

OP-SF NET – Volume 24, Number 2 – March 15, 2017

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

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

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Calendar of Events:

March 20–24, 2017

Elliptic Hypergeometric Functions in Combinatorics, Integrable Systems and Physics
Erwin Schrödinger Institute, Vienna, Austria

<http://www.esi.ac.at/activities/events/2017/elliptic-hypergeometric-functions>

April 19–22, 2017

Optimal Point Configurations and Orthogonal Polynomials

Centro Internacional de Encuentros Matemáticos (CIEM), Castro Urdiales, Cantabria, Spain

<http://www.opcop2017.uncan.es>

May 9–12, 2017

The VI Iberoamerican Workshop on Orthogonal Polynomials and Applications (EIBPOA 2017)

Universidade Federal do Triângulo Mineiro, Uberaba, MG, Brazil

<http://eibpoa2017.weebly.com>

June 5–9, 2017

International Conference on Special Functions: Theory, Computation, and Applications
City University of Hong Kong, Hong Kong
<http://www6.cityu.edu.hk/rcms/icsf2017/index.htm>

June 12–16, 2017

Symmetries of Discrete Systems and Processes,
Czech Technical University, Děčín branch, Czech Republic
<http://decin4.fjfi.cvut.cz>

June 26–30, 2017

OPSF–S7 Summer School on Orthogonal Polynomials and Special Functions,
University of Kent, Canterbury, UK
<https://blogs.kent.ac.uk/opsf-summer-school>

July 2–6, 2017

VIII Jaen Conference on Approximation Theory
Úbeda, Jaén, Spain
<https://www.ujaen.es/revista/jja/jca/>

July 3–7, 2017

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

July 9–15, 2017

The XVIIth International Conference on Symmetry Methods in Physics,
Yerevan State University, Yerevan, Armenia
<http://theor.jinr.ru/~symphys/2017>

July 10–15, 2017

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

July 10–19, 2017

[Foundations of Computational Mathematics](#),
Barcelona, Spain
<http://www.ub.edu/focm2017/index.html>

Topic #1 ——— OP – SF Net 24.2 ——— March 15, 2017

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

Subject: Gábor Szegő Prize 2017

[Gábor Szegő Prize 2017](#)

Official announcement

The SIAM Activity Group on Orthogonal Polynomials and Special Functions awards the Gábor Szegő Prize every two years to an early career researcher for outstanding research

contributions, as determined by the prize committee, in the area of orthogonal polynomials and special functions. The contributions must be contained in a paper or papers published in English in peer-reviewed journals. The prize can only be awarded to a researcher who has at most 10 years (full time equivalent) of involvement in mathematics since PhD at the award date.

The selection committee of the Gábor Szegő Prize 2017 has decided unanimously to award the Gábor Szegő Prize 2017 to [Thomas Trogdon](#) for his paper *Rational approximation, oscillatory Cauchy integrals and Fourier transforms*, *Constructive Approximation*, **43** (2016), no. 1, pp. 71–101. He deserves the prize for “his versatility in combining orthogonal polynomials and special functions in new and creative ways to deduce results in a variety of fields, such as rational approximation, random matrices, and Riemann–Hilbert problems”.

Thomas Trogdon obtained his PhD in 2013 from the University of Washington, Seattle, where his supervisor was Bernard Deconinck. He was an NSF fellow at the Courant Institute of New York University in 2013–2016 where we worked with Percy Deift. In 2016 he became Assistant Professor at the University of California, Irvine, California.

The selection committee was impressed with the quality of the book *Riemann-Hilbert problems, their numerical solution, and the computation of nonlinear special functions* (SIAM, 2015), written with [Sheehan Olver](#), which is an expanded version of his PhD thesis from 2013 for which he received the 2014 [Richard C. DiPrima Prize](#) from SIAM. The committee was also pleased to see new results in orthogonal polynomials, such as the fast computation of Gauss quadrature nodes and new asymptotic results for orthogonal polynomials, various results in random matrix theory, such as sampling of unitary ensembles and the computation of eigenvalues of random matrices, and his groundbreaking work (with Sheehan Olver) on numerical solutions of Riemann–Hilbert problems.

