O P-S F N E T - Volume 32, Number 3 - May 15, 2025

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:

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/32/

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

July 28-August 1 , 2025
The Third Joint SIAM/CAIMS Annual Meetings (AN25)
Montréal, Québec, Canada
https://www.siam.org/conferences-events/siam-conferences/an25/

August 6–7, 2025

2nd International Conference on Mathematical Analysis and Applications (MAA 2025)
with Virtual / Online Presentations
National Institute of Technology Jamshedpur, Jamshedpur, India
https://maanitjsr.github.io/

August 19–22, 2025

Extremal Polynomials and Dynamical Systems
Carlsberg Academy, Copenhagen, Denmark
https://www.math.ku.dk/english/calendar/events/epds/

July 8–18, 2026

Foundations of Computational Mathematics (FoCM 2026), University of Vienna, Vienna, Austria
https://focm2026.univie.ac.at/

Workshop related to SIAG/OPSF:

July 9–11: **Special Functions and Orthogonal Polynomials**
Organizers: Daan Huybrechs, Erik Koelink and Teresa Pérez

August 17–21, 2026

18th International Symposium on Orthogonal Polynomials, Special Functions and Applications
Muromachi Campus, Doshisha University, Kyoto, Japan

Topic #1 ——— OP – SF Net 32.3 ——— May 15, 2025

From: Howard Cohl (howard.cohl@nist.gov, Arno Kuijlaars (arno.kuijlaars@kuleuven.be),
Peter Miller (millerpd@umich.edu), S. Ole Warnaar (o.warnaar@maths.uq.edu.au),
and Ae Ja Yee (yee@psu.edu)
Subject: Announcement: 2026 Gábor Szegő Prize Nominations have commenced

Dear members of the OPSF community,

We are happy to announce that the nomination period for the SIAM 2026 Gábor Szegő Prize has commenced and will be running from May 1 – October 15, 2025. The Gábor Szegő Prize, established in 2011, will be awarded at OPSFA–18 which will be held at Doshisha University, Kyoto, Japan on August 17–21, 2026. SIAG/OPSF awards the Gábor Szegő Prize to an early-career researcher for outstanding research contributions, as determined by the prize committee, in the area of orthogonal polynomials and special functions, as evidenced by publication in peer-reviewed journals.

By working with SIAM and the elected members of the SIAM Activity Group (SIAG) on Orthogonal Polynomials and Special Functions (OPSF) (Howard Cohl, Kerstin Jordaan and Thomas Trogdon), the Selection Committee for the Prize has been formed. For details about the Prize, see the following SIAM website: link.

In order to be eligible for the 2026 Gábor Szegő Prize, the candidate must have received their Ph.D. no earlier than January 1, 2016. The prize committee can make exceptions, if in their opinion the candidate is at an equivalent stage in their career. The candidate's work must contain significant research contributions in the area of orthogonal polynomials and special functions. One key paper must be cited as evidencing the contributions, though a body of papers may be discussed in the nomination. The qualifying key paper must have been published in English in a peer-reviewed journal.

Required Materials:

- Letter of nomination signed by two current members of the SIAG/OPSF
- Candidate's CV
- Bibliographic citation for candidate's key contributing paper

After the nomination period ends, the Selection Committee will start its selection process. The Gábor Szegő Prize winner will give a plenary talk at OPSFA-18.

If you think you know someone who would be a great fit for the 2026 Gábor Szegő Prize, please compose the required materials and send them to Howard Cohl: howard.cohl@nist.gov.

We are looking forward to your nominations!

Best regards, The Selection Committee,
Howard Cohl (NIST, Chair),
Arno Kuijlaars (KU Leuven),
Peter Miller (University of Michigan),
S. Ole Warnaar (University of Queensland),
Ae Ja Yee (The Penn State University).

