O P-S F N E T - Volume 31, Number 6 - November 15, 2024

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

http://math.nist.gov/opsf

OP-SF Net is distributed to OPSF Activity Group members and non-members alike through the OP-SF Talk listserv.

If you are interested in subscribing to the Newsletter and/or OP-SF Talk, or if you would like to submit a topic to the Newsletter or a contribution to OP-SF Talk, please send an email to the OP-SF Net Editors.

Editors:

Howard S. Cohl	howard.cohl@nist.gov
Sarah Post	spost@hawaii.edu

Topics:

Calendar of Events:

December 9-13, 2024

Joint meeting of the NZMS, AustMS and AMS
Auckland, New Zealand

Special Session on *Special Functions, q-Series and Beyond*
Organized by Howard Cohl, S. Ole Warnaar, Nicholas Witte
https://ms-meet-2024.blogs.auckland.ac.nz/special-sessions-descriptions/

December 16-20, 2024

ORTHONET Winter School and Meeting
Universidad Complutense de Madrid, Spain
https://www.ucm.es/manuel_manas/orthonet-winter-2024

May 19-22, 2025

Constructive Functions 2025
Celebrating Ed Saff's 80th birthday
in conjunction with the 37th Shanks Lecture by Doron Lubinsky
Vanderbilt University, Nashville, Tennessee, USA
https://my.vanderbilt.edu/constructivefunctions2025/

June 23- 28, 2025
Combinatorics around the q-Onsager algebra
A celebration of the 70th birthday of Paul Terwilliger
Kranjska Gora, Slovenia
https://conferences.famnit.upr.si/event/15/overview

July 2-5, 2025
Third International Conference: Constructive Mathematical Analysis
Selcuk University, Konya, Turkey
https://iccma.selcuk.edu.tr

Topic #1 ——— OP - SF Net 31.6 ——— November 15, 2024

From: Peter Clarkson (P.A.Clarkson@kent.ac.uk)
Subject: Announcement: Upcoming OPSF SIAG elections

The SIAM Activity Group on Special Functions and Orthogonal Polynomials (SIAG/OPSF) will be holding elections shortly. The position of Chair, Program Director and Secretary will be up for election. Due to special circumstances, for the current election, the election of someone to fill the Vice Chair position will not be held.

The previous elected Officers of the Activity Group (2020-2022) were:
Peter Alan Clarkson, Chair
Luc Vinet, Vice Chair
Andrei Martínez-Finkelshtein, Program Director
Teresa E. Pérez, Secretary and SIAM Engage (SIAG/OPSF) moderator

We look forward to our renewed collaboration with SIAM.

Topic #2 ——— OP - SF Net 31.6 ——— November 15, 2024

From: Paco Marcellán (pacomarc@ing.uc3m.es)
Subject: Announcement: ORTHONET Winter 2024

The ORTHONET school and ORTHONET meeting will hold in Madrid in the Faculty of Physics, Universidad Complutense de Madrid, in the period December 16-19 and December 19-20, 2024, respectively.

The Organizing Committee is constituted by Oscar Ciaurri (Universidad de la Rioja), Manuel Mañas (Universidad Complutense de Madrid) and Francisco Marcellán (Universidad Carlos III de Madrid).

The lecturers of the school are María Ángeles García Ferrero (Instituto de Ciencias Matemáticas, ICMAT), Andrei Martínez-Finkelshtein (Universidad de Almería/ Baylor University) and Walter Van Assche (Katholieke Universiteit Leuven). They will deliver four-two hour lectures each on Exceptional Orthogonal polynomials and Darboux Transformations, Logarithmic Potential Theory and Multiple Orthogonal Polynomials-Theory and Applications, respectively.

For more information about these two events:

https://www.ucm.es/manuel_manas/orthonet-winter-2024

About the ORTHONET Network:

The ORTHONET Network brings together researchers focused on orthogonal polynomials and special functions, exploring their deep connections with fields such as approximation theory, operator theory, number theory, information theory, Fourier series, numerical analysis, integrable systems and probability. This cross-disciplinary approach extends beyond pure mathematics, finding applications in mathematical physics, science, and technology.