[Walter Van Assche](#), chair SIAG/OPSF (walter@wis.kuleuven.be)

Selection committee 2017:

[Kerstin Jordaan](#), University of South Africa, South Africa
[Andrei Martínez Finkelshtein](#), Universidad de Almería, Spain
[Adri Olde Daalhuis](#), University of Edinburgh, UK
[Yuan Xu](#), University of Oregon, USA

Topic #2 ——— OP – SF Net 24.2 ——— March 15, 2017

From: Ana F. Loureiro (A.Loureiro@kent.ac.uk)
Subject: Vice-Chancellor’s PhD Studentship, University of Kent, UK

A PhD position is available within the Mathematics Group in the [School of Mathematics, Statistics and Actuarial Sciences, University of Kent](#), UK. The successful candidate will join a young and vibrant research team and will work on a project in the area of orthogonal polynomials and special functions, supervised by [Dr. Ana Loureiro](#) and/or [Dr. Alfredo Deaño](#).

The closing date for applications is **17 April 2017** with interviews provisionally scheduled for 24 April 2017. The starting date is expected to be September 2017, but is negotiable.

Applications are welcome at:

<https://www.kent.ac.uk/courses/postgraduate/149/mathematics>.

Further details can be found at:

<https://sites.google.com/site/afilipaloureiro/home/phd-studentship>.

Informal enquiries are encouraged, and may be made to A.Loureiro@kent.ac.uk.

Topic #3 ——— OP – SF Net 24.2 ——— March 15, 2017

From: Elizabeth Fisher (Elizabeth.Fisher@lms.ac.uk)

Subject: LMS Research School for Research Students and Early Career Researchers

The [London Mathematical Society](#) (LMS) is pleased to announce the [LMS Research School](#) for research students and early career researchers:

Topic: Orthogonal Polynomials and Special Functions

Dates: 26–30 June 2017

Location: University of Kent

Organisers: Ana F. Loureiro (University of Kent) and Peter Clarkson (University of Kent)

Lecture courses:

- *Properties of Orthogonal Polynomials* by [Kerstin Jordaan](#) (University of South Africa, South Africa)
- *Discrete Painlevé Equations* by [Nalini Joshi](#) (University of Sydney, Australia)
- *Multiple Orthogonal Polynomials* by [Walter Van Assche](#) (KU Leuven, Belgium)

These lecture courses will be supplemented by daily tutorial sessions as well as guest lectures from the following individuals:

- [Andrew Hone](#) (University of Kent, UK)
- [Andrei Martínez Finkelshtein](#) (Universidad de Almería, Spain)
- [Adri Olde Daalhuis](#) (University of Edinburgh, UK)

The Summer School will take place in the Sibson Building at the University of Kent, which is the new home of the School of Mathematics, Statistics & Actuarial Science, which opens in March 2017, see:

<https://www.kent.ac.uk/smsas/vision/new-building.html>

Further details about the summer school are available here:

<http://blogs.kent.ac.uk/opsf-summer-school>

Apply for places by **31 March, 2017** here:

<https://www.surveymonkey.co.uk/r/RS31OrthogonalPolynomialsApplicationForm>

A reference will also be required:

<https://www.surveymonkey.co.uk/r/RS31OrthogonalPolynomialsRefForm>

Topic #4 ——— OP – SF Net 24.2 ——— March 15, 2017

From: Peter Clarkson (P.A.Clarkson@kent.ac.uk) and Ana F. Loureiro (A.Loureiro@kent.ac.uk)
Subject: Orthogonal Polynomials, Special Functions and Applications (OPSFA–14)

The 14th International Symposium on Orthogonal Polynomials, Special Functions and Applications (OPSFA–14) will take place 3rd–7th July 2017 at the University of Kent, Canterbury, UK. The conference is the first one in the OPSFA series to take place in the UK, see <https://blogs.kent.ac.uk/opsfa>

Registration and call for talks and posters is now open:
<https://blogs.kent.ac.uk/opsfa/registration>

An award for the best poster will be given at OPSFA–14, the prize will be sponsored by Cambridge University Press.

Registration fees (which cover lunches, coffee-breaks, welcoming reception and conference material) are given as follows. For early career researchers from developing countries (PhD in 2014 or later) or for PhD students:

On or before **15 May 2017**: £200
After **15 May 2017**: £250

For all other participants:

On or before **15 May 2017**: £250
After **15 May 2017**: £300

A number of bursaries for Research Students and Early Career Researchers (PhD in 2014 or later) will be available. Priority will be given to those from developing countries.

The symposium will take place in the Sibson Building at the University of Kent, which is the new home of the School of Mathematics, Statistics & Actuarial Science, which opens in March 2017, see <https://www.kent.ac.uk/smsas/vision/new-building.html>.