Topic #2 ——— OP - SF Net 32.3 ——— May 15, 2025

From: Sourav Das (souravdas.math@nitjsr.ac.in)
Subject: Announcement: 2nd International Virtual Conference MAA 2025, Jamshedpur, India

The Department of Mathematics, National Institute of Technology Jamshedpur (NIT Jamshedpur) is proud to organize the 2nd International Conference on Mathematical Analysis and Applications (MAA 2025) with Virtual / Online Presentations during August 6-7, 2025. The aim of the conference MAA 2025 is to bring together mathematicians and researchers who work in the fields of Mathematical Analysis and its applications in various fields of science and engineering and to encourage collaboration and exchange of interdisciplinary ideas among the participants.

Topics to be Covered (but Not limited to) include: Approximation Theory; Complex Analysis and Potential Theory; Geometric / Univalent Function Theory; Operator Theory; Orthogonal Polynomials; Special Functions; Fourier & Wavelet Analysis; Control Theory & Fractional Calculus; Fixed Point Theory; Function Spaces; and Theory of Inequalities.

News and Updates:

- This Conference is Free of Charge. There is no Registration Fee for participating in MAA 2025.
- Abstract / Full Length Article must be typed in LaTeX Format, .doc format will not be entertained.
- To Submit Abstract / Full Length Article, click here.

Important Dates:

- Last date of Submission of Abstract: May 31, 2025.
- Last date of Submission of Full Paper: May 31, 2025.
- Notification of Acceptance of Abstract: June 30, 2025.
- Registration Opening Date: July 1, 2025.
- Last date of Registration: July 15, 2025.
- Conference Dates: August 6-7, 2025.

Conference website: https://maanitjsr.github.io/.

Topic #3 ——— OP - SF Net 32.3 ——— May 15, 2025

From: Howard Cohl (howard.cohl@nist.gov), Kerstin Jordaan (jordakh@unisa.ac.za)
and Tom Trogdon (trogdon@uw.edu)
Subject: Request for information regarding SIAM Journal on Mathematical Analysis

The elected officers of SIAG/OPSF have contacted the Publications Director at SIAM, Kimvars Bowling in order to attempt to remedy certain outstanding issues related to the publication of high quality OPSF papers in the SIAM Journal on Mathematical Analysis (SIMA). We indicated that one of the main items which has been limiting SIAG/OPSF membership, is the lack of SIAM journals where OPSF research mathematicians are able to publish. Previously, SIMA had a very strong presence in OPSF. In fact, the founding Managing Editor of SIMA was Frank W. J. Olver (1924–2013) who was a world renowned expert on special functions and the Editor-in-Chief for the DLMF project https://dlmf.nist.gov/ from its inception. Other notable experts on special functions and orthogonal polynomials who held editorial board membership at SIMA include Richard Askey, B. L. J. Braaksma, W. Gautchi, J. Korevaar, W. Miller, Jr. It seems to many in the OPSF community that SIMA has departed away from OPSF.

We inquired whether it might be possible to change the policy of SIMA to accept more OPSF publications; whether that be through policy changes or through the increase of strong OPSF mathematicians as members of the SIMA editorial board. See link for a list of the current editorial board. OPSF has a strong monthly presence at arXiv which one can see by looking at the Classical Analysis section under mathematics.

Kimvar then had discussions with Tammy Kolda (SIAM VP for Publications) and Pierre-Emmanuel Jabin (Editor-in-Chief of SIMA) to see whether SIMA would be willing to increase the editorial board membership of strong OPSF mathematicians. Pierre-Emmanuel mentioned that he has seen approximately 250 submissions to SIMA since starting as Editor-in-Chief in January, 2025, and of those, he was only able to identify one in the domain of OPSF. He said, there may be a few that he missed, but it is overall a very small number. He also mentioned that there are currently 2 editors on the board who have OPSF expertise (Tamara Grava and Peter Miller).

Kimvar explained that, moving forward, Pierre-Emmanuel will be keeping a special eye out for OPSF papers to get a good gauge on how many are submitted and whether the journal has sufficient expertise to handle them. He also indicated that if the SIAG/OPSF leadership would like to identify specific strong papers that have been published in other journals, that would be helpful in identifying potential gaps in the SIMA editorial board makeup.

