 02, 2016

International Conference on Mathematical Analysis and its Applications (ICMAA 2016),
Department of Mathematics, Indian Institute of Technology Roorkee (I.I.T. Roorkee), India
<http://www.iitr.ac.in/icmaa/2016/index.html>

June 26–30, 2017

OPSF–S7 Summer School on Orthogonal Polynomials and Special Functions,
University of Kent, Canterbury, UK
<http://www.kent.ac.uk/smsas/personal/opsfa>

July 3–7, 2017

14th International Symposium on Orthogonal Polynomials, Special Functions and
Applications (OPSFA14), University of Kent, Canterbury, UK
<http://www.kent.ac.uk/smsas/personal/opsfa>

July 10–15, 2017

Computational Methods and Function Theory,
Maria Curie–Skłodowska University, Lublin, Poland
<http://www.cmft2017.umcs.lublin.pl/index.html>

July 10–19, 2017

Foundations of Computational Mathematics,
Barcelona, Spain
<http://focm-society.org>

Topic #1 ——— OP – SF Net 23.2 ——— March 15, 2016

From: Jonathan Breuer (jbreuer@math.huji.ac.il) and Jacob Christiansen (stordaljc@gmail.com)
Subject: Two linked conferences in Canada to celebrate Barry Simon's 70th birthday



Barry Simon is one of the founding fathers of modern mathematical physics. His interests span a vast number of topics and his influence, through research papers, books and mentoring skills, is felt in many areas of mathematics. Among the fields where Barry has been a central figure over the years are those of quantum field theory, statistical mechanics, Schroedinger operators and the theory of orthogonal polynomials.

As part of Barry's 70th birthday celebration, and in honoring his remarkable dedication to the advancement of young mathematical physicists, a [Young Researchers Symposium](#)

covering several areas of mathematical physics will take place at the Fields Institute on August, 22–26, 2016.

The symposium will have the following format: Five distinct topics will be covered in five days. The opening talks will be given by scientific leaders who will also act as moderators. The opening lectures will be followed by talks of junior researchers and round table discussion of open problems. The topic and moderators (Monday to Friday schedule) are:

- Robert Seiringer, IST Austria, Bose–Einstein condensation;
- Rupert Frank, Caltech, Many–body quantum mechanics;
- Laszlo Erdoes, IST Austria, Random matrices and random Schrodinger operators;
- Jacob Christiansen, Lund, Orthogonal polynomials; and
- Svetlana Jitomirskaya, Irvine, Spectral theory of quasi–periodic operators.

It is expected that participants will attend the whole symposium, as well as the continuation of the event, “Frontiers in Mathematical Physics, Conference on the occasion of Barry Simon’s 70th birthday” at CRM in Montreal. This conference aims to bring together leading researchers in mathematical physics for talks and discussions, with the purpose of outlining recent advances and new directions of research.

Topic #2 ——— OP – SF Net 23.2 ——— March 15, 2016

From: A. Swaminathan (swamifma@iitr.ac.in)
Subject: Announcement: ICMAA 2016

This is a first announcement and call for participation in the [International Conference on Mathematical Analysis and its Applications, 2016](#) taking place November 28, (Monday) 2016 – December 02, (Friday) 2016 at the Department of Mathematics, Indian Institute of Technology Roorkee (I.I.T. Roorkee), India.

The main objective of ICMAA 2016 is to bring mathematicians from various parts of the world working in topics related to the conference, to interact with each other and to exchange ideas. ICMAA 2016 serves as an excellent platform to inculcate research interest among young minds on recent topics of Mathematical Analysis. The SIAM Activity group on Orthogonal Polynomials and Special Functions (SIAG–OPSF) is also involved in the conference.

Topics to be covered are related to Mathematical Analysis and its applications, including but not limited to:

- Analysis of Differential Equations (including Control theory, Fractional Calculus and Stochastic PDEs);
- Complex Analysis;
- Fourier and Wavelet Analysis;
- Harmonic Analysis (including Potential theory, Harmonic Mappings and Quasi–Conformal Mappings);
- Inverse Problems and Non–linear Analysis;
- Matrix Analysis, Operator Theory and Function Spaces;
- Modern Methods of Summability and Approximation; and
- Orthogonal Polynomials and Special Functions.

SIAM will sponsor two PhD students and two early-career researchers from US-based institutions by means of travel grants.

The invited speakers are:

- Francisco Marcellán, Universidad Carlos III de Madrid and Instituto de Ciencias Matemáticas (ICMAT), Madrid, Spain;
- Walter Van Assche, Chair, SIAM-OPSF activity group, Katholieke Universiteit Leuven, Belgium;
- Stephan Ruscheweyh, University of Wurzburg, Germany;
- A. Sri Ranga, Universidade Estadual Paulista, Sao Paulo, SP, Brazil;
- Mourad E.H. Ismail, University of Central Florida, USA;
- Michael Dorff, Brigham Young University, USA;
- Ram N Mohapatra, University of Central Florida, USA;
- Stamatis Koumandos, University of Cyprus, Cyprus;
- Arpad Baricz, Babes-Bolyai University, Romania;
- T. Bulboaca, Babes Bolyai University, Romania;
- Rosihan M. Ali, Universiti Sains Malaysia, Penang, Malaysia;
- Stanislaw Kanas, University of Rzeszow, Poland;
- Zdzislaw Rychlick, University Maria Curie- Skłodowska, Lublin, Poland;
- Jacek Banasiak, University of Pretoria, South Africa;
- Yusuf Abu Muhanna, American University, Sharjah, UAE; and
- Wilson Lamb, University of Strathclyde, Glasgow, UK.