A core goal of ORTHONET is to foster collaboration within the Spanish scientific community, uniting those who specialize in orthogonality and its applications. Another priority is to facilitate the transfer of expertise to other scientific and technological fields where orthogonality offers untapped potential.

The ORTHONET network is supported by the project RED2022-134580-T, as part of the National Program aimed at advancing scientific and technical research and promoting its transfer in Spain. This initiative is supported by the 2021-2023 State Plan for Scientific, Technical, and Innovation Research, under the Ministry of Science, Innovation, and Universities of Spain.

Topic #3 ——— OP - SF Net 31.6 ——— November 15, 2024

From: Ryan Matzke (ryan.w.matzke@vanderbilt.edu)
Subject: Second Announcement: Constructive Functions 2025

Constructive Functions 2025
in conjunction with the 37th Annual Shanks Lecture
Celebrating Ed Saff's 80th birthday
Nashville, Tennessee
May 19-22, 2025
constructivefunctions2025@gmail.com

We are pleased to send out the second announcement for the Constructive Functions 2025 conference. If you would like to organize a minisymposium or contribute a talk, please visit: https://my.vanderbilt.edu/constructivefunctions2025/

Important deadlines:

- Minisymposium Proposals Deadline: December 6, 2024
- Abstract Submission Deadline: March 14, 2025

The 37th Shanks Lecture will be delivered by Professor Doron Lubinsky (Georgia Institute of Technology). The meeting will also provide an excellent opportunity to celebrate Professor Ed Saff's 80th birthday.

The prestigious Shanks Lecture Series is organized annually by the Department of Mathematics in honor of Baylis and Olivia Shanks. The late Professor Baylis Shanks was chairman of the Department from 1956 through 1969. A list of previous Shanks Conferences and Lecturers can be found here.

Students, early career researchers, women, and other minorities are especially encouraged to attend this conference. We are currently applying for funding from the NSF and are anticipating being able to offer some support for such participants.

Invited Speakers:

- Doron Lubinsky, Shanks Lecturer, Georgia Institute of Technology, USA
- Peter Dragnev, Purdue University – Fort Wayne, USA
- Arno Kuijlaars, KU Leuven, Belgium
- Ana Loureiro, University of Kent, UK
- Andrei Martínez-Finkelshtein, Baylor University, USA
- Ana Matos, Universite de Lille, France
- Jill Pipher, Brown University, USA
- Sylvia Serfaty, Courant Institute of Mathematical Sciences, USA
- Ian Sloan, University of New South Wales, Australia
- Eitan Tadmor, University of Maryland, USA
- Nick Trefethen, Harvard University, USA

Organizing Committee:

- Stephen Gardiner, University College Dublin
- Doug Hardin, Vanderbilt University
- Liudmyla Kryvonos, Vanderbilt University
- Juliette LeBlond, INRIA Sophia Antipolis Méditerranée
- Doron Lubinsky, Georgia Institute of Technology
- Ryan Matzke, Vanderbilt University
- Igor Pritsker, Oklahoma State University
- Mihai Putinar, University California Santa Barbara
- Maya Stoyanova, Sofia University
- Robert Womersley, University of New South Wales
- Maxim Yattselev, IUPUI

Scientific Committee:

- Laurent Baratchart, INRIA Sophia Antipolis Méditerranée
- Sergiy Borodachov, Towson University
- Peter Boyvalenkov, Bulgarian Academy of Sciences
- Kathy Driver, University of Cape Town
- Guillermo López Lagomasino, Universidad Carlos III de Madrid
- Xin Li, University of Central Florida
- Igor Shevchuk, Taras Shevchenko National University of Kyiv
- Nikos Stylianopoulos, University of Cyprus
- Natalia Zorii, National Academy of Sciences of Ukraine

We hope to see you in May!