To keep this line of communication open, we would like to seriously encourage members of the OPSF community to submit your strong papers to SIMA. Please let us know your experiences with this! If you are a past or present member of SIAM, or were previously an elected or appointed member of SIAM or SIAG/OPSF, or if you are anyone who would like to take part in our attempt to increase OPSF publications in SIMA, would you be willing to supply such information to us? We would be greatly appreciative.

Topic #4 ——— OP - SF Net 32.3 ——— May 15, 2025

From: OP-SF Net Editors
Subject: Remembrance of **Harry Coonce** (1938–2025): Founder of the Mathematics Genealogy Project

Harry Bernard Coonce, born on March 19, 1938, the founder of the Mathematics Genealogy Project, passed away at the age of 86 on February 14, 2025. Dr. Coonce earned his PhD from the University of Delaware in 1969 under the direction of Malcolm Robertson. His dissertation was entitled “A Variational

Figure 1: Harry B. Coonce.

Method for Functions of Bounded Boundary Rotation". His career included stops teaching at the United States Naval Academy and the University of Kentucky before finding his long-term home in Mankato, Minnesota, at what is now Minnesota State University, Mankato. Dr. Coonce's vehicle showed off his love of complex analysis for many years, bearing the license plate EXP IPI, which he regularly claimed was the only license plate in Minnesota with a negative number on it.

In the early 1990's, Dr. Coonce realized that he had no idea who his PhD advisor's advisor was. Dr. Robertson had passed, so Dr. Coonce began a quest to answer this question. Gregarious by nature, Dr. Coonce shared his progress with every new friend he made at conferences, which led to the idea of creating some sort of central repository of doctoral advising relationships for mathematicians. The web was in its early stages of open usage, and Dr. Coonce's wife Susan Schilling was a professor of computer science. Together, they conceived of a website for what mathematicians around the world now know as the Mathematics Genealogy Project (MGP). The MGP launched its public site in 1997. Dr. Coonce retired from his faculty position in 1999, but continued to spread the word about his project by traveling to conferences. A great lover of trains and road trips, Dr. Coonce often took Amtrak to attend the Joint Mathematics Meetings and would drive to regional meetings on county roads or state highways even when interstates and US highways were available for his journey.

Dr. Coonce collected some of the initial MGP data through elbow grease: he checked out dissertations from the University of Texas library while visiting his son Zac in Austin and spent time at MSRI to transcribe the data for mathematics PhDs awarded by the University of California, Berkeley from index cards into the database. He initially thought it would be an accomplishment if the MGP had information on 10,000 mathematicians. By the time the project moved its home base from Mankato to North Dakota State University in 2002, the project was approaching 60,000 individuals.

As his health declined, Dr. Coonce retired from the MGP in 2009. He was succeeded as Managing Director by Mitch Keller, who started with the MGP in 2002 as the Technical Director while an undergraduate student. At the time of Dr. Coonce's passing, the widely respected project he created had information on over 320,000 individuals in the mathematical sciences.

Mitch Keller (mitch.keller@wisc.edu)
Associate Director of Undergraduate Studies and Honors Coordinator,
University of Wisconsin–Madison, Madison, Wisconsin

[You can read more about the history of the very popular MGP in this 2017 article in Notices of the AMS.]

Topic #5 ——— OP – SF Net 32.3 ——— May 15, 2025

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 March and April 2025. This list has been separated into two categories.

