O P-S F N E T – Volume 24, Number 1 – January 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:

January 30-February 3, 2017
Biennial Congress of the Royal Spanish Mathematical Society
University of Zaragoza, Zaragoza, Spain
http://eventos.rsme.es/go/zgz2017.html
Special session on Special functions, orthogonal polynomials and applications,
 organized by Manuel Alfaro and Antonio Durán,
http://eventos.rsme.es/4762/section/4405/congreso-bienal-de-la-real-sociedad-matematica-espanola.html

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 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 3–7, 2017
   14th International Symposium on Orthogonal Polynomials, Special Functions and
   Applications (OPSFA14), 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 24.1 ——— January 15, 2017

From: Walter Van Assche (Walter.VanAssche@wis.kuleuven.be)
Subject: SIAG-OPSF election results

Jim Crowley, executive director of SIAM, has informed me of the results of the election for
the offices of the SIAM Activity Group "Orthogonal Polynomials and Special Functions".

Elected Name	Position	E-mail Address
Walter Van Assche	Chair	walter@wis.kuleuven.be
Andrei Martínez-Finkelshtein	Vice-Chair	andrei@ual.es
Sarah Post	Program Director	spost@hawaii.edu
Yuan Xu	Secretary	yuan@uoregon.edu

I thank the members of our activity group for the confidence they have in me and Yuan for continuing our offices, and I welcome Andrei and Sarah as new officers. I look forward to working with them the next three years. The term of the elected officers starts January 1, 2017 and runs until December 31, 2019.

The past three years I had the pleasure to have Jeff Geronimo as vice-chair and Diego Dominici as program director. Many thanks for the service you gave to SIAG-OPSF and of course feel free to contact the new officers if you like to share some of your experiences and ideas.

My thanks also goes to all the nominated candidates. Your willingness for making some of your time available to serve the activity group is highly appreciated. We hope that you will still be available to our activity group in the future.

Topic #2 ——— OP – SF Net 24.1 ——— January 15, 2017

From: Mahishanka Withanachchi (mahiwith@math.tamu.edu)
Subject: Report by a Texas A&M PhD student on the ICMAA meeting in Roorkee, India

First of all, I would like to thank SIAM for providing a travel grant to attend the International Conference on Mathematical Analysis and Applications (ICMAA 2016) and I also would like to thank Linda Thiel, SIAM director of programs and services and Walter Van Assche for facilitating my grant as quickly as possible.

Since I have not been able to attend any conferences in India, I was curious about the ICMAA conference and what the Indian Institute of Technology of Roorkee (IIT Roorkee) had to offer me during this 5 day conference. It didn't take long to realize that I was the only graduate student attending the conference from the United States and it was my pleasure to talk with so many great mathematicians from all over the world and share my views with them. Now, without any hesitation, I can tell that this is one of the best conferences I attended so far in my career as a third year graduate student at Texas A&M University.

I really enjoyed the keynote talk of Walter Van Assche about multiple orthogonal polynomials. It was fascinating how one could use this approach to show the irrationality of the zeta function at specific integer values. I also enjoyed the plenary talks about Bohr's inequality and about univalent analytic, harmonic mappings in the complex plane. I could easily write a few pages about the talks I attended and how they may impact my research in the future, but I would like to save space and say I enjoyed all the talks that came close to my research interests.

My heartfelt gratitude goes to Anbhu Swaminathan and the organizing committee for

having this wonderful conference. I was very pleased to experience great Indian food and accommodation for five days, not to forget the extra effort Dr. Swaminathan had gone through to arrange the transportation back and forth from New Delhi to Roorkee, which took about 6 hours of driving in chaotic traffic. I'm sure all the invited participants enjoyed their time in Roorkee, based on discussions I had during the conference.

Finally, I would like to thank SIAM again for supporting graduate students in every possible way. I wish SIAM and specially the activity group of Orthogonal Polynomials and Special Functions to keep continuing this great work and I look forward to return this generosity to our research community via research and teaching in the future.