Best wishes,
The Constructive Functions 2025 Organizing Committee

Topic #4 ——— OP - SF Net 31.6 ——— November 15, 2024

From: Tom Koornwinder (thkmath@xs4all.nl)
Subject: Memories of Ian G. Macdonald by **Koornwinder**

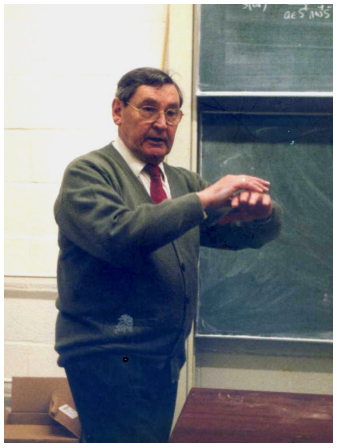
Memories of Ian G. Macdonald

Tom Koornwinder

November 16, 2024

Ian Grant Macdonald passed away on August 8, 2023 at the age of 94. His death got little publicity. Only a few months later the mathematical community became aware that this great mathematician had left us. Ian Macdonald has done very important work in our field of orthogonal polynomials and special functions:

- Analogues of Jacobi's triple product identity associated with all affine root systems [1].
- Constant term conjectures [2].
- Macdonald polynomials: analogues in several variables of continuous q-ultraspherical polynomials (manuscript in 1987, published in [3, Ch.VI]).
- Macdonald polynomials: analogues in several variables of continuous q-Jacobi polynomials (manuscripts in 1987, 1988, published in [4]).



Macdonald giving a lecture in Amsterdam on January 11, 2002.

In the exciting late eighties of the previous century not only Macdonald's new polynomials were introduced, but also the Heckman–Opdam polynomials, the Dunkl operator and quantum groups, and all these interacted with each other.

As for myself, I was happy to point out to Macdonald that the duality property of continuous q-ultraspherical polynomials could also be settled for his polynomials [3, §VI.6], and to improve his more variable generalization of continuous q-ultraspherical polynomials to such a generalization of Askey–Wilson polynomials [5].

My Dutch colleagues Gert Heckman and Eric Opdam, then in Leiden, developed in those days the Jacobi polynomials associated with root systems [6], [7], [8], in which they interacted a lot with Macdonald.

Altogether Macdonald has been very influential for Dutch mathematics. In 2002 he received an honorary doctorate from the University of Amsterdam.

Together with Heckman and Opdam I wrote a paper Memories of Ian G. Macdonald, https://arxiv.org/abs/2410.07882, in which one can read about our contacts with Macdonald in more detail.

Bibliography

[1] I. G. Macdonald, Affine root systems and Dedekind's η-function, Invent. Math. **15** (1972), 91–143.

[2] I. G. Macdonald, Some conjectures for root systems, SIAM J. Math. Anal. **13** (1982), 988–1007.

[3] I. G. Macdonald, Symmetric Functions and Hall Polynomials, Second edition, Clarendon Press, Oxford, 1995.

[4] I. G. Macdonald, Orthogonal polynomials associated with root systems, Sém. Lothar. Combin. **45** (2000), B45a.

[5] T. H. Koornwinder, Askey–Wilson polynomials for root systems of type BC, Contemp. Math. **138** (1992), 189–204.

[6] G. J. Heckman and E. M. Opdam, Root systems and hypergeometric functions I, II, Compositio Math. **64** (1987), 329–352 (H&O), 353–373 (H).

[7] E. M. Opdam, Root systems and hypergeometric functions III, IV, Compositio Math. **67** (1988), 21–49, 191–209.

[8] E. M. Opdam, Some applications of hypergeometric shift operators, Invent. Math. **98** (1989), 1–18.

Topic #5 ——— OP - SF Net 31.6 ——— November 15, 2024

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 September and October 2024. This list has been separated into two categories.