Special sessions on the following topics will be organized.

1. Orthogonal Polynomials and Special Functions
2. Geometric Function Theory
3. Analysis of PDEs

Submission of Abstracts: Delegates giving presentations/talks are requested to *submit* their abstract to the organizers at icmaa2016@iitr.ac.in or icmaa2k16@gmail.com in $\text{T}_\text{E}\text{X}/\text{L}_\text{A}\text{T}_\text{E}\text{X}/\text{Word}$ format using the template given [here](#). There will be poster presentation session as well.

Proceedings: It is planned to bring out the peer-reviewed proceedings of the conference. Participants interested in submitting their papers for the proceedings can submit as per the details given in the conference [website](#).

Deadlines:

Abstract submission: June 30, 2016

Acceptance of Abstracts: July 15, 2016

Last date for early Registration: July 31, 2016

Last date of submission of short papers for the Proceedings: July 31, 2016

Local Organizers:

- A. Swaminathan (Indian Institute of Technology, Roorkee)
- N. Sukavanam (Indian Institute of Technology, Roorkee)
- Uday Singh (Indian Institute of Technology, Roorkee)
- Ankik Kumar Giri (Indian Institute of Technology, Roorkee)

We are looking forward to meeting you in Roorkee in 2016.

For more information, see <http://www.iitr.ac.in/icmaa/2016/index.html>.

Topic #3 ——— OP – SF Net 23.2 ——— March 15, 2016

From: Walter Van Assche (walter.vanassche@wis.kuleuven.be)

Subject: US travel grants sponsored by SIAM for ICMAA 2016

The SIAM OPSF activity group has negotiated with SIAM, who agreed to sponsor two travel grants for PhD students and two for early-career researchers from US-based institutions to attend the [ICMAA 2016](#) (see Topic #2 above) conference. The candidates must belong to a US-based institution, but need not be US citizens. The travel grant covers travel expenses from US to India (and back). Please contact Walter Van Assche (walter.vanassche@wis.kuleuven.be) and Swaminathan Anbhu (swamifma@iitr.ac.in) if you are interested in this travel grant.

Topic #4 ——— OP – SF Net 23.2 ——— March 15, 2016

From: Doron Lubinsky (lubinsky@math.gatech.edu)

Subject: Announcement: Computational Methods and Function Theory (CMFT) 2017

[Computational Methods and Function Theory \(CMFT\) 2017](#), July 10–15, 2017

Maria Curie Skłodowska University, Lublin, Poland

The general theme of the meeting concerns various aspects of interaction of complex variables and scientific computation, including related topics from function theory, approximation theory and numerical analysis.

The CMFT meetings were previously held as follows:

- CMFT 1989, Valparaiso, Chile;
- CMFT 1994, Penang, Malaysia;
- CMFT 1997, Nicosia, Cyprus;
- CMFT 2001, Aveiro, Portugal;
- CMFT 2005, Joensuu, Finland;
- CMFT 2009, Ankara, Turkey; and
- CMFT 2013, Shantou, Guangdong, China.

An important aspect of the CMFT meetings is to promote the creation and maintenance of contacts with scientists from diverse cultures.

For more information, see <http://www.cmft2017.umcs.lublin.pl/index.html>.

Topic #5 ——— OP – SF Net 23.2 ——— March 15, 2016

From: Tom Koornwinder (T.H.Koornwinder@uva.nl)

Subject: Report on the AMS JMM Special Session on “Special Functions and q -Series”

One of the AMS special sessions during the Joint Mathematics Meeting in Seattle, Washington, USA, in early January 2016 had as subject “Special Functions and q -Series”. It took place during the mornings of January 8 and 9. The session was organized by Richard Askey, Mourad E.H. Ismail, and Erik Koelink. It was unofficially dedicated to the memory of Mizan Rahman, who passed away on January 5, 2015. There were 25 minute lectures by Richard Askey, F. Alberto Grunbaum, Luc Vinet, George Andrews, Neil M. Bickford, Dennis Stanton, S. Ole Warnaar, Tom H. Koornwinder, Wolter Groenevelt, Vincent X. Genest, Michael J. Schlosser, and Gaurav Bhatnagar. Many of these lectures were coauthored. See titles and abstracts at the following [url](#). Quite remarkable was the lecture by Neil Bickford on “Special and limiting values of the Weber function and Dedekind η ”. Neil is an undergraduate student at UCLA who is working with R.W. (Bill) Gosper.

On the evening of January 8, a dinner was held in memory of Mizan Rahman. In after-dinner speeches, there were many words of admiration and friendship for Mizan. Babu Rahman, a son of Mizan, was present at the dinner, and at some of the lectures. The dinner was very-well attended. A much bigger crowd than expected showed up. The restaurant had to improvise for making enough seats at tables available.