OP–SF Net Subscriber E–Prints

http://arxiv.org/abs/2501.07659
An L_p norm inequality related to extremal polynomials
Abdelhamid Rehouma, Herry Pripawanto Suryawan

http://arxiv.org/abs/2502.12229
Analytic Versus Algebraic Density of Polynomials
Christian Berg, Brian Simanek, Richard Wellman

http://arxiv.org/abs/2503.01231
Change of basis for the tridiagonal pairs of type II
Nicolas Crampé, Julien Gaboriaud, Satoshi Tsujimoto

http://arxiv.org/abs/2503.02306
Airy Phase Functions
Richard Chow, James Bremer

http://arxiv.org/abs/2503.03490
On the construction of polynomial Poisson algebras: a novel grading approach
Rutwig Campoamor–Stursberg, Danilo Latini, Ian Marquette, Junze Zhang, Yao–Zhong Zhang

http://arxiv.org/abs/2503.06326
Finding all solutions of qKZ equations in characteristic p
Evgeny Mukhin, Alexander Varchenko

http://arxiv.org/abs/2503.11912
The Degenerate Third Painlevé Equation: Complete Asymptotic Classification of Solutions in the Neighbourhood of the Regular Singular Point
A. V. Kitaev, A. Vartanian

http://arxiv.org/abs/2503.14436
Special solutions of a discrete Painlevé equation for quantum minimal surfaces
Peter A. Clarkson, Anton Dzhamay, Andrew N. W. Hone, Ben Mitchell

http://arxiv.org/abs/2503.14930
Hermite numbers and new families of polynomials
Giuseppe Dattoli, Subuhi Khan, Ujair Ahmad

http://arxiv.org/abs/2503.15122
Zeros of Multiple Orthogonal Polynomials: Location and Interlacing
Rostyslav Kozhan, Marcus Vaktnäs

http://arxiv.org/abs/2503.15732
Orthogonal polynomials in the spherical ensemble with two insertions
Sung-Soo Byun, Peter J. Forrester, Sampad Lahiry

http://arxiv.org/abs/2503.15735
Asymptotics and zeros of a special family of Jacobi polynomials
John Lopez Santander, Kenneth D. T-R McLaughlin, Victor H. Moll

http://arxiv.org/abs/2503.18057
Q-operators for the Ruijsenaars model
Eric Rains, Hjalmar Rosengren

http://arxiv.org/abs/2503.20567
On computing the zeros of a class of Sobolev orthogonal polynomials
Nicola Mastronardi, Marc Van Barel, Raf Vandebril, Paul Van Dooren

http://arxiv.org/abs/2503.23770
A new index transform with the square of Whittaker's function
Semyon Yakubovich

http://arxiv.org/abs/2504.01975
Fast formulas for the Hurwitz values $\zeta(2,a)$ and $\zeta(3,a)$
Jesús Guillera

http://arxiv.org/abs/2504.04933
Deformation of the Heisenberg-Weyl algebra and the Lie superalgebra $\mathfrak{osp}(1|2)$: exact solution for the quantum harmonic oscillator with a position-dependent mass
E. I. Jafarov, S. M. Nagiyev, J. Van der Jeugt

http://arxiv.org/abs/2504.07142
On generalized Lambert function
Alexander Kreinin, Andrey Marchenko, Vladimir Vinogradov

http://arxiv.org/abs/2504.08522
Symmetric Sextic Freud Weight
Peter A. Clarkson, Kerstin Jordaan, Ana Loureiro

http://arxiv.org/abs/2504.09735
Multivariate Askey-Wilson functions and overlap coefficients
Wolter Groenevelt

http://arxiv.org/abs/2504.13066
Some spherical function values for two-row tableaux and Young subgroups with three factors
Charles F. Dunkl

http://arxiv.org/abs/2504.15161
A few identities and integrals which involve Pochhammer symbols, the Jacobi polynomials and the hypergeometric function
Paweł J. Szabłowski

http://arxiv.org/abs/2504.16187
The (noncommutative) geometry of difference equations
Eric M. Rains

http://arxiv.org/abs/2504.16478
Block Jacobi matrices and Titchmarsh-Weyl function
Marcin Moszyński, Grzegorz Świderski

http://arxiv.org/abs/2504.17042
The q^{Volume} lozenge tiling model via non-Hermitian orthogonal polynomials
Ahmad Barhoumi, Maurice Duits