OP-SF Net Subscriber E-Prints

https://arxiv.org/abs/2404.14303
Orthogonal Laurent polynomials of two real variables
Ruymán Cruz-Barroso, Lidia Fernández

http://arxiv.org/abs/2409.00261
A partial-sum deformation for a family of orthogonal polynomials
Erik Koelink, Pablo Román, Wadim Zudilin

http://arxiv.org/abs/2409.02536
Approximations of generalized Bernstein functions
Stamatis Koumandos, Henrik Laurberg Pedersen

http://arxiv.org/abs/2409.02623
Chebyshev polynomials related to Jacobi weights
Jacob S. Christiansen, Olof Rubin

http://arxiv.org/abs/2409.02656
Classification of exceptional Jacobi polynomials
Maria Angeles Garcia-Ferrero, David Gómez-Ullate, Robert Milson

http://arxiv.org/abs/2409.02717
Universality theorems for zeros of random real polynomials with fixed coefficients
Matthew C. King, Ashvin Swaminathan

http://arxiv.org/abs/2409.03357
Constrained mock-Chebyshev least squares approximation for Hermite interpolation
Francesco Dell'Accio, Francisco Marcellán, Federico Nudo

http://arxiv.org/abs/2409.03428
Sums of two squares and the tau-function: Ramanujan's trail
Bruce C. Berndt, Pieter Moree

http://arxiv.org/abs/2409.04215
A Method of Fundamental Solutions for Large-Scale 3D Elastance and Mobility Problems
Anna Broms, Alex H. Barnett, Anna-Karin Tornberg

http://arxiv.org/abs/2409.04502
On Polar Jacobi Polynomials
Roberto S. Costas-Santos

http://arxiv.org/abs/2409.08442
Notes on $2D$ $\mathbb{F}_p$-Selberg integrals
Alexander Varchenko

http://arxiv.org/abs/2409.08559
On the number of irreducible factors with a given multiplicity in function fields
Sourabhashis Das, Ertan Elma, Wentang Kuo, Yu-Ru Liu

http://arxiv.org/abs/2409.08785
A stacky p-adic Riemann-Hilbert correspondence on Hitchin-small locus
Yudong Liu, Chenglong Ma, Xiecheng Nie, Xiaoyu Qu, Yupeng Wang

http://arxiv.org/abs/2409.09405
On the product of the extreme zeros of Laguerre polynomials
K. Castillo

http://arxiv.org/abs/2409.09657
On the Satake correspondence for the equivariant quantum differential equations and qKZ difference equations of Grassmannians
Giordano Cotti, Alexander Varchenko

http://arxiv.org/abs/2409.09803
Mesoscopic Universality for Circular Orthogonal Polynomial Ensembles
Jonathan Breuer, Daniel Ofner

http://arxiv.org/abs/2409.11344
Generalized Bell polynomials
Antonio J. Durán

http://arxiv.org/abs/2409.13874
Higher level q-multiple zeta values with applications to quasimodular forms and partitions
William Craig

http://arxiv.org/abs/2409.14512
An explicit Wishart moment formula for the product of two disjoint principal minors
Christian Genest, Frédéric Ouimet, Donald Richards

http://arxiv.org/abs/2409.14825
$\bar{\partial}$-problem for focusing nonlinear Schrödinger equation and soliton shielding
Marco Bertola, Tamara Grava, Giuseppe Orsatti

http://arxiv.org/abs/2409.14834
On string functions of the generalized parafermionic theories, mock theta functions, and false theta functions
Nikolay Borozenets, Eric T. Mortenson

http://arxiv.org/abs/2409.14994
Exactly solvable Schrödinger operators related to the confluent equation
Jan Dereziński, Jinyeop Lee

http://arxiv.org/abs/2409.16254
Classical discrete multiple orthogonal polynomials: hypergeometric and integral representations
Amílcar Branquinho, Juan E. F. Díaz, Ana Foulquié-Moreno, Manuel Mañas, Thomas Wolfs

http://arxiv.org/abs/2409.16857
R_{II} type three term relations for bivariate polynomials orthogonal with respect to varying weights
Cleonice F. Bracciali, Antonia M. Delgado, Lidia Fernández, Teresa E. Pérez