The special session partially coincided with a special session on “Recent Advances in Orthogonal Polynomials and Special Functions,” organized by Xiang-Sheng Wang. See a report of this session in OP-SF NET 23.1, Topic #8. Both sessions might have attracted a bigger audience if they had been scheduled without coinciding.

Topic #6 ——— OP – SF Net 23.2 ——— March 15, 2016

From: Charles Dunkl (cf5z@eservices.virginia.edu)

Subject: Extension for special issue on “Symmetry in orthogonal polynomials”

In OP-SF NET 22.5, Topic #3, there is a notice about a special issue on “[Symmetry in orthogonal polynomials](#)”, in the journal “[Symmetry](#)”, of which I am guest editor. The announcement is that the submission date is now extended to August 31, 2016.

Topic #7 ——— OP – SF Net 23.2 ——— March 15, 2016

From: OP-SF Net Editors

Subject: Preprints in arXiv.org

The following preprints related to the fields of orthogonal polynomials and special functions were posted or cross-listed to one of the subcategories of arXiv.org during January and February 2016.

<http://arxiv.org/abs/1601.00322>

Orthogonal polynomials attached to coherent states for the symmetric Poschl–Teller oscillator

Khalid Ahbli, Patrick Kayupe Kikodio, Zouhair Mouayn

<http://arxiv.org/abs/1601.00563>

On infinite series concerning zeros of Bessel functions of the first kind

Andrea Giusti, Francesco Mainardi

<http://arxiv.org/abs/1601.00675>

Approximation by generalized Szasz operators involving Sheffer polynomials

M. Mursaleen, Khursheed J. Ansari

<http://arxiv.org/abs/1601.00699>

Asymptotics of Prolate Spheroidal Wave Functions

T. M. Dunster

<http://arxiv.org/abs/1601.00728>

A note on the connection problem of some special Painlevé V functions

Wen–Gao Long, Zhao–Yun Zeng, Jian–Rong Zhou

<http://arxiv.org/abs/1601.00814>

Jacobi weights, fractional integration, and sharp Ulyanov inequalities

Polina Glazyrina, Sergey Tikhonov

<http://arxiv.org/abs/1601.00872>

Partition zeta functions

Robert Schneider

<http://arxiv.org/abs/1601.00914>

Riemann Hypothesis and Random Walks: the Zeta case

André LeClair

<http://arxiv.org/abs/1601.00926>

The part–frequency matrices of a partition

William J. Keith

<http://arxiv.org/abs/1601.00950>

Odd zeta motive and linear forms in odd zeta values

Clément Dupont

<http://arxiv.org/abs/1601.01007>

Generalized Huygens types inequalities for Bessel and modified Bessel functions

Khaled Mehrez

<http://arxiv.org/abs/1601.01014>

About 30 Years of Integrable Chiral Potts Model, Quantum Groups at Roots of Unity and Cyclic Hypergeometric Functions

Helen Au–Yang, Jacques H. H. Perk

<http://arxiv.org/abs/1601.01223>

Calculation of local formal Mellin transforms

Adam Graham–Squire

<http://arxiv.org/abs/1601.01525>

Riemann–Hilbert correspondence for unit F –crystals on embeddable algebraic varieties
Sachio Ohkawa

<http://arxiv.org/abs/1601.01568>

Approximation of Lyapunov Functions from Noisy Data
Peter Giesl, Boumediene Hamzi, Martin Rasmussen, Kevin N. Webster

<http://arxiv.org/abs/1601.01603>

Two Lax systems for the Painlevé II equation, and two related kernels in random matrix theory
Karl Liechty, Dong Wang

<http://arxiv.org/abs/1601.01650>

Asymptotic behavior of varying discrete Jacobi–Sobolev orthogonal polynomials
Juan F. Mañas–Mañas, Francisco Marcellán, Juan J. Moreno–Balcázar

<http://arxiv.org/abs/1601.01673>

Bernoulli identities, zeta relations, determinant expressions, Mellin transforms, and representation of the Hurwitz numbers
Mark W. Coffey

<http://arxiv.org/abs/1601.01797>

The Riemann zeros as spectrum and the Riemann hypothesis
Germán Sierra

<http://arxiv.org/abs/1601.01841>

Expected number of real roots of random trigonometric polynomials
Hendrik Flasche

<http://arxiv.org/abs/1601.01998>

Radii of starlikeness and convexity of a cross–product of Bessel functions
Árpád Baricz, Nihat Yağmur

<http://arxiv.org/abs/1601.02074>

On the Very–well–poised Bilateral Basic Hypergeometric ${}_5\psi_5$ Series
Runping Ye, Qing Zou

<http://arxiv.org/abs/1601.02192>

Some results associated with Bernoulli and Euler numbers with applications
C.–P. Chen, R.B. Paris

<http://arxiv.org/abs/1601.02263>

The asymptotic expansion of Kummer functions for large values of the a –parameter, and remarks on a paper by Olver
Hans Volkmer

<http://arxiv.org/abs/1601.02517>

Painlevé equations, topological type property and reconstruction by the topological recursion

Kohei Iwaki, Olivier Marchal, Axel Saenz

<http://arxiv.org/abs/1601.02566>

Convergence of Magnus integral addition theorems for confluent hypergeometric functions