http://arxiv.org/abs/2504.17737
Modularity of tadpole Nahm sums in ranks 4 and 5
Changsong Shi, Liuquan Wang

http://arxiv.org/abs/2504.18060
Arborescent links and modular tails
Robert Osburn, Matthias Storzer

http://arxiv.org/abs/2504.19405
Asymptotic expansions for Legendre functions via differential equations having coalescing turning points
T. M. Dunster

http://arxiv.org/abs/2504.20802
Contiguity relations for finite families of orthogonal polynomials in the Askey scheme
Nicolas Crampé, Lucia Morey, Luc Vinet, Meri Zaimi

http://arxiv.org/abs/2504.21782
Transformations and summations for bilateral basic hypergeometric series
Howard S. Cohl, Michael J. Schlosser

Other Relevant OP-SF E-Prints

http://arxiv.org/abs/2503.00004
Congruences modulo arbitrary powers of 5 and 7 for Andrews and Paule's partition diamonds with $(n+1)$ copies of n
Julia Q. D. Du, Olivia X. M. Yao

http://arxiv.org/abs/2503.00173
Continous linear canonical Dunkl wavelet transform: properties and applications
Ahmed Saoudi, Imen Kallel

http://arxiv.org/abs/2503.00311
Solution of Uncertain Multiobjective Optimization Problems by Using Nonlinear Conjugate Gradient Method
Shubham Kumar, Nihar Kumar Mahato, Debdas Ghosh

http://arxiv.org/abs/2503.00582
Interference and Bell States in q-deformed Quantum Oscillator a Wigner Function Perspective
Efe Türbedar, Ferhat Nutku

http://arxiv.org/abs/2503.00766
q-deformation of random partitions, determinantal structure, and Riemann-Hilbert problem
Taro Kimura

http://arxiv.org/abs/2503.00959
Formalizing zeta and L-functions in Lean
David Loeffler, Michael Stoll

http://arxiv.org/abs/2503.01196
On a hyperbolic Duffing oscillator with linear damping and periodic forcing
Alain M. Dikandé

http://arxiv.org/abs/2503.02005
A formula for the number of up-down words
Sela Fried

http://arxiv.org/abs/2503.02417
Linear Instability of the Prandtl Equations via Hypergeometric Functions and the Harmonic Oscillator
Francesco De Anna, Joshua Kortum

http://arxiv.org/abs/2503.03351
Shuffle product for multiple zeta functions
Nao Komiyama, Takeshi Shinohara

http://arxiv.org/abs/2503.03425
Persistence probabilities of spherical fractional Brownian motion
Frank Aurzada, Max Helmer

http://arxiv.org/abs/2503.03554
A positive product formula of integral kernels of k-Hankel transforms
Wentao Teng

http://arxiv.org/abs/2503.03952
Deformed Schur indices and Macdonald polynomials
Yasuyuki Hatsuda

http://arxiv.org/abs/2503.04663
Three-dimensional Riordan arrays and bivariate Laguerre polynomials
Nikolai A. Krylov

http://arxiv.org/abs/2503.04950
Monomial stability of Frobenius images
Nikita Borisov

http://arxiv.org/abs/2503.04964
Characterizations of H^1 and Fefferman-Stein decompositions of BMO functions by systems of singular integrals in the Dunkl setting
Jacek Dziubański, Agnieszka Hejna

http://arxiv.org/abs/2503.05269
Upper and lower bounds on moments of quadratic character sums and theta functions
Marc Munsch

http://arxiv.org/abs/2503.05282
Local time-integration for Friedrichs' systems
Marlis Hochbruck, Malik Scheifinger

http://arxiv.org/abs/2503.05752
Modified Hermite Radial Basis Functions
Amirhossein Fashamiha, David Salac

http://arxiv.org/abs/2503.06013
A new non-autonomous version of Hirota's discrete KdV equation and its discrete Painlevé transcendent solutions
Nobutaka Nakazono