The following individuals have agreed to give plenary lectures:

- Jonathan Breuer (Hebrew University of Jerusalem, Israel)
- Sylvie Corteel (CNRS, Paris, France)
- David Gómez-Ullate (Universidad Complutense de Madrid, Spain)
- Evelyne Hubert (INRIA, Sophia Antipolis, France)
- Arieh Iserles (University of Cambridge, UK)
- Alexander Its (Indiana University–Purdue University, Indianapolis, USA)
- Arno Kuijlaars (KU Leuven, Belgium)
- Marta Mazzocco (Loughborough University, UK)
- Peter Miller (University of Michigan, Ann Arbor, USA)
- Margit Rösler (University of Paderborn, Germany)
- Nina Snaithe (University of Bristol, UK)
- Jacek Szmigielski (University of Saskatchewan, Saskatoon, Canada)
- Tom Trogdon (University of California, Irvine CA, USA) — Gábor Szegő Prize winner

This symposium is an event of the SIAM Activity Group on Orthogonal Polynomials and Special Functions. The activity group promotes research in orthogonal polynomials and special functions; furthers the application of this subject in other parts of mathematics, and in science and industry; and encourages and supports the exchange of information, ideas, and techniques between workers in this field and other mathematicians and scientists. The activity group awards the Gábor Szegő Prize every two years to an early-career researcher for outstanding research contributions in the area of orthogonal polynomials and special functions.

Topic #5 ——— OP – SF Net 24.2 ——— March 15, 2017

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

Subject: Call for OPSFA-15

The Steering Committee of the international symposia “Orthogonal Polynomials, Special Functions and Applications” has opened a call for the organization of the next international symposium on “Orthogonal Polynomials, Special Functions and Applications” (OPSFA-15), to be held preferably in 2019.

See <http://wis.kuleuven.be/events/archive/OPSFA/Call>.

Please inform Walter Van Assche (walter@wis.kuleuven.be) if you are willing to organize OPSFA-15. Please provide:

- name of the contact person;
- place where the conference will be organized;
- a suggestion of the date.

All proposals will be evaluated by the Steering Committee and the final decision will be announced at the upcoming OPSFA-14 meeting in Canterbury, UK, July 3–7, 2017. The Steering Committee for OPSFA consists of 3 local organizers of the past five OPSFA meetings and a representative of the SIAM Activity Group on Orthogonal Polynomials and Special Functions (not necessarily the chair). This steering committee was founded during the OPSFA-11 meeting in Leganés (Madrid, Spain) in 2011 and its main task is to coordinate the international meetings in the OPSFA community, such as the biannual international symposium and summer schools. Presently the Steering Committee consists of:

- Walter Van Assche (OPSFA-10 and SIAG/OPSF chair);
- Guillermo López Lagomasino (OPSFA-11);
- Mohamed Jalel Atia (OPSFA-12);
- Diego Dominici (OPSFA-13).

Topic #6 ——— OP – SF Net 24.2 ——— March 15, 2017

From: Kerstin Jordaan (jordakh@unisa.ac.za), Paco Marcellán (pacomarc@ing.uc3m.es), and Andrei Martínez-Finkelshtein (andrei@ual.es)

Subject: Call for poster presentations at FOCM 2017 in Barcelona, Spain

The [FoCM 2017](#) conference to be held July 10–19, 2017 in Barcelona, Spain is now open for contributed poster presentations.

During the conference there will be poster sessions during the second and third days of each period, with a substantial but limited number of presentation slots.

To submit a poster presentation, please choose the appropriate workshop at <http://www.ub.edu/focm2017/workshops.html> and use the corresponding web interface at <http://www.ub.edu/focm2017/calls.html#poster> in order to submit an abstract.

The deadline for submissions is **March 31, 2017**, and the acceptance results will be communicated by the workshop organizers by the second half of April 2017.

Topic #7 ——— OP – SF Net 24.2 ——— March 15, 2017

From: OP–SF Net Editors
Subject: Preprints in arXiv.org

The following preprints related to the fields of orthogonal polynomials and special functions were posted or cross-listed to one of the subcategories of arXiv.org during January and February 2016. This list has been separated into two categories.

