O P-S F N E T - Volume 32, Number 6 - November 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:

January 19-23, 2026
Biennial Meeting of Real Sociedad Matemática Española (RSME),
Universidad de Alicante, San Vicente del Raspeig, Spain
https://2026.bienalrsme.com

Special Session related to SIAG/OPSF:

January 19-20: **Special Session on Orthogonal Polynomials and Special Functions. Theory and Applications**
Organizers: Francisco Marcellán (Universidad Carlos III de Madrid) and Juan José Moreno Balcázar (Universidad de Almería)

June 15-19, 2026
Orthogonal Polynomials, Special Functions and their Applications Summer School (OPSF-S11),
Universidad de Alcalá, Alcalá, Spain,
https://opsfa2026.web.uah.es

June 22-26, 2026
OPERA 2026 – Orthogonal Polynomials, Exponential Analysis, Rational Approximation, with Applications,
University of Stirling, Scotland, UK
https://www.opera2026.uk/

July 6- 10, 2026

2026 SIAM Annual Meeting (AN26), Cleveland, Ohio, USA,
https://www.siam.org/conferences-events/siam-conferences/an26/

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 (KU Leuven), Erik Koelink (Radboud Universiteit)
and Teresa Pérez (Universidad de Granada)

August 17-21, 2026

18th International Symposium on Orthogonal Polynomials, Special Functions and Applications
Muromachi Campus, Doshisha University, Kyoto, Japan
https://opsfa18.com/

Topic #1 ——— OP - SF Net 32.6 ——— November 15, 2025

From: Tom Trogdon (trogdon@uw.edu), Howard Cohl (howard.cohl@nist.gov), and
Kerstin Jordaan (jordakh@unisa.ac.za)
Subject: Announcement: Call for minisymposium proposals for OPSF track at SIAM AN26

The SIAM Activity Group on Orthogonal Polynomials and Special Functions (SIAG/OPSF) will be having a track of at least six minisymposia at the 2026 SIAM Annual Meeting (AN26) in Cleveland, Ohio, July 6-10, 2026. The current elected officers of the SIAG/OPSF invite you to submit a proposal on the topic related to orthogonal polynomials and special functions for a minisymposium to be held at AN26. These minisymposia will showcase outstanding research in orthogonal polynomials, special functions, and their diverse applications across mathematics and the sciences. Approved minisymposia will appear as part of an OPSF-sponsored track of minisymposia at AN26.

A minisymposium generally consists of four 25-minute presentations, with an additional five minutes for discussion after each presentation. To ensure balance, SIAM prefers a single individual not be the organizer or co-organizer of more than one minisymposium, however, organizers can submit up to three (3) parts per minisymposium, allowing up to twelve (12) speakers. In addition, SIAM discourages minisymposia in which most of the speakers or co-authors come from the same institution. A minisymposium comprised of multiple parts will be counted as a single minisymposium.

SIAM also requests speakers submit only one oral presentation, either a minisymposium presentation or contributed lecture. Minisymposium session organizers and individual speakers are equally responsible for ensuring participants adhere to the one talk per person rule. SIAM requires minisymposium organizers propose sessions with a minimum of three (3) confirmed speakers by the minisymposium submission deadline.

It is recommended the first speaker provide an overview of the topic area. Each minisymposium speaker should submit an abstract no longer than 1,500 characters, including spaces. The organizing committee will referee minisymposium proposals. The number of minisymposia may be limited to retain an acceptable level of parallelism in sessions (please see Guidelines for Preparing a Minisymposium Proposal).

Submission Guidelines

Proposal Requirements

Mini symposium proposals should include the following information:

1. **Title:** A concise, descriptive title for the minisymposium.
2. **Organizer(s):** Names, affiliations, and contact information for all organizers (1–3 organizers recommended).
3. **Summary:** A brief description of the minisymposium theme, its significance, and its relevance to the orthogonal polynomials and special functions community.
4. **Speaker List:** Names and affiliations of confirmed or potential speakers, along with tentative talk titles.

Important Dates

- **Submission Deadline:** January 26, 2026 (11:59 p.m. Eastern Time)
- **Speaker Abstract Submission Deadline:** February 16, 2026 (11:59 p.m. Eastern Time)
- **Notification of Acceptance:** April 2026.
- **Conference Dates:** July 6–10, 2026.

Submission Process

Please submit your minisymposium proposal through the SIAM Annual Meeting submission portal using the SIAM Conference Management System (CMS). If you are interested in submitting a proposal then please send an email expressing your interest to us so that we can keep track of these.