http://arxiv.org/abs/2409.17305
Uniform bounds, zero separation and monotonicity for the regular Coulomb wave functions
Seok-Young Chung

http://arxiv.org/abs/2409.17818
Precision Asymptotics for Partitions Featuring False-Indefinite Theta Functions
Kathrin Bringmann, William Craig, Caner Nazaroglu

http://arxiv.org/abs/2409.18045
Necessary and sufficient conditions for universality limits
Benjamin Eichinger, Milivoje Lukić, Harald Woracek

http://arxiv.org/abs/2409.18445
Trace inequality with Bessel convolution
Mouna Chegaar, Á. P. Horváth

http://arxiv.org/abs/2409.19644
On positive Jacobi matrices with compact inverses
Pavel Šťovíček, Grzegorz Świderski

http://arxiv.org/abs/2410.00246
Bilateral discrete and continuous orthogonality relations in the q^{-1}-symmetric Askey scheme
Howard S. Cohl, Hans Volkmer

http://arxiv.org/abs/2410.01009
On multiplicative Jacobi polynomials and function approximation through multiplicative series
Edinson Fuentes, Luis E. Garza, Fabián Velázquez C.

http://arxiv.org/abs/2410.01199
Some identities on degenerate trigonometric functions
Taekyun Kim, Dae San kim

http://arxiv.org/abs/2410.03002
Simplified uniform asymptotic expansions for associated Legendre and conical functions
T. M. Dunster

http://arxiv.org/abs/2410.04506
Voronoi summation formulas, oscillations of Riesz sums, and Ramanujan–Guinand and Cohen type identities
Shashank Charge, Atul Dixit

http://arxiv.org/abs/2410.04894
Smoothing of the higher-order Stokes phenomenon
Chris J. Howls, John R. King, Gergő Nemes, Adri B. Olde Daalhuis

http://arxiv.org/abs/2410.05003
m-step rational extensions of the trigonometric Darboux–Pöschl–Teller potential based on para-Jacobi polynomials
Yves Grandati, Christiane Quesne

http://arxiv.org/abs/2410.07181
Some fractional integral and derivative formulas revisited
Juan Luis Gonzales-Santander, Francesco Mainardi

http://arxiv.org/abs/2410.07703
Time-domain direct sampling method for inverse electromagnetic scattering with a single incident source
Chen Geng, Minghui Song, Xianchao Wang, Yuliang Wang

http://arxiv.org/abs/2410.07862
Dynamical and invariance algebras of the d-dimensional Dunkl-Coulomb problem
Christiane Quesne

http://arxiv.org/abs/2410.07882
Memories of Ian G. Macdonald
Gert Heckman, Tom Koornwinder, Eric Opdam

http://arxiv.org/abs/2410.10405
An electrostatic model for the roots of discrete classical orthogonal polynomials
Joaquín F. Sánchez-Lara

http://arxiv.org/abs/2410.11318
Sign changes of Fourier coefficients for holomorphic eta-quotients
Kathrin Bringmann, Guoniu Han, Bernhard Heim, Ben Kane

http://arxiv.org/abs/2410.12094
Laurent Multiple Orthogonal Polynomials on the Unit Circle
Rostyslav Kozhan, Marcus Vaktnäs

http://arxiv.org/abs/2410.14068
q-Hypergeometric orthogonal polynomials with $q = -1$
Luis Verde-Star

http://arxiv.org/abs/2410.14190
On two-color partitions with odd smallest part
George E. Andrews, Mohamed El Bachraoui

http://arxiv.org/abs/2410.14856
Meta algebras and biorthogonal rational functions: the q-Hahn case
Pierre-Antoine Bernard, Abderahmane Bouziane, Samuel Pellerin, Simone Têtu, Satoshi Tsujimoto, Luc Vinet, Meri Zaimi, Alexei Zhedanov

http://arxiv.org/abs/2410.15363
Bidiagonal factorization of recurrence banded matrices in mixed multiple orthogonality
Amílcar Branquinho, Juan E. F. Díaz, Ana Foulquié-Moreno, Hélder Lima, Manuel Mañas