http://arxiv.org/abs/2503.07625
A Formal Proof of the Irrationality of $\zeta(3)$ in Lean 4
Junqi Liu, Jujian Zhang, Lihong Zhi

http://arxiv.org/abs/2503.07696
Level curves for Zhang's Eta Function
Jeffrey Stopple

http://arxiv.org/abs/2503.07793
On the largest prime divisor of polynomial and related problem
Thanh Nguyen Cung, Son Duong Hong

http://arxiv.org/abs/2503.08169
Fast and stable computation of highly oscillatory and/or exponentially decaying integrals using a Clenshaw-Curtis product-integration rule
Victor Dominguez

http://arxiv.org/abs/2503.08265
Extension of continuous functions on product spaces, Bohr Compactification and Almost Periodic Functions
Salvador Hernández

http://arxiv.org/abs/2503.09240
Vertex models for the product of a permuted-basement Demazure atom and a Schur polynomial
Timothy C. Miller

http://arxiv.org/abs/2503.09644
A Majorana Relativistic Quantum Spectral Approach to the Riemann Hypothesis in $(1+1)$-Dimensional Rindler Spacetimes
Fabrizio Tamburini

http://arxiv.org/abs/2503.10243
Composition structure of polyconvolution associated with index Kontorovich-Lebedev transform and Fourier integrals
Trinh Tuan

http://arxiv.org/abs/2503.10355
On zeros of polynomials associated with Heun class equations
Mizuki Mori, Kouichi Takemura

http://arxiv.org/abs/2503.11445
Quadratic Forms, Exact Covering Systems, and Product Identities for Theta Functions
Zhu Cao

http://arxiv.org/abs/2503.11670
Vanishing coefficient results in four families of infinite q-products
S. Ananya, Channabasavayya, D. Ranganatha, R. G. Veeresha

http://arxiv.org/abs/2503.11671
Further Generalization of Ramanujan Sums with Regular A-Functions
Udvas Acharjee, N. Uday Kiran

http://arxiv.org/abs/2503.11693
Electric potentials and field lines for uniformly-charged tube and cylinder expressed by Appell's hypergeometric function and integration of $Z(u|m)\mathrm{sc}(u|m)$
Daisuke A. Takahashi

http://arxiv.org/abs/2503.12027
Two identities involving Cohen-Ramanujan expansions
Arya Chandran, K. Vishnu Namboothiri

http://arxiv.org/abs/2503.12290
Resurgence of Tritronquées Solutions of the Deformed Painlevé I Equation
Mohamad Alameddine, Olivier Marchal, Nikita Nikolaev, Nicolas Orantin

http://arxiv.org/abs/2503.12529
Explicit construction of matrix-valued orthogonal polynomials of arbitrary sizes
Ignacio Bono Parisi

http://arxiv.org/abs/2503.12644
Asymptotic Expansions of Gaussian and Laguerre Ensembles at the Soft Edge II: Level Densities
Folkmar Bornemann

http://arxiv.org/abs/2503.12696
Confluent Darboux transformations and Wronskians for algebraic solutions of the Painlevé III (D_7) equation
J. W. E. Harrow, A. N. W. Hone

http://arxiv.org/abs/2503.14850
Schur multiple zeta-functions of Hurwitz type
Kohji Matsumoto, Maki Nakasuji

http://arxiv.org/abs/2503.15076
Kink breathers on a traveling wave background in the defocusing modified Korteweg-de Vries equation
Lynnyngs Kelly Arruda, Dmitry E. Pelinovsky

http://arxiv.org/abs/2503.15131
Zeros of orthogonal polynomials and some matrix inequalities
Carmen Escribano, Raquel Gonzalo

http://arxiv.org/abs/2503.15428
Division polynomials for arbitrary isogenies
Katherine E. Stange