Topic #3 ——— OP – SF Net 24.1 ——— January 15, 2017

From: Patrick D. F. Ion (pion@umich.edu)
Subject: A special function concordance initiative from the IMKT

Recently the Alfred P. Sloan Foundation provided initial funding to set up the International Mathematical Knowledge Trust (IMKT), an organization committed to working toward the dream of a Global Digital Mathematics Library (GDML) endorsed by the International Mathematical Union in 2006. The PIs are Ingrid Daubechies (Duke U, North Carolina, USA) and Stephen Watt (U Waterloo, Ontario, Canada); the IMKT office will be in Waterloo. The proposal resulted from the work of the IMU's GDML Working Group.

A first initiative from the IMKT is to start a Special Functions Concordance. The mathematical community, researchers and users, will find such a resource useful in ensuring clarity for a widely used class of mathematical results. In addition, a concordance will be of value in exploring the capture of the semantics of a mathematical subject area in ways that can make use of, and be used by, computers. In this case, we have a subject that is commonly thought well explored and mostly settled, though clearly the readership here knows there's a lot yet to be done.

Goals we would like a Special Functions Concordance to achieve are:

- to provide a reliable public online resource of special functions (SF) definitions based on recognized community consensus

- to ensure that assertions of SF properties, such as identities between expressions involving SF, are checked and tested on a large scale by allowing comparison between evaluations in different symbolic systems and also numerically

- to be an example of mathematical knowledge disseminated with openness, clear provenance and warranties in a computable manner with modern tools, and so to display a step toward a GDML using modern tools and publication methods

A simple reminder is perhaps in order that there are matters for which it is useful to have publicly agreed upon and well specified conventions for computer handling. We need only think of the differences in published papers and computational systems that lead to varying results, sometimes in ways not obvious to their users: different normalizations in definitions, different conventions in cut choices (e.g., for inverse trigonometric functions), different choices for fundamental parameters (e.g., for elliptic functions), etc.

A possible outline of the development stages of a Special Functions Concordance is:

1. Carry out an inventory of SF occurrences in the main resources in the world that offer definitions and representation of SF.

2. Develop a corpus of reference definitions; this should be kept by a neutral broker of technical information. Associated with the definitions will be properties and relationships widely asserted and accepted, as well as information as to which systems contain them, and what the differences are between systems when they occur.

3. Add to the definitions collected corresponding expressions in standard mathematical data formats, with the various common syntaxes represented.

4. Carry out bulk verifications of properties and identities claimed for the SF in the knowledge base developed.

5. Record, as they become available, representations of the SF in various formal frameworks and check the property assertions within the formal systems.

The work that has to be done over these stages is not all equally demanding. An early rough inventory probably does not require additional funding but only voluntary collaboration. Settling on definitions will require checking of draft lists and conference calls, at least. The same is true of adding computable expressions. Doing a systematic and comprehensive job of both these activities will require some funding in the medium term. Setting up a bulk testing and verification system, then processing material through it, is also a task that needs resources.

So far, there have been some initial contacts with significant stakeholders in the world of Special Functions (e.g., NIST DLMF, Wolfram Research, Maple, INRIA DDMF, NAG, Sage and some academics). There should soon be a mailing-list set up and further teleconferencing to involve more of the community in both planning and doing. A useful concordance can only be achieved with collaboration and understanding by many committed experts.

To express interest in this initiative or to volunteer to help, e-mail sf-concord@imkt.org, or enquiries to Patrick D. F. Ion (pion@umich.edu), Chair of IMU/Committee on Electronic Information and Communication, GDML Working Group.

Topic #4 ———— OP – SF Net 24.1 ———— January 15, 2017

From: Tom Koornwinder (T.H.Koornwinder@uva.nl)
Subject: Published obituary on Mizan Rahman

Tom Koornwinder would like to inform the readership of OP-SF Net that the following obituary by Mourad Ismail and Erik Koelink on Mizan Rahman was published.