OP–SF Net Subscriber E-Prints

<http://arxiv.org/abs/1701.00787>

Positive definite functions on the unit sphere and integrals of Jacobi polynomials
Yuan Xu

<http://arxiv.org/abs/1701.01595>

Localized Tight Frames and Fast Framelet Transforms on the Simplex
Yu Guang Wang, Houying Zhu

<http://arxiv.org/abs/1701.02709>

Orthogonal polynomials of several variables
Yuan Xu

<http://arxiv.org/abs/1701.02964>

Ramanujan’s Formula for $\zeta(2n + 1)$
Bruce C. Berndt, Armin Straub

<http://arxiv.org/abs/1701.02978>

Inequalities for the modified Bessel function of the second kind and the kernel of the Krätzel integral transformation
Robert E. Gaunt

<http://arxiv.org/abs/1701.03238>

Ermakov–Painlevé II Symmetry Reduction of a Korteweg Capillarity System
Colin Rogers, Peter A. Clarkson

<http://arxiv.org/abs/1701.03626>

Lebedev's type index transforms with the squares of the associated Legendre functions
Semyon Yakubovich

<http://arxiv.org/abs/1701.03958>

On the nonoscillatory phase function for Legendre's differential equation
James Bremer, Vladimir Rokhlin

<http://arxiv.org/abs/1701.04008>

A new Weber type integral equation related to the Weber–Titchmarsh problem
Semyon Yakubovich

<http://arxiv.org/abs/1701.04098>

A modular supercongruence for ${}_6F_5$: an Apéry-like story
Robert Osburn, Armin Straub, Wadim Zudilin

<http://arxiv.org/abs/1701.04179>

Symmetric abstract hypergeometric polynomials
Satoshi Tsujimoto, Luc Vinet, Guo-Fu Yu, Alexei Zhedanov

<http://arxiv.org/abs/1701.04797>

Inverse results on row sequences of Hermite–Padé approximation
G. López Lagomasino, Y. Zaldivar Gerpe

<http://arxiv.org/abs/1701.04995>

Christoffel formula for kernel polynomials on the unit circle
Cleonic F. Bracciali, Andrei Martínez–Finkelshtein, A. Sri Ranga, Daniel O. Veronese

<http://arxiv.org/abs/1701.05239>

Symmetric elliptic functions, IRF models, and dynamic exclusion processes
Alexei Borodin

<http://arxiv.org/abs/1701.05500>

The number of realizations of a Laman graph
Jose Capco, Matteo Gallet, Georg Grasegger, Christoph Koutschan, Niels Lubbes, Josef Schicho

<http://arxiv.org/abs/1701.05542>

New Properties of the Zeros of Certain Nonclassical Orthogonal Polynomials
Oksana Bihun, Clark Mourning

<http://arxiv.org/abs/1701.06292>

Spin q -Whittaker polynomials
Alexei Borodin, Michael Wheeler

<http://arxiv.org/abs/1701.07064>

Summatory relations and prime products for the Stieltjes constants, and other related results
Mark W. Coffey

<http://arxiv.org/abs/1701.07214>

Schoenberg's theorem for real and complex Hilbert spheres revisited
Christian Berg, Ana P. Peron, Emilio Porcu

<http://arxiv.org/abs/1701.07460>

Sums of squares and products of Bessel functions
Bruce C. Berndt, Atul Dixit, Sun Kim, Alexandru Zaharescu

<http://arxiv.org/abs/1701.08394>

Analysis of the gift exchange problem
Moa Apagodu, David Applegate, N. J. A. Sloane, Doron Zeilberger

<http://arxiv.org/abs/1701.08960>

Gustafson–Rakha–type elliptic hypergeometric series
Hjalmar Rosengren

<http://arxiv.org/abs/1701.09115>

Stochastic Duality and Orthogonal Polynomials
Chiara Franceschini, Cristian Giardinà

<http://arxiv.org/abs/1702.00611>

Plane wave formulas for spherical, complex and symplectic harmonics
Hendrik De Bie, Frank Sommen, Michael Wutzig

<http://arxiv.org/abs/1702.01190>

Six–vertex model with half–turn boundary conditions
Pavel Bleher, Karl Liechty

<https://arxiv.org/abs/1702.02109>

Vector–valued Jack Polynomials and Wavefunctions on the Torus
Charles F. Dunkl

<http://arxiv.org/abs/1702.03788>

Inequalities for series in q –shifted factorials and q –gamma functions
S. I. Kalmykov, D. B. Karp

<http://arxiv.org/abs/1702.04032>

A generalization of Schur functions: applications to Nevanlinna functions, orthogonal polynomials, random walks and unitary and open quantum walks
F. Alberto Grünbaum, Luis Velázquez