Topics of Interest

We welcome proposals on all areas related to orthogonal polynomials and special functions, including but not limited to:

Theory and Foundations

- Classical orthogonal polynomials (Jacobi, Laguerre, Hermite, etc.)
- Orthogonal polynomials on the unit circle
- Multiple orthogonal polynomials
- q–series and basic hypergeometric functions
- Hypergeometric functions and generalizations
- Special functions of mathematical physics
- Painlevé equations and transcendents
- Asymptotic analysis

Approximation and Analysis

- Approximation theory
- Moment problems
- Continued fractions
- Padé approximation
- Rational approximation
- Quadrature and cubature formulas
- Interpolation theory

Computational Aspects

- Numerical computation of special functions
- Software for special functions
- High-precision arithmetic
- Symbolic computation
- Algorithm development

Applications in Mathematics

- Harmonic analysis
- Representation theory
- Random matrix theory
- Integrable systems
- Combinatorics and discrete mathematics
- Number theory

Applications in Sciences

- Mathematical physics and quantum mechanics
- Statistical mechanics
- Probability theory and stochastic processes
- Signal processing
- Coding theory and information theory
- Mathematical biology
- Data analysis and machine learning

Emerging and Interdisciplinary Areas

- Connection to modern analysis and operator theory
- Applications in computational science
- Special functions in numerical PDEs
- Orthogonal polynomials in data science
- Quantum information and computation

Signed, elected officers of the SIAG/OPSF Activity Group (2025–2027):

Howard Cohl, Chair (howard.cohl@nist.gov)
Kerstin Jordaan, Program Director (jordakh@unisa.ac.za)
Tom Trogdon, Secretary (trogdon@uw.edu)