"In memoriam: Mizan Rahman" by Mourad E.H. Ismail and Erik Koelink (including publication list), Journal of Approximation Theory, **201** (2016), 87–97; http://dx.doi.org/10.1016/j.jat.2015.09.001

Topic #5 —— OP – SF Net 24.1 —— January 15, 2017

From: Tom Koornwinder (T.H.Koornwinder@uva.nl)
Subject: Jackson's third q-Bessel function versus the Hahn-Exton q-Bessel function

It is well known [1] that names of functions in our field are often historically incorrect. If these names are already in use for a long time then it is impossible to still change them in the light of later historical findings. But if the historically incorrect name was introduced more recently then there is still some chance to change the name and give credit to the person who first introduced the function. Here I want to make a case for Jackson's third q-Bessel function rather than Hahn-Exton q-Bessel function.

In our (Swarttouw and me) 1992 paper [2] (please refer also to the slightly corrected version [3] on arXiv in 2012) we traced back the third q-Bessel function to Hahn (1953) in a special case and Exton (1978) in general. So we introduced the name Hahn-Exton q-Bessel function, and this name was also used in the subsequent literature. But later Mourad Ismail [4, p. 184] found these functions already in a paper by Jackson [5, p. 201] in 1904. This was reason for him to propose the name Jackson's third q-Bessel function, and this name has been used since then in quite some papers. But the name with Hahn-Exton also persists in papers until the present day. Please use the name with Jackson in future. Of course you may also mention the earlier name when you introduce the function in the paper.

References

[1] R. Askey, Discussion of Szegő's paper "An outline of the history of orthogonal polynomials, in: G. Szegő, Collected works, Vol. 3, Birkhäuser, 1982, pp. 866–869.

[2] T. H. Koornwinder and R. F. Swarttouw, On q-Analogues of the Fourier and Hankel transforms, Trans. Amer. Math. Soc. 333 (1992), 445–461. doi:10.2307/2154118 .

[3] corrected version of [2], arXiv:1208.2521.

[4] M. E. H. Ismail, D. R. Masson and S. K. Suslov, The q-Bessel function on a q-quadratic grid, in: Algebraic methods and q-special functions, CRM Proc. Lecture Notes 22, Amer. Math. Soc., 1999, pp. 183–200. MR 1726835.

[5] F. H. Jackson, The application of basic numbers to Bessel's and Legendre's functions, Proc. London Math. Soc. (2) 2 (1904), 192–220. doi:10.1112/plms/s2-2.1.192.

Topic #6 —— OP – SF Net 24.1 —— January 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 November and December 2016. This list has been separated into two categories.

OP-SF Net Subscriber E-Prints

http://arxiv.org/abs/1611.00548
A uniform asymptotic expansion for the incomplete gamma functions revisited
R. B. Paris

http://arxiv.org/abs/1611.01020
Relative Szegő asymptotics for Toeplitz determinants
Maurice Duits, Rostyslav Kozhan

http://arxiv.org/abs/1611.02217
Wronskians of theta functions and series for $1/\pi$
Alex Berkovich, Heng Huat Chan, Michael J. Schlosser

http://arxiv.org/abs/1611.02560
Bôcher and abstract contractions of 2nd order quadratic algebras
M. A. Escobar Ruiz, E. G. Kalnins, W. Miller, Jr., E. Subag

http://arxiv.org/abs/1611.03547
CMV biorthogonal Laurent polynomials. II: Christoffel formulas for Geronimus-Uvarov perturbations
Gerardo Ariznabarreta, Manuel Mañas, Alfredo Toledano

http://arxiv.org/abs/1611.03831
Supersymmetric Casimir Energy and $SL(3, \mathbb{Z})$ Transformations
Frederic Brünner, Diego Regalado, Vyacheslav P. Spiridonov