<http://arxiv.org/abs/1702.04462>

Large deformations of the Tracy–Widom distribution I. Non–oscillatory asymptotics
Thomas Bothner, Robert Buckingham

<http://arxiv.org/abs/1702.04626>

Coupling coefficients of $su_q(1, 1)$ and multivariate q –Racah polynomials
Vincent X. Genest, Plamen Iliev, Luc Vinet

<http://arxiv.org/abs/1702.04745>

On The Limiting Distributions of the Total Height On Families of Trees
Andrew Lohr, Doron Zeilberger

<http://arxiv.org/abs/1702.04860>

Overpartitions and singular overpartitions
Seunghyun Seo, Ae Ja Yee

<http://arxiv.org/abs/1702.05316>

Error bounds for the asymptotic expansion of the Hurwitz zeta function
Gergő Nemes

<http://arxiv.org/abs/1702.05534>

Structural identities for generalized multiple zeta values
T. Wakhare, C. Vignat

<http://arxiv.org/abs/1702.06093>

Expansion of permutations as products of transpositions
Michael Anshelevich, Matthew Gaikema, Madeline Hansalik, Songyu He, Nathan Mehlhop

<http://arxiv.org/abs/1702.08520>

Theory of Generalized Trigonometric Functions: from Laguerre to Airy Forms
Giuseppe Dattoli, Silvia Licciardi, Rosa Maria Pidatella

<http://arxiv.org/abs/1702.08555>

Associated Legendre Functions and Spherical Harmonics of Fractional Degree and Order
Robert S. Maier

<http://arxiv.org/abs/1702.08570>

Quantum superintegrable Zernike system
George S. Pogosyan, Cristina Salto–Alegre, Kurt Bernardo Wolf, Alexander Yakhno

Other Relevant OP–SF E–Prints

<http://arxiv.org/abs/1701.00100>

On properties of the coefficients of the complicated and exotic formal solutions of the sixth Painlevé equation
Irina Goryuchkina

<http://arxiv.org/abs/1701.00394>

Identities for the q -harmonic numbers and q -binomial coefficients
Ce Xu

<http://arxiv.org/abs/1701.00409>

The normal distribution is freely selfdecomposable
Takahiro Hasebe, Noriyoshi Sakuma, Steen Thorbjørnsen

<http://arxiv.org/abs/1701.00544>

Binomial transform of products
Khristo N. Boyadzhiev

<http://arxiv.org/abs/1701.01024>

Higher order generalized geometric polynomials
Levent Kargin, Bayram Çekim

<http://arxiv.org/abs/1701.01052>

Two Parameter Gamma Function and its Properties
Kuldeep Singh Gehlot

<http://arxiv.org/abs/1701.01889>

Dimension-free L^p estimates for vectors of Riesz transforms associated with orthogonal expansions
Błażej Wróbel

<http://arxiv.org/abs/1701.01904>

Non-local initial problem for second order time-fractional and space-singular equation
Erkinjon Karimov, Murat Mamchuev, Michael Ruzhansky

<http://arxiv.org/abs/1701.01979>

Norm estimates for the Bergman and Cauchy-Szegő projections over the Siegel upper half-space
Congwen Liu

<http://arxiv.org/abs/1701.02219>

Orthogonality of the Associated Legendre Function of the Second Kind with Imaginary Argument
N. Dimakis

<http://arxiv.org/abs/1701.02289>

Lusin area integrals related to Jacobi expansions
Tomasz Z. Szarek

<http://arxiv.org/abs/1701.02674>

Some new formulas for Appell series over finite fields
Long Li, Xin Li, Rui Mao

<http://arxiv.org/abs/1701.03302>

Differential relations for almost Belyi maps
Raimundas Vidunas, Jiro Sekiguchi

<http://arxiv.org/abs/1701.03344>

Representations of superconformal algebras and mock theta functions
Victor G. Kac, Minoru Wakimoto

<http://arxiv.org/abs/1701.03698>

Coulomb gas integrals for commuting SLEs: Schramm's formula and Green's function
Jonatan Lenells, Fredrik Viklund

<http://arxiv.org/abs/1701.03888>

Symmetry of asymmetric quantum Rabi models
Masato Wakayama

<http://arxiv.org/abs/1701.03971>

Some new inequalities for Generalized Mathieu type series and Riemann zeta functions
Khaled Mehrez, Živorad Tomovski