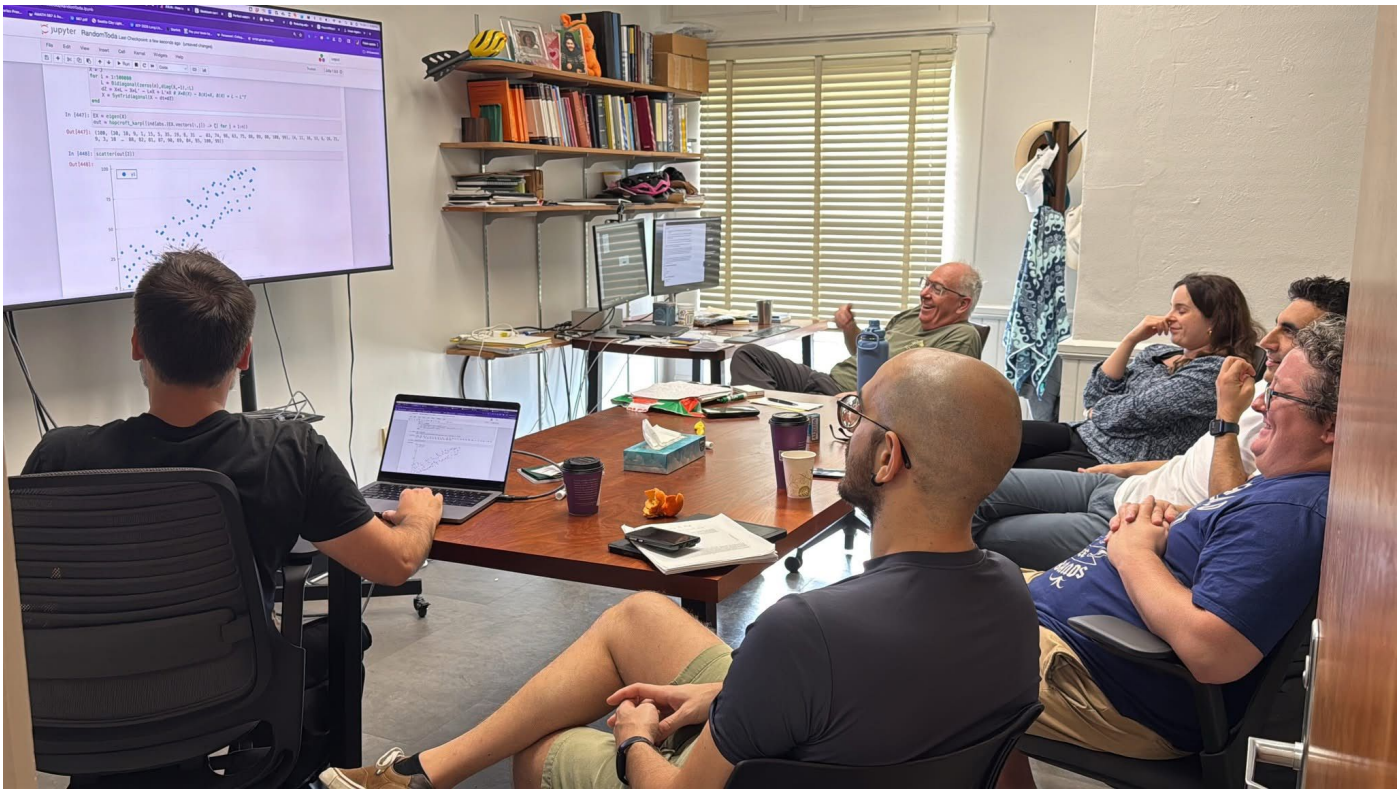

Figure 1: Participants of the two sessions engaged in discussions at Tulane University. From left-to-right around the table: Tom Trogdon, Guido Mazzuca, Robert Jenkins, Deniz Bilman, Aikaterini Gkogkou, Kenneth McLaughlin.

Topic #2 ——— OP - SF Net 32.6 ——— November 15, 2025

From: Aikaterini Gkogkou (agkogkou@tulane.edu)
Subject: Report: Special Session on “Integrability and Orthogonality” by **Gkogkou**

Special Session on Integrability and Orthogonality at the 2025 AMS Fall Southeastern Sectional Meeting at Tulane University

The 2025 AMS Fall Southeastern Sectional Meeting, held at Tulane University from October 3 to 5, featured numerous special sessions. Below are summaries of two that featured advances in integrable systems and orthogonal polynomials.

The special session *Integrability and Randomness* brought together researchers at the interface of integrable systems, nonlinear PDEs, probability, and mathematical physics. Talks highlighted emerging topics such as soliton gases, generalized hydrodynamics, and macroscopic fluctuation theory, presenting new analytical and probabilistic approaches within these interconnected areas. The session included plenary presentations by Barbara Prinari and Mark Hoefer, along with contributed talks by Deniz Bilman, Robert Jenkins, Thomas Trogdon, Joceline Lega, Nicholas Ercolani, Peter Miller, Gino Biondini, Alexander Tovbis, Kaitlynn Lilly, Cade Bellew, Nicholas Ossi, and Giorgio Cipolloni.

The special session *Orthogonal Polynomials and Special Functions: Asymptotics and Applications* highlighted recent advances in asymptotic theory and applications of orthogonal polynomials. Speakers included Thomas Trogdon, Moises Gomez Solis, Brian Simanek, Maxim Zinchenko, Alexander Tovbis, Aikaterini Gkogkou, Abey Lopez-Garcia, Maxim L. Yattselev, Seung-Yeop Lee, Andrei Prokhorov, and Andrei Martinez Finkelshtein.

Both sessions were exceptionally well attended and marked by enthusiastic participation and exchanges of ideas. The organizers were very pleased to see such an engagement and look forward to fostering similar initiatives in future meetings.

Beyond the talks, participants gathered informally at Tulane University for mathematical discussions. A group photo from one of these exchanges (courtesy of Prof. Kenneth McLaughlin, Tulane University) captures this collaborative spirit.

Topic #3 ——— OP - SF Net 32.6 ——— November 15, 2025

From: Kristina VanDusen (Kristina.vandusen@selu.edu) and Zachary Bradshaw (zbradshaw@tulane.edu)
Subject: Report: Special Session on "Advances in Integration Methods" by **VanDusen** and **Bradshaw**

A special session on the topic "Advances in Integration Methods" was organized by Kristina VanDusen (Southeastern Louisiana University) and Zachary P. Bradshaw (QodeX Quantum) and held at the 2025 Fall Southeastern Sectional Meeting of the AMS. The conference was held at Tulane University, October 3–5, 2025.

This special session focused on methods of integration. Several speakers presented work related to Ramanujan's Master Theorem and its variations; in particular, the Method of Brackets, which is used to evaluate integrals arising from Feynman diagrams and has lately been extended to the evaluation of definite integrals. Other talks focused on the evaluation of an Ismail–Valent integral and some interesting relationships between power series and iterated integrals.

Session 1:

- Karl Dilcher (Dalhousie University): "Using integration to obtain infinite classes of series involving central binomial coefficients"

Session 2:

- Zachary P. Bradshaw (QodeX Quantum): "A Generalized Ramanujan Master Theorem and Integral Representation of Meromorphic Functions"
- Kristina VanDusen (Southeastern Louisiana University): "Evaluation of Divergent Integrals."
- Alexey Kuznetsov (York University): "A direct evaluation of an integral of Ismail and Valent"
- Victor Hugo Moll–Becker (Tulane University): "A method of integration originating from Feynman diagrams"

Topic #4 ——— OP - SF Net 32.6 ——— November 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 September and October 2025. This list has been separated into two categories.