http://arxiv.org/abs/2410.17998
Estimating the Spectral Moments of the Kernel Integral Operator from Finite Sample Matrices
Chanwoo Chun, SueYeon Chung, Daniel D. Lee

http://arxiv.org/abs/2410.19186
Ramanujan-Fine integrals for level 10
Shaun Cooper, Timothy Huber, Jeffery Opoku

http://arxiv.org/abs/2410.20758
Regularized determinant formulas for the zeta functions of 3-dimensional Riemannian foliated dynamical systems
Jesús A. Álvarez López, Junhyeong Kim, Masanori Morishita

http://arxiv.org/abs/2410.21905
Elliptic Functions
Shaun Cooper

http://arxiv.org/abs/2410.22440
The non-linear steepest descent approach to the singular asymptotics of the sinh-Gordon reduction of the Painlevé III equation
Alexander R. Its, Kenta Miyahara, Maxim L. Yattselev

http://arxiv.org/abs/2410.22850
Nearly cosine series and generalized trigonometric functions
A. Curcio, G. Dattoli, E. Di Palma, P. Natalini, P. E. Ricci

Other Relevant OP-SF E-Prints

http://arxiv.org/abs/2409.00117
Pointwise estimates for the fundamental solutions of higher order Schrödinger equations in odd dimensions II: high dimensional case
Han Cheng, Shanlin Huang, Tianxiao Huang, Quan Zheng

http://arxiv.org/abs/2409.00406
Casting more light in the shadows: dual Somos-5 sequences
J. W. E. Harrow, A. N. W. Hone

http://arxiv.org/abs/2409.00519
Blow-up solutions for the steady state of the Keller-Segel system on Riemann surfaces
Zhengni Hu, Thomas Bartsch, Mohameden Ahmedou

http://arxiv.org/abs/2409.00849
The open ASEP with light particles
Dominik Schmid, Zongrui Yang

http://arxiv.org/abs/2409.00888
M-functions and screw functions originating from Goldbach's problem and zeros of the Riemann zeta function
Kohji Matsumoto, Masatoshi Suzuki

http://arxiv.org/abs/2409.01041
Extending the science fiction and the Loehr-Warrington formula
Donghyun Kim, Jaeseong Oh

http://arxiv.org/abs/2409.01350
Zeta elements for elliptic curves and applications
Ashay Burungale, Christopher Skinner, Ye Tian, Xin Wan

http://arxiv.org/abs/2409.01505
The Cauchy problem for the Degasperis-Procesi Equation: Painlevé Asymptotics in Transition Zones
Zhaoyu Wang, Xuan Zhou, Engui Fan

http://arxiv.org/abs/2409.01558
Parity statistics on restricted permutations and the Catalan-Schett polynomials
Zhicong Lin, Jing Liu, Sherry H. F. Yan

http://arxiv.org/abs/2409.01860
Double-coset zeta functions for groups acting on trees
Bianca Marchionna

http://arxiv.org/abs/2409.02106
Criteria for bounds on the reciprocal zeta derivative at zeta zeros
Gordon Chavez

http://arxiv.org/abs/2409.02232
On the mth-order Affine Pólya-Szegő Principle
Dylan Langharst, Michael Roysdon, Yiming Zhao

http://arxiv.org/abs/2409.02338
Distribution of local signs of modular forms and murmurations of Fourier coefficients
Kimball Martin

http://arxiv.org/abs/2409.02539
Generation Model of a Spatially Limited Vortex in a Stratified Unstable Atmosphere
O. G. Onishchenko, S. N. Artekha, F. Z. Feygin, N. M. Astafieva

http://arxiv.org/abs/2409.03313
On the asymptotics of real solutions for the Painlevé I equation
Wen-Gao Long, Jun Xia

http://arxiv.org/abs/2409.03355
Finite Bivariate Biorthogonal M-Konhauser Polynomials
Esra Güldoğan Lekesiz, Bayram Çekim, Mehmet Ali Özarslan