<http://arxiv.org/abs/1701.04091>

Revival structures of coherent states for X_m exceptional orthogonal polynomials of the Scarf I potential within position-dependent effective mass
Sid-Ahmed Yahiaoui, Mustapha Bentaiba

<http://arxiv.org/abs/1701.04159>

On The Extended Incomplete Pochhammer Symbols and Hypergeometric Functions
Rakesh Kumar Parmar, R. K. Raina

<http://arxiv.org/abs/1701.04326>

An infinite dimensional umbral calculus
Dmitri Finkelshtein, Yuri Kondratiev, Eugene Lytvynov, Maria Joao Oliveira

<http://arxiv.org/abs/1701.04356>

Some exact Bradlow vortex solutions
Sven Bjarke Gudnason, Muneto Nitta

<http://arxiv.org/abs/1701.04484>

Power series with skew-harmonic numbers, dilogarithms, and double integrals
Khristo N. Boyadzhiev

<http://arxiv.org/abs/1701.04526>

A Cubic Transformation Formula for Appell-Lauricella Hypergeometric Functions over Finite Fields
Sharon Frechette, Holly Swisher, Fang-Ting Tu

<http://arxiv.org/abs/1701.04589>

On fractional kinetic equations and their Sumudu transform multiparameter Struve functions based solutions
K. S. Nisar, F. B. M. Belgacem, M. S. Abouzaid

<http://arxiv.org/abs/1701.05029>

Bounds for radii of starlikeness of some q -Bessel functions
İbrahim Aktaş, Árpád Baricz

<http://arxiv.org/abs/1701.05126>

The importance of being "strange"
Robert Schneider

<http://arxiv.org/abs/1701.05991>

Fluctuations for stationary q -TASEP
Takashi Imamura, Tomohiro Sasamoto

<http://arxiv.org/abs/1701.06202>

On Chebyshev polynomials in the complex plane
Vladimir Andrievskii

<http://arxiv.org/abs/1701.06651>

Moments of zeta and correlations of divisor-sums: V
Brian Conrey, Jonathan P. Keating

<http://arxiv.org/abs/1701.06881>

Degenerate Laplace transform and degenerate gamma function

Taekyun Kim, Dae San Kim

<http://arxiv.org/abs/1701.07048>

A Connection Between Orthogonal Polynomials and Shear Instabilities in the Quasi-geostrophic Shallow Water Equations

William Casper

<http://arxiv.org/abs/1701.07060>

BC Type Z-measures and Determinantal Point Processes

Cesar Cuenca

<http://arxiv.org/abs/1701.07486>

Efficient computation of multidimensional theta functions

J. Frauendiener, C. Jaber, C. Klein

<http://arxiv.org/abs/1701.07682>

On the Markov inequality in the L_2 -norm with the Gegenbauer weight

Geno Nikolov, Alexei Shadrin

<http://arxiv.org/abs/1701.07890>

Elliptic functions revisited

Jean-Christophe Feauveau

<http://arxiv.org/abs/1701.07915>

An overpartition analogue of q -binomial coefficients, II: combinatorial proofs and (q, t) -log concavity

Jehanne Dousse, Byungchan Kim

<http://arxiv.org/abs/1701.07960>

Orthogonal polynomials on the real line corresponding to a perturbed chain sequence

Kiran Kumar Behera, A. Swaminathan

<http://arxiv.org/abs/1701.07996>

Orthogonal Polynomials related to g -fractions with missing terms

Kiran Kumar Behera, A. Swaminathan

<http://arxiv.org/abs/1701.08076>

Structural scale q -derivative and the LLG-Equation in a scenario with fractionality

José Weberszpil, José Abdalla Helayël-Neto

<http://arxiv.org/abs/1701.08236>

Quantum models with energy-dependent potentials solvable in terms of exceptional orthogonal polynomials

Axel Schulze-Halberg, Pinaki Roy

<http://arxiv.org/abs/1701.08379>

On connections of the Liénard equation with some equations of Painlevé-Gambier type

Nikolay Kudryashov, Dmitry Sinelshchikov

<http://arxiv.org/abs/1701.08446>

Redheffer type bounds for Bessel and modified Bessel functions of the first kind
Árpád Baricz, Khaled Mehrez

<http://arxiv.org/abs/1701.08564>

On sequences of polynomials arising from graph invariants
T. Kotek, J. A. Makowsky, E. V. Ravve

<http://arxiv.org/abs/1702.00051>

Analytical solutions of the Dirac equation using the Tridiagonal Representation Approach:
General study, limitations, and possible applications
Ibsal. Assi, Hocine Bahlouli