OP-SF Net Subscriber E-Prints

http://arxiv.org/abs/2509.00532
An easy proof of Ramanujan's famous congruences $p(5m+4) \equiv 0 \equiv \tau(5m+5) \pmod 5$
Hartosh Singh Bal, Gaurav Bhatnagar

http://arxiv.org/abs/2509.01761
Matrix-Valued Orthogonal Polynomials Related to a Class of Random Walk
Pablo Román, Silvia Menchón, Y. Yin

http://arxiv.org/abs/2509.01780
The joy of multisection: elementary approaches to Ramanujan's lacunary identities for Bernoulli numbers
Parth Chavan, Christophe Vignat

http://arxiv.org/abs/2509.02985
Jacquet-Langlands correspondence for non-Eichler orders
Fang-Ting Tu, Yifan Yang

http://arxiv.org/abs/2509.03178
A novel advancement in the study of Appell polynomials via Padè rational approximants
Giuseppe Dattoli, Subuhi Khan, Ujair Ahmad

http://arxiv.org/abs/2509.03235
Exactly solvable Schrödinger operators related to the hypergeometric equation
Jan Dereziński, Pedram Karimi

http://arxiv.org/abs/2509.04158
The bispectral problem, the Darboux process, monodromy and the Hermite operator
M. M. Castro, F. Alberto Grünbaum

http://arxiv.org/abs/2509.04881
Some power series extensions of Fibonacci and Lucas polynomials
Johann Cigler

http://arxiv.org/abs/2509.05308
The Tautochrone of Huygens and Abel: From Constructive Geometry to Fractional Calculus
Luiz Roberto Evangelista, Francesco Mainardi

http://arxiv.org/abs/2509.05664
Asymptotic analysis of the normal inverse Gaussian cumulative distribution
Nico M. Temme

http://arxiv.org/abs/2509.05897
q-analogues of π-formulas due to Ramanujan and Guillera
John M. Campbell

http://arxiv.org/abs/2509.07148
On algebras of conjugacy classes of symmetric groups with respect to Young subgroups
Yury A. Neretin

http://arxiv.org/abs/2509.07205
On Sesquilinear Forms for Lower Semibounded (Singular) Sturm-Liouville Operators
Jussi Behrndt, Fritz Gesztesy, Seppo Hassi, Roger Nichols, Henk de Snoo

http://arxiv.org/abs/2509.07949
Algebraic interpretation of the two-variable Jacobi polynomials on the triangle: the pentagonal way
Nicolas Crampé, Quentin Labriet, Lucia Morey, Satoshi Tsujimoto, Luc Vinet, Alexei Zhedanov

http://arxiv.org/abs/2509.11408
The r-matrix structure on the moduli space of framed Higgs pairs
Marco Bertola

http://arxiv.org/abs/2509.12345
A Riemann-Hilbert Approach to Asymptotic Analysis of Toeplitz+Hankel Determinants II
Roozbeh Gharakhloo, Alexander Its

http://arxiv.org/abs/2509.12561
Proof of a conjecture of Garvan and Jennings-Shaffer on the nonnegativity of $M_{C1}(m,n)$ and $M_{C5}(m,n)$
Bing He, Shuming Liu

http://arxiv.org/abs/2509.13897
Generalized f-Eulerian polynomials: zeros and hypergeometric representations with applications
Dmitrii Karp, Anna Vishnyakova

http://arxiv.org/abs/2509.15446
On the pair correlation function of the Sine$_\beta$ process
Yahui Qu, Benedek Valkó

http://arxiv.org/abs/2509.17838
Twisted aughts of alternating involutions
Raghavendra N. Bhat, Cristian Cobeli, Shuta Iwai, Zimeng Ye, Alexandru Zaharescu

http://arxiv.org/abs/2509.20316
Modularity from q-series
Ken Ono

http://arxiv.org/abs/2509.21169
Absolute continuity of finite-dimensional distributions of Hermite processes via Malliavin calculus
Laurent Loosveldt, Yassine Nachit, Ivan Nourdin, Ciprian Tudor

http://arxiv.org/abs/2509.21230
Bailey pairs and quantum q-series identites. I. The classical identities
Jehanne Dousse, Jeremy Lovejoy

http://arxiv.org/abs/2509.21520
Spin Leonard pairs and the zero diagonal space
Kazumasa Nomura, Paul Terwilliger

http://arxiv.org/abs/2509.22584
Double Categories of Open Systems: the Cospan Approach
John C. Baez