http://arxiv.org/abs/2503.15440
Counting the number of elements in the nilradical of a parabolic subalgebra of $\mathfrak{gl}_n(\mathbb{F}_q)$ with a specified Jordan form
Mohammad Bardestani, Keivan Mallahi-Karai, Hadi Salmasian

http://arxiv.org/abs/2503.15832
The positivity technique and low-lying zeros of Dirichlet L-functions
Tianyu Zhao

http://arxiv.org/abs/2503.16641
Type C K-Stanley symmetric functions and Kraśkiewicz-Hecke insertion
Joshua Arroyo, Zachary Hamaker, Graham Hawkes, Jianping Pan

http://arxiv.org/abs/2503.17532
Modeling of stochastic processes in $L_p(T)$ using orthogonal polynomials
Oleksandr Mokliachuk

http://arxiv.org/abs/2503.17832
Multiple orthogonal polynomial ensembles of derivative type
Thomas Wolfs

http://arxiv.org/abs/2503.17858
Bessel Functions on $GL(n)$, II - The case $n = 4$
Jack Buttcane

http://arxiv.org/abs/2503.18268
A proof of the multi-component q-Baker-Forrester conjecture
Yue Zhou

http://arxiv.org/abs/2503.18310
The probability of almost all eigenvalues being real for the elliptic real Ginibre ensemble
Gernot Akemann, Sung-Soo Byun, Yong-Woo Lee

http://arxiv.org/abs/2503.20345
Zeros of E-functions and of exponential polynomials defined over $\overline{\mathbb{Q}}$
Stéphane Fischler, Tanguy Rivoal

http://arxiv.org/abs/2503.21151
Hilbert-Kamke equations and geometric designs of degree five for classical orthogonal polynomials
Teruyuki Mishima, Xiao-Nan Lu, Masanori Sawa, Yukihiro Uchida

http://arxiv.org/abs/2503.21568
On the conductor of a family of Frey hyperelliptic curves
Pedro-José Cazorla García, Lucas Villagra Torcomian

http://arxiv.org/abs/2503.21656
Logging the conformal life of Ramanujan's π
Faizan Bhat, Aninda Sinha

http://arxiv.org/abs/2503.21762
On the open TS/ST correspondence
Matijn François, Alba Grassi

http://arxiv.org/abs/2503.22198
Note on the Singularity Reduction of Isomonodromy Systems Associated with Garnier Systems
Kohei Iwaki, Seiya Kato, Shotaro Sakurai

http://arxiv.org/abs/2503.22488
Beta Polytopes and Beta Cones: An Exactly Solvable Model in Geometric Probability
Zakhar Kabluchko, David Albert Steigenberger

http://arxiv.org/abs/2503.22702
A new family of q-Bernstein polynomials: Probabilistic viewpoint
Ayse Karagenc, Mehmet Acikgoz, Serkan Araci

http://arxiv.org/abs/2503.22770
Summability of Elliptic Functions via Residues
Matthew Babbitt

http://arxiv.org/abs/2503.22833
A 3×3 singular solution to the Matrix Bochner Problem with non-polynomial algebra $\mathcal{D}(W)$
Ignacio Bono Parisi

http://arxiv.org/abs/2503.22907
The alien in the Riemann zeta function
William D. Banks

http://arxiv.org/abs/2503.23286
Diophantine approximation of multiple zeta-star values
Jiangtao Li

http://arxiv.org/abs/2503.24275
Davenport-Heilbronn Function Ratio Properties and Non-Trivial Zeros Study
Tao Liu, Juhao Wu

http://arxiv.org/abs/2504.02022
Twisted Baker-Akhiezer function from determinants
A. Mironov, A. Morozov, A. Popolitov

http://arxiv.org/abs/2504.02225
Twisted second moment of modular L-functions to a fixed modulus
Peng Gao, Liangyi Zhao

http://arxiv.org/abs/2504.02315
On GL_3 Fourier coefficients over values of mixed powers
Yanxue Yu

http://arxiv.org/abs/2504.02576
Derivation of the Landau-Zener formula via functional equations
Chen Sun