<http://arxiv.org/abs/1702.00626>

Zeros of some special entire functions
Árpád Baricz, Sanjeev Singh

<http://arxiv.org/abs/1702.00627>

Spectral properties of complex Airy operator on the semi-axis
Artem Savchuk, Andrei Shkalikov

<http://arxiv.org/abs/1702.00631>

Radii of starlikeness and convexity of Wright functions
Árpád Baricz, Evrim Toklu, Ekrem Kadioğlu

<http://arxiv.org/abs/1702.00760>

Two-weight mixed norm estimates for a generalized spherical mean Radon transform acting on radial functions
Óscar Ciaurri, Adam Nowak, Luz Roncal

<http://arxiv.org/abs/1702.01249>

On the number of representations of certain quadratic forms and a formula for the Ramanujan Tau function
B. Ramakrishnan, Brundaban Sahu, Anup Kumar Singh

<http://arxiv.org/abs/1702.01377>

A Note on Kawashima Functions
Shuji Yamamoto

<http://arxiv.org/abs/1702.01855>

Identities for the generalized Fibonacci polynomial
Rigoberto Flórez, Nathan McAnally, Antara Mukherjee

<http://arxiv.org/abs/1702.01927>

Evaluation of Some Integrals Following from L_1 , the Constant of the Asymptotic Expansion of $\ln \Gamma_1(x + 1)$, Originating from Physics (QED)
W. Dittrich

<http://arxiv.org/abs/1702.01960>

Certain new unified integrals associated with the product of generalized Struve function
Kottakkaran Sooppy Nisar

<http://arxiv.org/abs/1702.02003>

Group theoretical aspects of $L^2(\mathbb{R}^+)$, $L^2(\mathbb{R}^2)$ and associated Laguerre polynomials
E. Celeghini, M. A. del Olmo

<http://arxiv.org/abs/1702.02781>

Darboux solutions of non-abelian quantum Painlevé II equation in terms of quasideterminants
Irfan Mahmood

<http://arxiv.org/abs/1702.02988>

New type integral inequalities for convex functions with applications
Khaled Mehrez, Praveen Agarwal

<http://arxiv.org/abs/1702.03074>

Regular flat structure and generalized Okubo system
Hiroshi Kawakami, Toshiyuki Mano

<http://arxiv.org/abs/1702.03078>

New Determinant Expressions of the Multi-indexed Orthogonal Polynomials in Discrete Quantum Mechanics
Satoru Odake

<http://arxiv.org/abs/1702.03868>

Identities for the multiple zeta (star) values
Ce Xu

<http://arxiv.org/abs/1702.03985>

On a new identity for the H-function with applications to the summation of hypergeometric series
Arjun K. Rathie, L. C. S. M. Ozelim, P. N. Rathie

<http://arxiv.org/abs/1702.04001>

On the restricted Chebyshev-Boubaker polynomials
Paul Barry

<http://arxiv.org/abs/1702.04007>

Eulerian-Dowling Polynomials as Moments, Using Riordan Arrays
Paul Barry

<http://arxiv.org/abs/1702.04029>

Spectral Lanczos' tau method for systems of nonlinear integro-differential equations
P. B. Vasconcelos, J. Matos, M. S. Trindade

<http://arxiv.org/abs/1702.04090>

Generalized Cosecant Numbers and the Hurwitz Zeta Function
Victor Kowalenko

<http://arxiv.org/abs/1702.04200>

A distribution formula for Kashio's p -adic log-gamma function
Eugenio Finat

<http://arxiv.org/abs/1702.05252>

Integral representation of solution to the non-stationary Lamé equation

Farrokh Atai

<http://arxiv.org/abs/1702.05378>

Self-replication and Borwein-like algorithms

Jesús Guillera

<http://arxiv.org/abs/1702.05439>

Generalized Stieltjes constants and integrals involving the log-log function: Kummer's Theorem in action

Omran Kouba

<http://arxiv.org/abs/1702.05524>

Inequalities for the modified k -Bessel function

Saiful R Mondal, Kottakkaran S. Nisar

<http://arxiv.org/abs/1702.05635>

On some integrals of Hardy

Alexander E Patkowski

<http://arxiv.org/abs/1702.05708>

Berezin symbols of operators on the unit sphere of \mathbb{C}^n

Erik I. Díaz-Ortíz

<http://arxiv.org/abs/1702.05758>

On Divergence of Puiseux Series Asymptotic Expansions of Solutions to the Third Painlevé Equation