http://arxiv.org/abs/2509.23881
Stabilizing the singularity swap quadrature for near-singular line integrals
David Krantz, Alex H. Barnett, Anna-Karin Tornberg

http://arxiv.org/abs/2509.23974
Baker-Akhiezer specialisation of joint eigenfunctions for hyperbolic relativistic Calogero-Moser Hamiltonians
Martin Hallnäs

http://arxiv.org/abs/2509.24040
The nonsymmetric shuffle theorem
Jonah Blasiak, Mark Haiman, Jennifer Morse, Anna Pun, George H. Seelinger

http://arxiv.org/abs/2509.25246
Oleg Marichev: On the occasion of the eightieth anniversary
S. N. Askhabov, V. Kiryakova, V. V. Kravchenko, C. P. Li, Yu. Luchko, S. V. Rogosin, S. M. Sitnik, E. L. Shishkina, Vu Kim Tuan

http://arxiv.org/abs/2509.26297
Polynomials and asymptotic constants in a resurgent problem from 't Hooft
David Broadhurst, Gergő Nemes

http://arxiv.org/abs/2510.00130
Further Applications of Cubic q-Binomial Transformations
Alexander Berkovich, Aritram Dhar

http://arxiv.org/abs/2510.01572
Elementary Proofs and Generalizations of Recent Congruences of Thejitha and Fathima
James A. Sellers

http://arxiv.org/abs/2510.01703
A Note on the Paper "Localization of Zeros of Polar Polynomials on the Unit Disk"
Renato Alvarez-Nodarse, Kenier Castillo

http://arxiv.org/abs/2510.01941
A debiased Bernoulli factory and unbiased estimation of a probability
Jere Koskela, Toni Karvonen, Krzysztof Łatuszyński, Dario Spanò

http://arxiv.org/abs/2510.02192
On Lieb-Thirring inequalities for multidimensional Schrödinger operators with complex potentials
Sabine Bögli, Sukrid Petpradittha, František Štampach

http://arxiv.org/abs/2510.02285
Markov chains on Weyl groups from the geometry of the flag variety
Persi Diaconis, Calder Morton-Ferguson

http://arxiv.org/abs/2510.02587
A combinatorial formula for Interpolation Macdonald polynomials
Houcine Ben Dali, Lauren Williams

http://arxiv.org/abs/2510.04690
Indeterminate Jacobi operators II
Christian Berg, Ryszard Szwarc

http://arxiv.org/abs/2510.07769
Strict Log-concavity of k-coloured Partitions
Kathrin Bringmann, Ben Kane, Anubhab Pahari, Larry Rolen

http://arxiv.org/abs/2510.08387
When any four solutions are independent
James Freitag

http://arxiv.org/abs/2510.08823
Fourier transform pairs and Eisenstein-type series related to Jacobi elliptic functions
Peng-Cheng Hang, Alexey Kuznetsov

http://arxiv.org/abs/2510.09214
A class of Truncated Freud polynomials
Juan Carlos García-Ardila, Francisco Marcellán, Misael E. Marriaga

http://arxiv.org/abs/2510.09701
Hausdorff measure of cartesian product of Cantor sets
Siyuan Guo, Taylor Jones

http://arxiv.org/abs/2510.10447
Mirror symmetric polynomials orthogonal on the unit circle
Alexei Zhedanov

http://arxiv.org/abs/2510.11357
Dunkl derivative from moment differentiation
Edmundo J. Huertas, Alberto Lastra, Judit Minguez Ceniceros

http://arxiv.org/abs/2510.11571
Robust Online Sampling from Possibly Moving Target Distributions
François Clément, Stefan Steinerberger

http://arxiv.org/abs/2510.11662
A family of interaction energy minimizers supported on two intervals
Steven B. Damelin, Ruiwen Shu

http://arxiv.org/abs/2510.12353
Asymptotic behavior of zeros of Bessel function derivatives
Árpád Baricz, Pranav Kumar, Saminathan Ponnusamy

http://arxiv.org/abs/2510.12928
Random Modulation with Spherical Symmetry
Armine Bagyan, Donald Richards

http://arxiv.org/abs/2510.13487
Using quasi-Darboux transformations to construct exceptional matrix polynomials
Ignacio Bono Parisi, Antonio J. Durán, Ignacio N. Zurrián

http://arxiv.org/abs/2510.13754
Uvarov Perturbations for Multiple Orthogonal Polynomials of the Mixed Type on the Step-Line
Manuel Mañas, Miguel Rojas