Howard S. Cohl, Jessie Hirtenstein, Hans Volkmer

<http://arxiv.org/abs/1601.02649>

On the reduction of generalized polylogarithms to Li_n and $\text{Li}_{2,2}$ and on the evaluation thereof

Hjalte Frellesvig, Damiano Tommasini, Christopher Wever

<http://arxiv.org/abs/1601.02651>

Exact relaxation dynamics of the ASEP with Langmuir kinetics on a ring

Jun Sato, Katsuhiko Nishinari

<http://arxiv.org/abs/1601.02672>

Extreme residues of Dedekind zeta functions

Peter J. Cho, Henry H. Kim

<http://arxiv.org/abs/1601.02885>

Convergence Rate for the Ordered Upwind Method

Alex Shum, Kirsten Morris, Amir Khajepour

<http://arxiv.org/abs/1601.02972>

Optimal Gabor frame bounds for separable lattices and estimates for Jacobi theta functions

Markus Faulhuber, Stefan Steinerberger

<http://arxiv.org/abs/1601.02989>

The Bergman kernel: explicit formulas, deflation, Lu Qi-Keng problem and Jacobi Polynomials

Tomasz Beberok

<http://arxiv.org/abs/1601.03100>

Height growth of solutions and a discrete Painlevé equation

A Al-Ghassani, R Halburd

<http://arxiv.org/abs/1601.03114>

The Riemann Hypothesis For Period Polynomials Of Modular Forms

Seokho Jin, Wenjun Ma, Ken Ono, Kannan Soundararajan

<http://arxiv.org/abs/1601.03167>

Pick Functions Related to the Multiple Gamma Functions of order n

Sourav Das, A. Swaminathan

<http://arxiv.org/abs/1601.03199>

Bounds for the asymptotic order parameter of the stochastic Kuramoto model

István Mező, Árpád Baricz

<http://arxiv.org/abs/1601.03245>

Equivalent of the elliptic function solutions of nonlinear differential equations

Dong-hua Luo, Cheng-qun Pang

<http://arxiv.org/abs/1601.03367>

Orthogonal polynomials on the circle for the weight w satisfying conditions: $w, 1/w \in \text{BMO}(\mathbb{T})$

S. Denisov, K. Rush

<http://arxiv.org/abs/1601.03601>

On Spectrum Generating Algebra of the Heun Operator

Priyasri Kar, Ritesh K. Singh, Ananda Dasgupta, Prasanta K. Panigrahi

<http://arxiv.org/abs/1601.03795>

On the mixed joint functional independence of a class of zeta-functions

Roma Kacinskaite, Kohji Matsumoto

<http://arxiv.org/abs/1601.03952>

Telescoping method and congruences for double sums

Yan-Ping Mu, Zhi-Wei Sun

<http://arxiv.org/abs/1601.04021>

The Heun functions and their applications in astrophysics

Denitsa Staicova, Plamen Fiziev

<http://arxiv.org/abs/1601.04031>

A unified approach to the Painleve Transcendents

Norbert Steinmetz

<http://arxiv.org/abs/1601.04032>

An old new class of meromorphic functions

Norbert Steinmetz

<http://arxiv.org/abs/1601.04060>

Spherical rectangles

Alexandre Eremenko, Andrei Gabrielov

<http://arxiv.org/abs/1601.04300>

Reductions of Gauss-Codazzi equations

Robert Conte, A. Michel Grundland

<http://arxiv.org/abs/1601.04304>

General construction of Reproducing Kernels on a quaternionic Hilbert space

K. Thirulogasanthar, S. Twareque Ali

<http://arxiv.org/abs/1601.04377>

Discriminants of Chebyshev-like polynomials and their generating functions

Khang Tran

<http://arxiv.org/abs/1601.04380>

Discriminants of Polynomials Related to Chebyshev Polynomials: The 'Mutt and Jeff' Syndrome

Khang Tran

<http://arxiv.org/abs/1601.04412>

On Second Solutions to Second-Order Difference Equations

William C. Parke, Leonard C. Maximon

<http://arxiv.org/abs/1601.04573>

A functional relation for L-functions of graphs equivalent to the Riemann Hypothesis for Dirichlet L-functions

Fabien Friedli

<http://arxiv.org/abs/1601.04785>

A Zeta Function for Multicomplex Algebra

A. Sebbar, D.C. Struppa, A. Vajiac, M.B. Vajiac

<http://arxiv.org/abs/1601.04895>

Bounds on the Lambert function and their application to the outage analysis of user co-operation

Ioannis Chatzigeorgiou

<http://arxiv.org/abs/1601.05053>

Smooth Kernel Estimation of a Circular Density Function: A Connection to Orthogonal Polynomials on the Unit Circle

Yogendra P. Chaubey

<http://arxiv.org/abs/1601.05124>

The mother body phase transition in the normal matrix model

Pavel Bleher, Guilherme Silva

<http://arxiv.org/abs/1601.05327>

Hypergeometric τ functions of the q -Painlevé Systems of types $A_4^{(1)}$ and $(A_1 + A_1')^{(1)}$

Nobutaka Nakazono

<http://arxiv.org/abs/1601.05450>

Bessel functions and local converse conjecture of Jacquet

Jingsong Chai

<http://arxiv.org/abs/1601.05487>

Sign regularity of Maclaurin coefficients of functions in the Laguerre-Pólya class