Anastasia Parusnikova, Andrey Vasilyev

<http://arxiv.org/abs/1702.05855>

On generalization of Bailey's identity involving product of generalized hypergeometric series

Y. S. Kim, A. K. Rathie

<http://arxiv.org/abs/1702.05894>

Schoenberg Representations and Gramian Matrices of Matérn Functions

Yong-Kum Cho, Dohie Kim, Kyungwon Park, Hera Yun

<http://arxiv.org/abs/1702.06422>

New results on p -Bernoulli numbers

Levent Kargin

<http://arxiv.org/abs/1702.06519>

A New Approach to the r -Whitney Numbers by Using Combinatorial Differential Calculus

José L. Ramírez, Miguel A. Méndez

<http://arxiv.org/abs/1702.06826>

Upper bound for the second Hankel determinant of certain subclass of analytic and bi-univalent functions

Nizami Mustafa

<http://arxiv.org/abs/1702.07100>

Matrix product ensembles of Hermite-type

P. J. Forrester, J. R. Ipsen, Dang-Zheng Liu

<http://arxiv.org/abs/1702.07232>

Supercongruences between truncated ${}_3F_2$ hypergeometric series

Ji-Cai Liu

<http://arxiv.org/abs/1702.07493>

The radius of uniform convexity of Bessel functions

Erhan Deniz, Róbert Szász

<http://arxiv.org/abs/1702.07738>

On a certain hypergeometric motive of weight 2 and rank 3

Bartosz Naskrecki

<http://arxiv.org/abs/1702.08437>

Least-squares Solutions of Linear Differential Equations

Daniele Mortari

<http://arxiv.org/abs/1702.08438>

Evaluation of the non-elementary integral $\int e^{\lambda x^\alpha} dx$, $\alpha \geq 2$, and related integrals

Victor Nijimbere

Topic #8 ——— OP – SF Net 24.2 ——— March 15, 2017

From: OP–SF Net Editors

Subject: About the Activity Group

The SIAM Activity Group on Orthogonal Polynomials and Special Functions consists of a broad set of mathematicians, both pure and applied. The Group also includes engineers and scientists, students as well as experts. We have 176 members (as of October 20, 2016) scattered about in 30 countries. Whatever your specialty might be, we welcome your participation in this classical, and yet modern, topic. Our WWW home page is:

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

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

The Activity Group sponsors OP–SF NET, an electronic newsletter, and SIAM-OPSF (OP–SF Talk), a listserv, as a free public service; membership in SIAM is not required. OP–SF NET is transmitted periodically through a post to OP–SF Talk. The OP–SF Net Editors are Howard Cohl (howard.cohl@nist.gov), and Sarah Post (spost@hawaii.edu).

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

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

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

SIAM-OPSF (OP–SF Talk), which was recently moved to a SIAM server, facilitates communication among members and friends of the Activity Group. To subscribe, go to <http://lists.siam.org/mailman/listinfo/siam-OPSF> and follow the instructions under the sub-heading “Subscribing to SIAM-OPSF”. To contribute an item to the discussion, send e–

mail to siam-opsf@siam.org. The moderators are Bonita Saunders (bonita.saunders@nist.gov) and Diego Dominici (dominid@newpaltz.edu).

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

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WWW : <http://www.siam.org>

Topic #9 ——— OP – SF Net 24.2 ——— March 15, 2017

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 24.3 should be sent by May 1, 2017.

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

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

WWW home page of this Activity Group:

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

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

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

Walter Van Assche, Chair
Andrei Martínez–Finkelshtein, Vice Chair
Sarah Post, Program Director
Yuan Xu, Secretary

The appointed officers are:

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

Thought of the month

“The addition formulas

$$P_n(\cos \theta \cos \varphi + \sin \theta \sin \varphi \cos \Psi) = \sum_{k=-n}^n \frac{(n-k)!}{(n+k)!} P_n^k(\cos \theta) P_n^k(\cos \varphi) e^{ik\Psi}$$

and

$$\cos(n(\theta + \varphi)) = \cos(n\theta) \cos(n\varphi) - \sin(n\theta) \sin(n\varphi),$$

are among the most important facts known about these functions.”

Richard A. Askey, Special Functions Section Editor,
in Foreword of *Symmetry and Separation of Variables* by Willard Miller Jr.,
Encyclopedia of Mathematics and its Applications, Addison-Wesley, Vol. 4, 1977.