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

http://math.nist.gov/opsf

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Topics:

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.unican.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-summerschool

July 2–6, 2017
VIII Jaen Conference on Approximation Theory
Úbeda, Jaén, Spain
ttps://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-summerschool
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

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 Snaith (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
Cleonice 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 Kadıoğlu

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 Kargın

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 (dominicd@newpaltz.edu).

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

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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

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

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 Foreward of *Symmetry and Separation of Variables* by Willard Miller Jr.,
Encyclopedia of Mathematics and its Applications, Addison-Wesley, Vol. 4, 1977.