Dimitar K. Dimitrov, Willian D. Oliveira

<http://arxiv.org/abs/1601.05491>

Pell's equation and series expansions for irrational numbers

Chuanan Wei

<http://arxiv.org/abs/1601.05657>

Lattice Green Functions: the d -dimensional face-centred cubic lattice, $d=8, 9, 10, 11, 12$

S. Hassani, C. Koutschan, J-M. Maillard, N. Zenine

<http://arxiv.org/abs/1601.05740>

Local universality for real roots of random trigonometric polynomials

Alexander Iksanov, Zakhar Kabluchko

<http://arxiv.org/abs/1601.05781>

Transformation properties for Dyson's rank function
Frank Garvan

<http://arxiv.org/abs/1601.05918>

Laurent series expansions of multiple zeta-functions of Euler-Zagier type at integer points
Kohji Matsumoto, Tomokazu Onozuka, Isao Wakabayashi

<http://arxiv.org/abs/1601.06122>

On inversion and connection coefficients for basic hypergeometric polynomials
Hamza Chaggara, Mohamed Mabrouk

<http://arxiv.org/abs/1601.06138>

The energy function with respect to the zeros of the exceptional Hermite polynomials
Á. P. Horváth

<http://arxiv.org/abs/1601.06179>

Commutation relations and discrete Garnier systems
Christopher M. Ormerod, Eric M. Rains

<http://arxiv.org/abs/1601.06186>

Branching Rules for Symmetric Hypergeometric Polynomials
J.F. van Diejen, E. Emsiz

<http://arxiv.org/abs/1601.06277>

Exact solution of Chern-Simons-matter matrix models with characteristic/orthogonal polynomials
Miguel Tierz

<http://arxiv.org/abs/1601.06378>

Ternary quadratic forms and linear combination of three triangular numbers
Zhi-Hong Sun

<http://arxiv.org/abs/1601.06487>

Certain unified integral formulas involving the generalized modified k -bessel function of first kind
K.S. Nisar, S.R. Mondal

<http://arxiv.org/abs/1601.06536>

Discrete analogues of Macdonald-Mehta integrals
Richard P. Brent, Christian Krattenthaler, S. Ole Warnaar

<http://arxiv.org/abs/1601.06765>

On the roots of truncated hypergeometric series over prime fields
Amit Ghosh, Kenneth Ward

<http://arxiv.org/abs/1601.06879>

Certain weighted averages of generalized Ramanujan sums
K Vishnu Namboothiri

<http://arxiv.org/abs/1601.06898>

Orthogonal polynomials associated with complementary chain sequences
Kiran Kumar Behera, A. Sriranga, A. Swaminathan

<http://arxiv.org/abs/1601.07109>

Perturbations of the Spence–Abel equation and deformations of the dilogarithm function
Tobias Hartnick, Andreas Ott

<http://arxiv.org/abs/1601.07160>

On the subclasses associated with the Bessel–Struve kernel functions
Saiful R. Mondal, Al Dhuain Mohammed

<http://arxiv.org/abs/1601.07194>

Multivariate Orthogonal Polynomials and Modified Moment Functionals
Antonia M. Delgado, Lidia Fernández, Teresa E. Pérez, Miguel A. Piñar

<http://arxiv.org/abs/1601.07236>

Matrix biorthogonal polynomials in the unit circle: Riemann–Hilbert problem and matrix discrete Painleve II system
Giovanni A. Cassatella–Contra, Manuel Mañas

<http://arxiv.org/abs/1601.07743>

One–step recurrences for stationary random fields on the sphere
Rick K. Beatson, Wolfgang zu Castell

<http://arxiv.org/abs/1601.07834>

An elliptic extension of the general product formula for augmented rook boards
Michael J. Schlosser, Meesue Yoo

<http://arxiv.org/abs/1601.07920>

One some differential subordination involving the Bessel–Struve kernel function
Saiful R Mondal, Mohamed Al Dhuian

<http://arxiv.org/abs/1601.08102>

On the geometric properties of the Bessel–Struve kernel function
Saiful R Mondal

<http://arxiv.org/abs/1601.08178>

The orthogonality of Al–Salam–Carlitz polynomials for complex parameters
H. S. Cohl, R. S. Costas–Santos, W. Xu

<http://arxiv.org/abs/1602.00044>

Bounds for Extreme Zeros of Quasi–orthogonal Ultraspherical Polynomials
Kathy Driver, Martin E. Muldoon

<http://arxiv.org/abs/1602.00099>

The Stokes phenomenon and the Lerch zeta function
R B Paris

<http://arxiv.org/abs/1602.00279>

Composition formulas of Bessel–Struve kernel function
K.S Nisar, S.R. Mondal. P. Agarwal