http://arxiv.org/abs/1611.04973
Macdonald symmetry at $q = 1$ and a new class of inv-preserving bijections on words
Maria Gillespie, Ryan Kaliszewski, Jennifer Morse

http://arxiv.org/abs/1611.05256
Some elementary observations on Narayana polynomials and related topics II: q-Narayana polynomials
Johann Cigler

http://arxiv.org/abs/1611.05285
Connection formulas for the Ablowitz-Segur solutions of the inhomogeneous Painlevé II equation
Dan Dai, Weiying Hu

http://arxiv.org/abs/1611.05696
Laplace-type integral representations of the generalized Bessel function and of the Dunkl kernel of type B_2
Bechir Amri, Nizar Demni

http://arxiv.org/abs/1611.05775
Explicit (Polynomial!) Expressions for the Expectation, Variance and Higher Moments of the Size of a $(2n + 1, 2n + 3)$-core partition with Distinct Parts
Anthony Zaleski, Doron Zeilberger

http://arxiv.org/abs/1611.06724
Log-concavity and Turán-type inequalities for the generalized hypergeometric function
S. I. Kalmykov, D. B. Karp

http://arxiv.org/abs/1611.08028
A fast and spectrally convergent algorithm for fractional integral and differential equations with half-integer order terms
Nick Hale, Sheehan Olver

http://arxiv.org/abs/1611.08064
Two families of orthogonal polynomials on the unit circle from basic hypergeometric functions
A. Sri Ranga

http://arxiv.org/abs/1611.08806
Hypergeometric heritage of W.N. Bailey. With an appendix: Bailey's letters to F. Dyson
Wadim Zudilin

http://arxiv.org/abs/1611.08932
Spherical functions approach to sums of random Hermitian matrices
Arno B. J. Kuijlaars, Pablo Román

http://arxiv.org/abs/1611.09250
The q-Onsager algebra and multivariable q-special functions
Pascal Baseilhac, Luc Vinet, Alexei Zhedanov

http://arxiv.org/abs/1611.09486
Between the stochastic six vertex model and Hall-Littlewood processes
Alexei Borodin, Alexey Bufetov, Michael Wheeler

http://arxiv.org/abs/1612.00051
Images of Maass-Poincaré series in the lower half-plane
Nickolas Andersen, Kathrin Bringmann, Larry Rolen

http://arxiv.org/abs/1612.01149
Nikishin systems on star-like sets: ratio asymptotics of the associated multiple orthogonal polynomials
Abey López-García, Guillermo López Lagomasino

http://arxiv.org/abs/1612.01486
A linear system of differential equations related to vector-valued Jack polynomials on the torus
Charles F. Dunkl

http://arxiv.org/abs/1612.01916
Large gap asymptotics at the hard edge for product random matrices and Muttalib-Borodin ensembles
Tom Claeys, Manuela Girotti, Dries Stivigny

http://arxiv.org/abs/1612.01933
Extended relativistic Toda lattice and L-orthogonal polynomials on the real line and on the unit circle
Cleonice F. Bracciali, Jairo S. Silva, A. Sri Ranga

http://arxiv.org/abs/1612.02257
On the Laplace transform of absolutely monotonic functions
Stamatis Koumandos, Henrik L. Pedersen

http://arxiv.org/abs/1612.03718
Orthogonal expansions related to compact Gelfand pairs
Christian Berg, Ana P. Peron, Emilio Porcu

http://arxiv.org/abs/1612.04038
Tridiagonal representations of the q-oscillator algebra and Askey–Wilson polynomials
Satoshi Tsujimoto, Luc Vinet, Alexei Zhedanov

http://arxiv.org/abs/1612.05051
Rahman's biorthogonal functions and superconformal indices
Hjalmar Rosengren

http://arxiv.org/abs/1612.05301
A transference result of the L^p continuity of the Jacobi Littlewood–Paley g-function to the Gaussian and Laguerre Littlewood–Paley g-function
Eduard Navas, Wilfredo Urbina