http://arxiv.org/abs/2510.14124
An Orthogonal View of Gaußian Polynomials
Christian Krattenthaler, Brandt Kronholm, Paul Marsh

http://arxiv.org/abs/2510.14295
Uniform Asymptotic approximation and numerical evaluation of the Reverse Generalized Bessel Polynomial zeros
T. M. Dunster, Amparo Gil, Diego Ruiz-Antolin, Javier Segura

http://arxiv.org/abs/2510.14323
Bounds and asymptotic expansions for the radii of convexity and uniform convexity of normalized Bessel functions
Árpád Baricz, Pranav Kumar, Sanjeev Singh

http://arxiv.org/abs/2510.16153
Cutting 4 by n grids into two congruent pieces
Robert Dougherty-Bliss, Natalya Ter-Saakov, Doron Zeilberger

http://arxiv.org/abs/2510.16277
Derangements in affine classical groups and Cohen-Lenstra heuristics
Jason Fulman, Dennis Stanton

http://arxiv.org/abs/2510.17571
Exceptional Krall polynomials
Alex Kasman, Robert Milson

http://arxiv.org/abs/2510.18598
Measuring deviations from spherical symmetry
Lujia Bai, Holger Dette

http://arxiv.org/abs/2510.19164
Partition functions that repel perfect-powers
Ken Ono

http://arxiv.org/abs/2510.20117
Minimizing Residuals in ODE Integration Using Optimal Control
Robert M. Corless, C. Yalçın Kaya

http://arxiv.org/abs/2510.20562
Exponential sums with polynomials and their applications to primes in sparse sets
Lingyu Guo, Victor Zhenyu Guo, Mengyao Jing

http://arxiv.org/abs/2510.20826
Interpolative separable density fitting on adaptive real space grids
Hai Zhu, Chia-Nan Yeh, Miguel A. Morales, Leslie Greengard, Shidong Jiang, Jason Kaye

http://arxiv.org/abs/2510.21157
Transformation of Third Order Mock Theta Functions and New q-Series Identities
Frank Garvan, Avi Mukhopadhyay

http://arxiv.org/abs/2510.21558
Representations by probabilistic Bernoulli and degenerate Bernoulli polynomials
Dae San Kim, Taekyun Kim

http://arxiv.org/abs/2510.21871
Difference operators and difference equations on lattices, or grids, up to the elliptic hypergeometric case
Alphonse P. Magnus

http://arxiv.org/abs/2510.22413
A survey and a result on inhomogeneous quadratic forms
Sourav Das, Anish Ghosh

http://arxiv.org/abs/2510.23298
Galois Groups of Apéry-like Series Modulo Primes
Xavier Caruso, Florian Fürnsinn, Daniel Vargas-Montoya, Wadim Zudilin

http://arxiv.org/abs/2510.24104
Asymptotic expansions for solutions of differential equations having a coalescing turning point and double pole, with an application to Legendre functions
T. M. Dunster

http://arxiv.org/abs/2510.24485
The q-Laplace Transforms compared: the basic confluent hypergeometric function ${}_2\varphi_0$
Daniel Meikle, Adri Olde Daalhuis

http://arxiv.org/abs/2510.25948
Algebraic interpretation of discrete families of matrix valued orthogonal polynomials
Quentin Labriet, Lucia Morey, Luc Vinet

http://arxiv.org/abs/2510.26291
An alternating sum of the floor function of square roots
Marc Chamberland, Karl Dilcher

Other Relevant OP-SF E-Prints

http://arxiv.org/abs/2509.00273
CM theory, maximal hyperelliptic curves, and Chebyshev polynomials
Saeed Tafazolia, Jaap Top

http://arxiv.org/abs/2509.00418
Rank three representations of Painlevé systems: III. Dolbeault structure, spectral correspondence
Miklos Eper, Szilard Szabo

http://arxiv.org/abs/2509.00493
A note on the Laplace transforms of certain generalized fractional integral operators
Min-Jie Luo, Jing-Yi Shen, Ravinder Krishna Raina

http://arxiv.org/abs/2509.00565
Caccioppoli-type inequalities for the Dunkl-A-Laplacian and their application to nonexistence result
Athulya P, Sandeep Kumar Verma

http://arxiv.org/abs/2509.01385
Riemann-Hilbert correspondence for Painlevé 5 and nonlinear monodromy-Stokes structure
Shun Shimomura

http://arxiv.org/abs/2509.02777
Transcendental formulas for the coefficients of Ramanujan's mock theta functions
Nickolas Andersen, Gradin Anderson

http://arxiv.org/abs/2509.02881
q-Deformed Discrete Whittaker Processes
Richard Ninness