<http://arxiv.org/abs/1602.00316>

On Certain Generalizations of Rogers–Ramanujan Type Identities

Ahmad El-Guindy, Mourad E.H. Ismail

<http://arxiv.org/abs/1602.00350>

Universal formula for Hilbert series of minimal nilpotent orbits

A. Matsuo, A.P. Veselov

<http://arxiv.org/abs/1602.00384>

On (conditional) positive semidefiniteness in a matrix-valued context

Fritz Gesztesy, Michael Pang

<http://arxiv.org/abs/1602.00405>

New conditionally exactly solvable potentials of exponential type

A. Lopez-Ortega

<http://arxiv.org/abs/1602.00406>

Statistical properties of eigenvalues of Laplace-Beltrami operators

Tiefeng Jiang, Ke Wang

<http://arxiv.org/abs/1602.00454>

Holonomic Tools for Basic Hypergeometric Functions

Christoph Koutschan, Peter Paule

<http://arxiv.org/abs/1602.00917>

HYPERgeometric functions Differential REduction: Mathematica-based packages for the differential reduction of generalized hypergeometric functions: Fc hypergeometric function of three variables

V. Bytev, B. Kniehl

<http://arxiv.org/abs/1602.01023>

On the asymptotic behavior of the maximum absolute value of generalized Gegenbauer polynomials

Roman Veprintsev

<http://arxiv.org/abs/1602.01085>

Lambert series and q -functions near $q = 1$

Shubho Banerjee, Blake Wilkerson

<http://arxiv.org/abs/1602.01384>

Analytic Continuation of Hypergeometric Functions in the Resonant Case

Emanuel Scheidegger

<http://arxiv.org/abs/1602.01496>

Some unified integrals associated with Bessel-Struve kernel function

K. S. Nisar, P. Agarwal, S. Jain

<http://arxiv.org/abs/1602.01498>

Variational methods for fractional q -Sturm-Liouville Problems

Zeinab S.I. Mansour

<http://arxiv.org/abs/1602.01500>

On Fractional q -Sturm-Liouville problems

Zeinab S.I. Mansour

<http://arxiv.org/abs/1602.01637>

Pfaffian equations and contiguity relations of the hypergeometric function of type $(k + 1, k + n + 2)$ and their applications
Yoshiaki Goto, Keiji Matsumoto

<http://arxiv.org/abs/1602.01706>

L -series associated to symmetric functions mod N with applications related to $\zeta(3)$, $\zeta(5)$
David Spring

<http://arxiv.org/abs/1602.01908>

ASEP(q, j) converges to the KPZ equation
Ivan Corwin, Hao Shen, Li-Cheng Tsai

<http://arxiv.org/abs/1602.02326>

Epstein zeta-functions, subconvexity, and the purity conjecture
Valentin Blomer

<http://arxiv.org/abs/1602.02618>

On the use of Hahn's asymptotic formula and stabilized recurrence for a fast, simple, and stable Chebyshev-Jacobi transform
Richard Mikael Slevinsky

<http://arxiv.org/abs/1602.02632>

On p -adic approximation of sums of binomial coefficients
Rustem R. Aidagulov, Max A. Alekseyev

<http://arxiv.org/abs/1602.02705>

Sur le p -rang du groupe des classes de $Q(N^1/p)$
Emmanuel Lecouturier

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Hypergeometric orthogonal polynomials with respect to Newtonian bases
Luc Vinet, Alexei Zhedanov

<http://arxiv.org/abs/1602.02801>

The algebra $\mathbb{C}\langle \mathbf{X} \rangle \sqcup \mathbb{C}^{\text{rat}}\langle\langle \mathbf{x}_0 \rangle\rangle \sqcup \mathbb{C}^{\text{rat}}\langle\langle \mathbf{x}_1 \rangle\rangle$ and polylogarithms
Ngoc Hoang, Gérard Duchamp, Hoang Ngoc Minh

<http://arxiv.org/abs/1602.03070>

Legendre Functions of Fractional Degree: Transformations and Evaluations
Robert S. Maier

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Harmonic-Number Summation Identities, Symmetric Functions, and Multiple Zeta Values
Michael E. Hoffman

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Hermite polynomials, linear flows on the torus, and an uncertainty principle for roots
Diogo Oliveira e Silva, Stefan Steinerberger

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Note on the Stieltjes constants: series with Stirling numbers of the first kind
Mark W. Coffey

<http://arxiv.org/abs/1602.03486>

On $\zeta(2n)$. Even simpler
Samuel G. Moreno, Esther M. García-Caballero

<http://arxiv.org/abs/1602.03518>

Generalized beta-transformations and the entropy of unimodal maps
Daniel J. Thompson

<http://arxiv.org/abs/1602.03553>

Derivation of the properties such as the real part of zeros of the zeta function possibly available in physics
Kimichika Fukushima

<http://arxiv.org/abs/1602.04033>

Dynamics in the Szegő class and polynomial asymptotics
Jacob S. Christiansen

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A note on Hermite polynomials
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The Method of almost convergence with operator of the form fractional order and applications
Murat Kirisci, Ugur Kadak

<http://arxiv.org/abs/1602.04106>

Identities involving Bessel polynomials arising from linear differential equations
Taekyun Kim, Dae san Kim

<http://arxiv.org/abs/1602.04149>

On Binomial Identities in Arbitrary Bases
Lin Jiu, Christophe Vignat

<http://arxiv.org/abs/1602.04167>

Matrix approach to hypercomplex Appell polynomials
Lidia Aceto, Helmuth Robert Malonek, Graça Tomaz

<http://arxiv.org/abs/1602.04250>

Multiple Solutions of Riemann-Type of Functional Equations
T. Cao-Huu, D. Ghisa, F. A. Muscutar