http://arxiv.org/abs/2504.04521
An affirmative answer to an open problem on Ramanujan's asymptotic formula of zero-balanced hypergeometric function
Miao-kun Wang, Zhen-hang Yang, Tie-hong Zhao

http://arxiv.org/abs/2504.04845
Open problems UP24
Maryna Manskova

http://arxiv.org/abs/2504.05337
Homogeneous linear recurrence relations of the determinants of distance matrices of trees
Zhiqi Liu, Hui Zhou

http://arxiv.org/abs/2504.05737
Developing a novel hybrid family associated with hypergeometric functions through umbral techniques
Subuhi Khan, Ujair Ahmad, Mehnaz Haneef

http://arxiv.org/abs/2504.06197
Orthogonal polynomials with complex densities and quantum minimal surfaces
Giovanni Felder, Jens Hoppe

http://arxiv.org/abs/2504.06936
On Macdonald expansions of q-chromatic symmetric functions and the Stanley-Stembridge Conjecture
Sean T. Griffin, Anton Mellit, Marino Romero, Kevin Weigl, Joshua Jeishing Wen

http://arxiv.org/abs/2504.07204
Rounding the Lovász Theta Function with a Value Function Approximation
Rui Gong, Diego Cifuentes, Alejandro Toriello

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Interesting Deformed q-Series Involving The Central Fibonomial Coefficient
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Fatma Çiçek, Steven M. Gonek, Scott J. Kirila

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Hyun Kyu Kim, Thang T. Q. Lê, Zhihao Wang

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Jia-Fu Tong, Shou-Fu Tian

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Christopher Deninger

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Chebyshev polynomials and Gram determinants from the Möbius band
Anthony Christiana, Dionne Ibarra, Gabriel Montoya-Vega

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Relations between multiple zeta values and delta values from Drinfeld's associator series
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Long-time asymptotics of the Sawada-Kotera equation on the line
Deng-Shan Wang, Xiaodong Zhu

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UNILoc: Unified Localization Combining Model-Based Geometry and Unsupervised Learning
Yuhao Zhang, Guangjin Pan, Musa Furkan Keskin, Ossi Kaltiokallio, Mikko Valkama, Henk Wymeersch

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The Igusa Zeta function of restricted power series over $\mathbb{Q}_p$
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Gökalp Alpan, Turgay Bayraktar, Norm Levenberg

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Nurgül Gökgöz

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Shi-Hao Li, Satoshi Tsujimoto, Ryoto Watanabe, Guo-Fu Yu

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Igor M. Braver

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Samuel Grushevsky, Yuancheng Xie

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Computing change of level and isogenies between abelian varieties
Antoine Dequay, David Lubicz

http://arxiv.org/abs/2504.21439
Further results on arithmetic properties of biregular overpartitions
Suparno Ghoshal, Arijit Jana

Topic #6 ——— OP - SF Net 32.3 ——— May 15, 2025

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 32.4 should be sent by July 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 (2025-2027) are:
Howard Cohl, Chair
Kerstin Jordaan, Program Director
Tom Trogdon, Secretary

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

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

"The underlying theme of this monograph is that the fundamental simplicity of the properties of orthogonal functions and the developments in series associated with them not only commends them to the attention of the student of pure mathematics, but also renders them inevitably important in the analysis of natural phenomena which lend themselves to mathematical description.

It is the essence of mathematics that it concerns itself with those relations which lie so deep in the nature of things that they recur in the most varied situations. This is particularly true, of course, of the rudimentary notions of arithmetic and geometry which have forced themselves on the attention of mankind since the earliest beginnings of thought. But with the advance of science and the accompanying extension of the range of phenomena subjected to quantitative discussion, more highly organized groups of concepts, gradually simplified by reduction to their essentials, have come to manifest themselves with similar persistence."

Dunham Jackson, *Fourier Series and Orthogonal Polynomials*, The Mathematical Association of America, Buffalo, NY, 1941.