http://arxiv.org/abs/2409.03382
Strong Converse Inequalities for Bernstein Polynomials with Explicit Asymptotic Constants
José A. Adell, Daniel Cárdenas-Morales

http://arxiv.org/abs/2409.03517
On constructing zeta elements for Shimura varieties
Syed Waqar Ali Shah

http://arxiv.org/abs/2409.03687
On moments of the derivative of CUE characteristic polynomials and the Riemann zeta function
Nick Simm, Fei Wei

http://arxiv.org/abs/2409.04045
Extending a result of Carlitz and McConnel to polynomials which are not permutations
Bence Csajbók

http://arxiv.org/abs/2409.04258
L-Series for Vector-Valued Weakly Holomorphic Modular Forms and Converse Theorems
Subong Lim, Wissam Raji

http://arxiv.org/abs/2409.04337
Principal frequency of clamped plates on $\mathrm{RCD}(0,N)$ spaces: sharpness, rigidity and stability
Alexandru Kristály, Andrea Mondino

http://arxiv.org/abs/2409.04548
Shift operators and momentum-space conformal field theory
Francesca Caloro

http://arxiv.org/abs/2409.04595
On a Solution to the Dirac Equation with a Triangular Potential Well
Renebeth B. Payod, Vasil A. Saroka

http://arxiv.org/abs/2409.04753
Equivariant scaling asymptotics for Poisson and Szegő kernels on Grauert tube boundaries
Simone Gallivanone, Roberto Paoletti

http://arxiv.org/abs/2409.05625
Zeta functions enumerating subforms of quadratic forms
Daejun Kim, Seok Hyeong Lee, Seungjai Lee

http://arxiv.org/abs/2409.05761
Asymptotics for smooth numbers in short intervals
Khalid Younis

http://arxiv.org/abs/2409.05942
Zero Flux Localization: Magic Revealed
Alireza Parhizkar, Victor Galitski

http://arxiv.org/abs/2409.06254
Functional equation for Mellin transform of Fourier series associated with modular forms
Omprakash Atale

http://arxiv.org/abs/2409.06304
On Finite Mellin Transform via Ramanujan's Master Theorem
Omprakash Atale

http://arxiv.org/abs/2409.06546
A family of integrals related to values of the Riemann zeta function
Rahul Kumar, Paul Levrie, Jean-Christophe Pain, Victor Scharaschkin

http://arxiv.org/abs/2409.06760
Basics of Multiple Polyexponential Integrals
Gleb Aminov, Paolo Arnaudo

http://arxiv.org/abs/2409.06836
On the limit law of the superdiffusive elephant random walk
Hélène Guérin, Lucile Laulin, Kilian Raschel, Thomas Simon

http://arxiv.org/abs/2409.06878
Deformed Homogeneous (s,t)-Rogers-Szegő Polynomials and the Deformed (s,t)-Exponential Operator $\mathrm{e}_{s,t}(y\mathrm{T}_a D_{s,t}, v)$
Ronald Orozco López

http://arxiv.org/abs/2409.06922
The spectral ζ-function for quasi-regular Sturm-Liouville operators
Guglielmo Fucci, Mateusz Piorkowski, Jonathan Stanfill

http://arxiv.org/abs/2409.07810
Approximation of the Hilbert Transform on the unit circle
Luisa Fermo, Valerio Loi

http://arxiv.org/abs/2409.07866
ODE/IM correspondence in the semiclassical limit: Large degree asymptotics of the spectral determinants for the ground state potential
Gabriele Degano

http://arxiv.org/abs/2409.08085
Infinite log-concavity and higher order Turán inequality for the sequences of Speyer's g-polynomial of uniform matroids
James J. Y. Zhao

http://arxiv.org/abs/2409.08179
$SU(1,1) \times SU(2)$ approach and the Mandel parameter to the Hamiltonian of two oscillators with weak coupling
J. C. Vega, D. Ojeda-Guillén, R. D. Mota