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Zeros of derivatives of Bessel and Struve functions
Árpád Baricz, Chrysi G. Kokologiannaki, Tibor K. Pogány

<http://arxiv.org/abs/1602.04343>

Automorphisms of algebras and Bochner's property for discrete vector orthogonal polynomials

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Log-behavior of two sequences related to the elliptic integrals

Brian Y. Sun, James J.Y. Zhao

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A higher order Painlevé system in two variables and extensions of the Appell hypergeometric functions F_1 , F_2 and F_3

Takao Suzuki

<http://arxiv.org/abs/1602.04594>

Dunkl harmonic analysis and fundamental sets of continuous functions on the unit sphere

Roman Veprintsev

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A class of linear viscoelastic models based on Bessel functions

Ivano Colombaro, Andrea Giusti, Francesco Mainardi

<http://arxiv.org/abs/1602.04694>

Exceptional solutions to the Painlevé VI equation

Alexandre Eremenko, Andrei Gabrielov, Aimo Hinkkanen

<http://arxiv.org/abs/1602.04839>

Algebraic equation and quadratic differential related to generalized Bessel polynomials with varying parameters

Mohamed Jalel Atia, Faouzi Thabet

<http://arxiv.org/abs/1602.04840>

Tridiagonalization and the Heun equation

F. Alberto Grünbaum, Luc Vinet, Alexei Zhedanov

<http://arxiv.org/abs/1602.04997>

Hardy-type inequalities for fractional powers of the Dunkl-Hermite operator

Ó. Ciaurri, L. Roncal, S. Thangavelu

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On the moments of roots of Laguerre-polynomials and the Marchenko-Pastur law

Miklós Korniyik, György Michaletzky

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Remarks on trigonometric functions after Eisenstein

P. L. Robinson

<http://arxiv.org/abs/1602.05146>

General asymptotic expansions of the hypergeometric function with two large parameters

Mislav Cvitković, Ana-Sunčana Smith, Jayant Pande

<http://arxiv.org/abs/1602.05343>

Some identities of Chebyshev polynomials arising from nonlinear differential equations

Taekyun Kim, Dae san kim, Jong-Jin Seo, Dmitry V. Dolgy

<http://arxiv.org/abs/1602.05369>

On harmonic analysis operators in Laguerre–Dunkl and Laguerre–symmetrized settings
Adam Nowak, Krzysztof Stempak, Tomasz Z. Szarek

<http://arxiv.org/abs/1602.05371>

Rényi entropies of the highly–excited states of multidimensional harmonic oscillators by use of strong Laguerre asymptotics
A.I. Aptekarev, D.N. Tulyakov, I.V. Toranzo, J.S. Dehesa

<http://arxiv.org/abs/1602.05382>

The time–fractional radiative transport equation – Continuous–time random walk, diffusion approximation, and Legendre–polynomial expansion
Manabu Machida

<http://arxiv.org/abs/1602.05507>

Cybernetic Interpretation of the Riemann Zeta Function
Petr Klan

<http://arxiv.org/abs/1602.06069>

A note on the gaps between zeros of Epstein’s zeta–functions on the critical line
Stephan Baier, Srinivas Kotyada, Usha Keshav Sangale

<http://arxiv.org/abs/1602.06282>

Rigidity and a Riemann–Hilbert correspondence for p –adic local systems
Ruochuan Liu, Xinwen Zhu

<http://arxiv.org/abs/1602.06728>

The measure for orthogonal polynomials in unbounded settings
Grzegorz Świdorski

<http://arxiv.org/abs/1602.06813>

On generalized Eisenstein series and Ramanujan’s formula for periodic zeta–functions
M. Cihat Dağlı, Mümün Can

<http://arxiv.org/abs/1602.07062>

Numerical analysis for the moments of Bessel functions and Bessel–trigonometric functions
Yinkun Wang, Ying Li, Jianshu Luo

<http://arxiv.org/abs/1602.07212>

Singular instantons and Painlevé VI
Richard Muñiz Manasliski

<http://arxiv.org/abs/1602.07239>

Motion in an Asymmetric Double Well
Alain J. Brizard, Melissa C. Westland

<http://arxiv.org/abs/1602.07313>

Yet another look at positive linear operators, q –monotonicity and applications
K. Kopotun, D. Leviatan, A. Prymak, I. A. Shevchuk

<http://arxiv.org/abs/1602.07375>

Hypergeometric differential equation and new identities for the coefficients of Norlund and Buehring

Dmitrii Karp, Elena Prilepkina

<http://arxiv.org/abs/1602.07713>

A monotonicity result for the q -fractional operator

Bahaaeldin Abdalla, Thabet Abdeljawad, Juan J. Nieto

<http://arxiv.org/abs/1602.07850>

Elementary observations on Rogers–Szegő polynomials

Johann Cigler

<http://arxiv.org/abs/1602.07854>

Hyperplane Sections of Cylinders

Hauke Dirksen

<http://arxiv.org/abs/1602.08169>

A class of q -orthogonal polynomial sequences that extends the q -Askey scheme

Luis Verde–Star

<http://arxiv.org/abs/1602.08238>

Periodicity of odd degree Chebyshev polynomials over a ring of modulo 2^w

Atsushi Iwasaki, Ken Umeno

<http://arxiv.org/abs/1602.08318>

Growth of meromorphic solutions of delay differential equations

Rod Halburd, Risto Korhonen

<http://arxiv.org/abs/1602.08626>

Jacobi Polynomials, Bernstein–type Inequalities and Dispersion Estimates for the Discrete Laguerre Operator