http://arxiv.org/abs/2509.03268
Analysis on asymmetric metric measure spaces: q-heat flow, q-Laplacian and Sobolev spaces
Alexandru Kristály, Shin-ichi Ohta, Wei Zhao

http://arxiv.org/abs/2509.03352
Birational zeta functions
Tom Biesbrouck, Nero Budur, Johannes Nicaise, Willem Veys

http://arxiv.org/abs/2509.03994
Generalized hypergeometric equations and 2d TQFT for dormant opers in characteristic ≤ 7
Keita Mori, Yasuhiro Wakabayashi

http://arxiv.org/abs/2509.04386
Randomized biorthogonalization through a two-sided Gram-Schmidt process
Laura Grigori, Lorenzo Piccinini, Igor Simunec

http://arxiv.org/abs/2509.04994
Fourier transforms of orthogonal structures on the paraboloid
Hasan Özkan Çetin, Rabia Aktaş Karaman

http://arxiv.org/abs/2509.05817
Finite biorthogonal M matrix polynomials
Esra Güldoğan Lekesiz

http://arxiv.org/abs/2509.06128
Zeros of theta functions associated with even unimodular lattices
Roei Raveh

http://arxiv.org/abs/2509.06146
On some q-analog of an initial value problem with infinite order irregular singularity and Mahler transforms
Alberto Lastra, Stephane Malek

http://arxiv.org/abs/2509.06357
q-Binomial expansions of the truncated MacMahon's q-series
Ji-Cai Liu

http://arxiv.org/abs/2509.06761
On the geometry of punctual Hilbert schemes on singular curves and their motivic zeta functions
Mounir Hajli, Hussein Mourtada, Wenhao Zhu

http://arxiv.org/abs/2509.07037
On the distribution of the Fourier coefficients over two sparse sequences
Venkatasubbareddy Kampamolla

http://arxiv.org/abs/2509.07598
Families of self-inverse functions and dilogarithm identities
Lauri Alha

http://arxiv.org/abs/2509.07788
Complex moments of the derivative of the Riemann zeta function
Christopher Hughes, Andrew Pearce-Crump

http://arxiv.org/abs/2509.07792
Integer moments of the derivatives of the Riemann zeta function
Christopher Hughes, Andrew Pearce-Crump

http://arxiv.org/abs/2509.07895
On special values of generalized p-adic hypergeometric functions of logarithmic type
Yusuke Nemoto

http://arxiv.org/abs/2509.08909
Matrix-valued bispectral discrete orthogonal polynomials
I. Bono Parisi

http://arxiv.org/abs/2509.09401
Moduli spaces of open strings have polylogarithmic Mirzakhani volumes
Yi Huang, Ivan Telpukhovskiy

http://arxiv.org/abs/2509.12023
The Pólya-Szegő principle in the fractional setting: a glimpse on nonlocal functional inequalities
Alessandro Carbotti

http://arxiv.org/abs/2509.12148
Fundamental Fourier coefficients of Siegel modular forms of higher degrees and levels
Pramath Anamby, Soumya Das

http://arxiv.org/abs/2509.12297
The Fejér-Dirichlet Lift: Entire Functions and ζ-Factorization Identities
Sebastian Fuchs

http://arxiv.org/abs/2509.12445
Szegő's theorem for Jordan arcs
Benedikt Buchecker

http://arxiv.org/abs/2509.13052
Finite element method for a constant time delay subdiffusion equation with Riemann-Liouville fractional derivative
Weiping Bu, Chen Nie, Weizhi Liao

http://arxiv.org/abs/2509.13254
Analytic properties of representation zeta functions of groups of type A_2
Valentin Blomer, Christopher Voll

http://arxiv.org/abs/2509.14621
New determinant formulas of Giambelli-type for Schur multiple zeta-functions and their applications
Kohji Matsumoto, Maki Nakasuji

http://arxiv.org/abs/2509.15769
Estimates of deviations of Fourier sums on Weyl-Nagy classes $W^r_{\beta,1}$
A. S. Serdyuk, I. V. Sokolenko

http://arxiv.org/abs/2509.17626
Jacob's ladders, our asymptotic formulae (1981) connected with the equation $Z'(t) = 0$ as a base for new ζ-equivalents of the Fermat-Wiles theorem and some other results
Jan Moser

http://arxiv.org/abs/2509.18963
Note on the positivity of the real part of the log-derivative of the Riemann ξ-function near the critical line
Andrius Grigutis, Lukas Turčinskas

http://arxiv.org/abs/2509.18989
R-matrix Dunkl operators and spin Calogero-Moser system
Oleg Chalykh, Maria Matushko

http://arxiv.org/abs/2509.19649
Majorization via positivity of Jack and Macdonald polynomial differences
Hong Chen, Apoorva Khare, Siddhartha Sahi

http://arxiv.org/abs/2509.20085
Bounds for integral moments of quadratic twists of Fourier coefficients of modular forms
Peng Gao, Yuetong Zhao