http://arxiv.org/abs/2409.08992
Diffusion crossover from/to q-statistics to/from Boltzmann-Gibbs statistics in the classical inertial α-XY ferromagnet
Antonio Rodríguez, Constantino Tsallis

http://arxiv.org/abs/2409.09005
Dunkl and Cherednik operators
Oleg Chalykh

http://arxiv.org/abs/2409.09384
On the k-th Tjurina number of weighted homogeneous singularities
Chuangqiang Hu, Stephen S.-T. Yau, Huaiqing Zuo

http://arxiv.org/abs/2409.09632
High-Order Oscillation-Eliminating Hermite WENO Method for Hyperbolic Conservation Laws
Chuan Fan, Kailiang Wu

http://arxiv.org/abs/2409.10051
On zero-density estimates for Beurling zeta functions
Frederik Broucke

http://arxiv.org/abs/2409.10092
Hypertranscendence and q-difference equations over elliptic functionfields
Ehud de Shalit, Charlotte Hardouin, Julien Roques

http://arxiv.org/abs/2409.10513
KPZ equation from ASEP plus general speed-change drift
Kevin Yang

http://arxiv.org/abs/2409.10629
Approximation by Fourier sums on the classes of generalized Poisson integrals
Anatoly Serdyuk, Tetiana Stepaniuk

http://arxiv.org/abs/2409.10833
Best approximations for the weighted combination of the Cauchy–Szegő kernel and its derivative in the mean
Viktor V. Savchuk, Maryna V. Savchuk

http://arxiv.org/abs/2409.11029
New identities for the family of Zeta function by using distributional representations
Asghar Qadir, Aamina Jamshaid

http://arxiv.org/abs/2409.12653
Dunkl-Schrodinger Equation in Higher Dimension
B. Hamil, B. C. Lütfüoğlu, M. Merad

http://arxiv.org/abs/2409.12655
Dunkl-Klein-Gordon Equation in Higher Dimensions
B. Hamil, B. C. Lütfüoğlu, M. Merad

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Huajie Li

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Jean-Christophe Pain

Topic #6 ——— OP - SF Net 31.6 ——— November 15, 2024

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 spost@hawaii.edu.

Contributions to OP-SF NET 32.1 should be sent by January 1, 2025.

OP-SF NET is the electronic newsletter of the SIAM Activity Group on Special Functions and Orthogonal Polynomials (SIAG/OPSF). 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 OP-SF Talk which is currently managed and moderated by Howard Cohl (howard.cohl@nist.gov). Anyone wishing to be included in the mailing list (SIAG/OPSF members and non-members alike) should send an email expressing interest to him. Bonita Saunders also posts the Newsletter through SIAM Engage (SIAG/OPSF) which is received by all SIAG/OPSF members.

OP-SF Talk is a listserv associated with SIAG/OPSF which facilitates communication among members, non-members and friends of the Activity Group. To post an item to the listserv,
send e-mail to howard.cohl@nist.gov.

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 (2020–2022*) are:

Peter Alan Clarkson, Chair
Luc Vinet, Vice Chair
Andrei Martínez-Finkelshtein, Program Director
Teresa E. Pérez, Secretary and SIAM Engage (SIAG/OPSF) moderator

The appointed officers are:

Howard Cohl, OP-SF NET co-editor
Sarah Post, OP-SF NET co-editor
Bonita Saunders, Webmaster and SIAM Engage (SIAG/OPSF) moderator

*As of the date of the publication of OP-SF NET 31.6, the SIAG/OPSF elections have not yet occurred, but are expected to be scheduled relatively soon.

Topic #7 ——— OP – SF Net 31.6 ——— November 15, 2024

From: OP-SF Net Editors
Subject: Thought of the Month by **Askey**

"Part of the secret of success in studying and using special functions is to try to remember exactly what is necessary, and nothing more."

Richard Askey (1933–2019), *Orthogonal Polynomials and Special Functions*, Society for Industrial and Applied Mathematics, Philadelphia, 1975, p. 9.

Contributed by **Paul A. Martin**.