Aleksey Kostenko, Gerald Teschl

<http://arxiv.org/abs/1602.08723>

Free subgroup numbers modulo prime powers: the non–periodic case

Christian Krattenthaler, Thomas W. Müller

<http://arxiv.org/abs/1602.08808>

Critical behaviours of the fifth Painlevé transcendents and the monodromy data

Shun Shimomura

<http://arxiv.org/abs/1602.08895>

New properties of a certain method of summation of generalized hypergeometric series

Rafał Nowak, Paweł Woźny

<http://arxiv.org/abs/1602.08937>

On the multiple zeros of a partial theta function

Vladimir Petrov Kostov

<http://arxiv.org/abs/1602.09027>

Elliptic hypergeometric summations by Taylor series expansion and interpolation

Michael J. Schlosser, Meesue Yoo

Topic #8 ——— OP – SF Net 23.2 ——— March 15, 2016

From: OP–SF Net Editors

Subject: About the Activity Group

The SIAM Activity Group on Orthogonal Polynomials and Special Functions consists of a broad set of mathematicians, both pure and applied. The Group also includes engineers and scientists, students as well as experts. We have around 155 members scattered about in more than 20 countries. Whatever your specialty might be, we welcome your participation in this classical, and yet modern, topic. Our WWW home page is:

<http://math.nist.gov/opsf>

This is a convenient point of entry to all the services provided by the Group. Our Webmaster is Bonita Saunders (bonita.saunders@nist.gov).

The Activity Group sponsors OP–SF NET, an electronic newsletter, and SIAM-OPSF (OP–SF Talk), a listserv, as a free public service; membership in SIAM is not required. OP–SF NET is transmitted periodically through a post to OP–SF Talk. The OP–SF Net Editors are Howard Cohl (howard.cohl@nist.gov) and Kerstin Jordaan (kerstin.jordaan@up.ac.za).

Back issues of OP–SF NET can be obtained at the websites:

<https://staff.fnwi.uva.nl/t.h.koornwinder/opsfnet>

<http://math.nist.gov/~DLozier/OPSFnet>

SIAM-OPSF (OP–SF Talk), which was recently moved to a SIAM server, facilitates communication among members and friends of the Activity Group. To subscribe or to see a link the archive of all messages, go to <http://lists.siam.org/mailman/listinfo/siam-OPSF> and follow the instructions under the sub-heading “Subscribing to SIAM-OPSF”. To contribute an item to the discussion, send e-mail to siam-opsf@siam.org. The moderators are Bonita Saunders (bonita.saunders@nist.gov) and Diego Dominici (dominicd@newpaltz.edu).

SIAM has several categories of membership, including low-cost categories for students and residents of developing countries. In addition, there is the possibility of reduced rate membership for the members of several societies with which SIAM has a reciprocity agreement; see <http://www.siam.org/membership/individual/reciprocal.php>. For current information on SIAM and Activity Group membership, contact:

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Philadelphia, PA 19104–2688 USA
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e-mail: service@siam.org
WWW : <http://www.siam.org>

Topic #9 ——— OP – SF Net 23.2 ——— March 15, 2016

From: OP–SF Net Editors

Subject: Submitting contributions to OP–SF NET and SIAM-OPSF (OP–SF Talk)

To contribute a news item to OP–SF NET, send e–mail to one of the OP–SF Editors howard.cohl@nist.gov or kerstin.jordaan@up.ac.za.

Contributions to OP–SF NET 23.3 should be sent by May 1, 2016.

OP–SF NET is an electronic newsletter of the SIAM Activity Group on Special Functions and Orthogonal Polynomials. We disseminate your contributions on anything of interest to the special functions and orthogonal polynomials community. This includes announcements of conferences, forthcoming books, new software, electronic archives, research questions, and job openings as well as news about new appointments, promotions, research visitors, awards and prizes. OP–SF Net is transmitted periodically through a post to SIAM-OPSF (OP–SF Talk).

SIAM-OPSF (OP–SF Talk) is a listserv of the SIAM Activity Group on Special Functions and Orthogonal Polynomials, which facilitates communication among members, and friends of the Activity Group. See the previous Topic. To post an item to the listserv, send e–mail to siam-opsf@siam.org.

WWW home page of this Activity Group:

<http://math.nist.gov/opsf>

Information on joining SIAM and this activity group: service@siam.org

The elected Officers of the Activity Group (2014–2016) are:

Walter Van Assche, Chair
Jeff Geronimo, Vice Chair
Diego Dominici, Program Director
Yuan Xu, Secretary

The appointed officers are:

Howard Cohl, OP–SF NET co–editor
Kerstin Jordaan, OP–SF NET co–editor
Diego Dominici, OP–SF Talk moderator
Bonita Saunders, Webmaster and OP–SF Talk moderator

Thought of the month

“...not everything that counts can be counted, and not everything that can be counted counts.”

William Bruce Cameron, *Informal Sociology: A Casual Introduction to Sociological Thinking*, 1963.