http://arxiv.org/abs/1612.05455
On the Weber integral equation and solution to the Weber–Titchmarsh problem
Semyon Yakubovich

http://arxiv.org/abs/1612.05514
Durfee rectangles and pseudo-Wronskian equivalences for Hermite polynomials
David Gómez-Ullate, Yves Grandati, Robert Milson

http://arxiv.org/abs/1612.07035
Applications of spectral theory to special functions
Erik Koelink

http://arxiv.org/abs/1612.07108
Riemann–Hilbert analysis for a Nikishin system
Guillermo López Lagomasino, Walter Van Assche

http://arxiv.org/abs/1612.07229
Generalized Sobolev orthogonal polynomials, matrix moment problems and integrable systems
Gerardo Ariznabarreta, Manuel Mañas, Piergiulio Tempesta

http://arxiv.org/abs/1612.07284
q-Analogues of two product formulas of hypergeometric functions by Bailey
Michael J. Schlosser

http://arxiv.org/abs/1612.07530
Invariant properties for Wronskian type determinants of classical and classical discrete orthogonal polynomials under an involution of sets of positive integers
Guillermo P. Curbera, Antonio J. Durán

http://arxiv.org/abs/1612.07686
The Wigner distribution function for the $\mathfrak{su}(2)$ finite oscillator and Dyck paths
Roy Oste, Joris Van der Jeugt

http://arxiv.org/abs/1612.07692
A finite oscillator model with equidistant position spectrum based on an extension of $\mathfrak{su}(2)$
Roy Oste, Joris Van der Jeugt

http://arxiv.org/abs/1612.07700
A finite quantum oscillator model related to special sets of Racah polynomials
Roy Oste, Joris Van der Jeugt

http://arxiv.org/abs/1612.07815
A superintegrable model with reflections on S^{n-1} and the higher rank Bannai–Ito algebra
Hendrik De Bie, Vincent X. Genest, Jean-Michel Lemay, Luc Vinet

http://arxiv.org/abs/1612.08219
On a modularity conjecture of Andrews, Dixit, Schultz, and Yee for a variation of Ramamunjan's $\omega(q)$
Kathrin Bringmann, Chris Jennings-Shaffer, Karl Mahlburg

http://arxiv.org/abs/1612.08575
Maximum of the Riemann zeta function on a short interval of the critical line
Louis-Pierre Arguin, David Belius, Paul Bourgade, Maksym Radziwiłł, Kannan Soundararajan

http://arxiv.org/abs/1612.08732
On Asymptotic Regimes of Orthogonal Polynomials with Complex Varying Quartic Exponential Weight
Marco Bertola, Alexander Tovbis

http://arxiv.org/abs/1612.09196
$3nj$-symbols and identities for q-Bessel functions
Wolter Groenevelt

Other Relevant OP–SF E-Prints

http://arxiv.org/abs/1611.00242
On Spectral Approximations With Nonstandard Weight Functions and Their Implementations to Generalized Chaos Expansions
Adi Ditkowski, Rami Kats

http://arxiv.org/abs/1611.00267
The growth of polynomials orthogonal on the unit circle with respect to a weight w that satisfies $w, w^{-1} \in L^{\infty}(\mathbb{T})$
Sergey Denisov

http://arxiv.org/abs/1611.00304
Regularity results for transmission problems with sign-changing coefficients: a modal approach
Valentin Vinoles

http://arxiv.org/abs/1611.00438
Properties of the Turánian of modified Bessel functions
István Mező, Árpád Baricz

http://arxiv.org/abs/1611.00734
On the constants for some fractional Gagliardo-Nirenberg and Sobolev inequalities
Carlo Morosi, Livio Pizzocchero

http://arxiv.org/abs/1611.00957
Zeta Series Generating Function Transformations Related to Generalized Stirling Numbers and Partial Sums of the Hurwitz Zeta Function
Maxie D. Schmidt