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A survey of moment bounds for $\zeta(s)$: from Heath Brown's work to the present
Alexandra Florea

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Infinite families of congruences for the second order mock theta function $\mathcal{B}(q)$
Hemjyoti Nath, Hirakjyoti Das

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Swornalata Ojha, Hiranmoy Pal

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Some series equivalent to the extended Riemann hypothesis for Dedekind zeta functions
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Structural and non-isomorphism results for q-Araki-Woods factors
Changying Ding, Hui Tan

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Extremal polynomials for the Rogosinski-Szegő estimates of the third coefficient of nonnegative sine polynomials
Dmitriy Dmitrishin, Alexander Stokolos, Walter Trebels

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Generating functions of q-chromatic polynomials
Matthias Beck, Benjamin Braun, Alvaro Cornejo

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The trigonometric polynomial on sums of two squares, an additive problem and generalisation
Olivier Ramare, G. K. Viswanadham

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Thomas Pawlaschyk

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Three-point connectivity constant for q-state Potts spin clusters
Gefei Cai, Haoyu Liu, Baojun Wu, Zijie Zhuang

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Vanishing Coefficients of q^{5n+r} and q^{7n+r} in Certain Infinite q-series Expansions
M. P. Thejitha, Anusree Anand, S. N. Fathima

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Equidistribution of sequences associated with a-points of the derivatives of the Riemann zeta function
Hideki Murahara, Tomokazu Onozuka

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Extremal monomials of q-characters
Andrei Neguţ

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The Two-Sided Clifford Dunkl Transform and Miyachi's Theorem
Mohamed Essenhajy, Said Fahlaoui

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Sumukha Sathyanarayana, N. Guru Sharan

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Mohamed Essenhajy

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Norman Do, Paul Norbury

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Giorgio Metafune, Luigi Negro, Chiara Spina

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Serena Dipierro, Xavier Ros-Oton, Enrico Valdinoci, Marvin Weidner

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L^p averages of the discrete Fourier transform and applications
Jonathan M. Fraser, Firdavs Rakhmonov

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Explicit extreme values of the argument of the Riemann zeta-function
Shōta Inoue, Hirotaka Kobayashi, Yuichiro Toma

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On L_p-integrability of functions with general monotone Fourier coefficients
Askhat Mukanov, Erlan Nursultanov

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Generalized Fourier Series: An $N\log_2(N)$ extension for aperiodic functions that eliminates Gibbs oscillations
Narsimha Reddy Rapakaa, Mohamed Kamel Riahi

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On shifted convolution sums of $\mathrm{GL}(3)$-Fourier coefficients with an average over shifts
Ritwik Pal, Sampurna Pal

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Marko Kostic

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Large values of derivatives of the Riemann zeta function on vertical homogeneous progressions
Qiyu Yang, Shengbo Zhao

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Ayman Shehata, M. Tawfik, Ayman M. Mahmoud, Nada Mostafa

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Oscillations and first-ever negative Fourier coefficients of symmetric square L-functions over sparse set
Srinivas Kotyada, Lalit Vaishya

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Hironobu Kimura

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Ken Kamano

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A non-unitary approach to the q-deformation of $\mathrm{SL}(2,\mathbb{R})$
Yvann Gaudillot-Estrada

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A note on the tetrahedral index and the Hahn-Exton q-Bessel function
Daniele Celoria

http://arxiv.org/abs/2510.27444
Estimating the number of zeros of Dedekind zeta-functions
Victor Amberger

Topic #5 ——— OP - SF Net 32.6 ——— November 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 33.1 should be sent by January 1, 2026.

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 **Maryna Viazovska**

On beginning math research: “There are different styles of learning and different styles of maturing as a mathematician, but I think for me it was super productive. Maybe this is because I’m not a very patient person, and sometimes I get bored. Researching mathematics is like breathing fresh air, when you can be creative.”

Maryna Viazovska, “An Interview with Maryna Viazovska,” by Ken Ono. In: Behrends, E., Gritzmann, P., Ziegler, G.M. (Eds.), *Pi und Co*, 2023. Springer-Verlag, Berlin, link.
This interview also appeared in *Mathematical Intelligencer*, **44**, 4, September 2022.
For the full interview, see Topic #3 in OP-SF NET 29.5.