http://arxiv.org/abs/1611.01274
Evaluation of Log-tangent Integrals by series involving $\zeta(2n+1)$
Lahoucine Elaissaoui, Zine El Abidine Guennoun

http://arxiv.org/abs/1611.01356
Circular pentagons and real solutions of Painlevé VI equations
Alexandre Eremenko, Andrei Gabrielov

http://arxiv.org/abs/1611.01624
On boundary-value problems for a partial differential equation with Caputo and Bessel operators
Praveen Agarwal, Erkinjon Karimov, Murat Mamchuev, Michael Ruzhansky

http://arxiv.org/abs/1611.02377
Bernoulli, poly-Bernoulli, and Cauchy polynomials in terms of Stirling and r-Stirling numbers
Khristo N. Boyadzhiev

http://arxiv.org/abs/1611.02467
Confining non-analytic exponential potential $V(x) = g^2 \exp(2|x|)$ and its exact Bessel-function solvability
Ryu Sasaki

http://arxiv.org/abs/1611.02668
Computing the Laplace eigenvalue and level of Maass cusp forms
Paul Savala

http://arxiv.org/abs/1611.02822
On finite Carlitz multiple polylogarithms
Chieh-Yu Chang, Yoshinori Mishiba

http://arxiv.org/abs/1611.02889
Hierarchies of sum rules for squares of spherical Bessel functions
L. G. Suttorp, A. J. van Wonderen

http://arxiv.org/abs/1611.03573
Asymptotic expansions of the inverse of the Beta distribution
Dimitris Askitis

http://arxiv.org/abs/1611.03697
Riemann–Hilbert problems from Donaldson–Thomas theory
Tom Bridgeland

http://arxiv.org/abs/1611.04663
Asymptotic formulae of two divergent bilateral basic hypergeometric series
Hironori Mori, Takeshi Morita

http://arxiv.org/abs/1611.05385
On solutions of ultradiscrete Painlevé II equation with parity variables
Hikaru Igarashi, Kouichi Takemura

http://arxiv.org/abs/1611.05562
On the extreme values of the Riemann zeta function on random intervals of the critical line
Joseph Najnudel

http://arxiv.org/abs/1611.05952
Symmetric Morse potential is exactly solvable
Ryu Sasaki

http://arxiv.org/abs/1611.06090
Some Model Theory of Hypergeometric and Pfaffian Functions
Ricardo Bianconi

http://arxiv.org/abs/1611.06493
Stochastic coagulation-fragmentation processes with a finite number of particles and applications
Nathanael Hoze, David Holcman

http://arxiv.org/abs/1611.06643
Generalized Lamé equation with finite monodromy
You-Cheng Chou

http://arxiv.org/abs/1611.06872
An elementary proof of the positivity of the intertwining operator in one-dimensional trigonometric Dunkl theory
Jean-Philippe Anker

http://arxiv.org/abs/1611.06991
Krawtchouk-Griffiths Systems I: Matrix Approach
Philip Feinsilver

http://arxiv.org/abs/1611.07242
Laplace copulas of multifactor gamma distributions are new generalized Farlie-Gumbel-Morgenstern copulas
Philippe Bernardoff

http://arxiv.org/abs/1611.07686
Generalized Rodriguez–Villegas supercongruences involving p-adic Gamma functions
Ji–Cai Liu

http://arxiv.org/abs/1611.08126
On mixed joint discrete universality for a class of zeta–functions
Roma Kačinskaitė, Kohji Matsumoto

http://arxiv.org/abs/1611.08213
An introduction to Dunkl theory and its analytic aspects
Jean–Philippe Anker

http://arxiv.org/abs/1611.08423
Inequalities of extended Beta and extended hypergeometric functions
Saiful R. Mondal

http://arxiv.org/abs/1611.08493
Modular forms, Schwarzian conditions, and symmetries of differential equations in physics
Y. Abdelaziz, J.–M. Maillard

http://arxiv.org/abs/1611.08693
On The Product of Dedekind zeta functions
Soumyarup Banerjee, Azizul Hoque, Kalyan Chakraborty

http://arxiv.org/abs/1611.08706
Improved error bound for multivariate Chebyshev polynomial interpolation
Kathrin Glau, Mirco Mahlstedt

http://arxiv.org/abs/1611.08885
The law of large numbers for the maximum of almost Gaussian log–correlated fields coming from random matrices
Gaultier Lambert, Elliot Paquette

http://arxiv.org/abs/1611.08971
Conformal blocks and Painlevé functions
Hajime Nagoya

http://arxiv.org/abs/1611.09157
Pathway fractional integral operators involving k–Struve function
Kottakkaran S. Nisar, Saiful R. Mondal

http://arxiv.org/abs/1611.09198
Averages of ratios of the Riemann zeta–function and correlations of divisor sums
Brian Conrey, Jonathan P. Keating

http://arxiv.org/abs/1611.09429
More on some Mock theta Double sums
Alexander E. Patkowski

http://arxiv.org/abs/1611.10037
On the critical points of random matrix characteristic polynomials and of the Riemann ξ-function
Sasha Sodin

http://arxiv.org/abs/1611.10188
A p-adic supercongruence for truncated hypergeometric series ${}_7F_6$
Ji-Cai Liu

http://arxiv.org/abs/1611.10192
Controllability of a 2D quantum particle in a time-varying disc with radial data
Iván Moyano

http://arxiv.org/abs/1611.10325
An effective universality theorem for the Riemann zeta-function
Youness Lamzouri, Stephen Lester, Maksym Radziwill

http://arxiv.org/abs/1612.00056
Generalized Fourier-Bessel operator and almost-periodic interpolation and approximation
Jean-Paul Gauthier, Dario Prandi

http://arxiv.org/abs/1612.00205
Construction by similarity method of the fundamental solution of the Dirichlet problem for Keldysh type equation in the half-space
Oleg D. Algazin

http://arxiv.org/abs/1612.00588
Krawtchouk-Griffiths Systems II: As Bernoulli Systems
Philip Feinsilver

http://arxiv.org/abs/1612.00726
A note on the universality of Hurwitz-Lerch zeta functions
Mattia Righetti

http://arxiv.org/abs/1612.00765
A generalization of Ramanujan's congruence to modular forms of prime level
Radu Gaba, Alexandru A. Popa

http://arxiv.org/abs/1612.00862
Some Open Problems Concerning Orthogonal Polynomials on Fractals and Related Questions
Gökalp Alpan, Alexander Goncharov

http://arxiv.org/abs/1612.00927
Simplified Expressions of the Multi-indexed Laguerre and Jacobi Polynomials
Satoru Odake, Ryu Sasaki

http://arxiv.org/abs/1612.01141
Multirank and classical theta functions
Shishuo Fu, Dazhao Tang

http://arxiv.org/abs/1612.01350
Real solutions of the first Painlevé equation with large initial data
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Olga Bershtein

Topic #7 ——— OP – SF Net 24.1 ——— January 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:

>Society for Industrial and Applied Mathematics
>3600 University City Science Center
>Philadelphia, PA 19104-2688 USA
>phone: +1-215-382-9800
>e-mail: service@siam.org
>WWW : http://www.siam.org

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 24.2 should be sent by March 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:
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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

"$\sin^2\varphi$ is odious to me, even though Laplace made use of it; should it be feared that $\sin^2\varphi$ might become ambiguous, which would perhaps never occur, or at most very rarely when speaking of $\sin(\varphi^2)$, well then, let us write $(\sin\varphi)^2$, but not $\sin^2\varphi$, which by analogy should signify $\sin(\sin\varphi)$. "

Carl Friedrich Gauss (1777–1855),
  in a letter to astronomer Heinrich Christian Schumacher, September 23, 1839
  (much thanks to Juan José Moreno Balcázar, Universidad de Almería, Spain,
  for pointing out the correct date of the correspondence).