

# OP-SF NET – Volume 25, Number 2 – March 15, 2018

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 30, 2018

Conference on Scientific Computing and Approximation,  
in honor of Prof. Walter Gautschi on occasion of his 90<sup>th</sup> birthday

<https://www.cs.purdue.edu/sca>

### May 14–18, 2018

Workshop on Complex ODEs: Asymptotics, Orthogonal Polynomials and  
Random Matrices, Random Matrices EurAsia-2018,  
Pisa, Italy

<http://www.crm.sns.it/event/429>

### June 21–24, 2018

Combinatory Analysis 2018

A Conference in Honor of George Andrews' 80<sup>th</sup> Birthday  
Pennsylvania State University, State College, PA

<http://personal.psu.edu/jxs23/gea80/>

**June 25–29, 2018**

Orthogonal Polynomials and Special Functions Summer School (OPSF–S8)  
Higher School of Sciences and Technology, Sousse University, Sousse, Tunisia  
<http://www.essths.rnu.tn/OPSF-S8/acceuil.html>

**July 3–6, 2018**

VII Iberoamerican School on Orthogonal Polynomials and Applications (EIBPOA2018)  
Universidad Carlos III de Madrid, Leganés, Spain  
<https://sites.google.com/site/eibpoa2018>

**July 8–13, 2018**

IX Jaen Conference on Approximation Theory, Computer Aided Geometric Design,  
Numerical Methods and Applications, Dedicated to Professor Guillermo  
Lopez–Lagomasino on the occasion of his 70<sup>th</sup> birthday,  
Úbeda, Jaen, Spain  
<http://www.ujaen.es/revista/jja/jca>

**August 14–17, 2018**

International Conference on Orthogonal Polynomials and Holomorphic Dynamics (opds2018)  
Carlsberg Academy, Copenhagen, Denmark  
<http://www.math.ku.dk/~henrikp/opds2018>

**September 2–15, 2018**

Complex Differential and Difference Equations  
Banach Center, Będlewo, Poland  
<https://www.impan.pl/en/activities/banach-center/conferences/18-cdde>

**October 5–12, 2018**

AIMS–Volkswagen Stiftung Workshop on Introduction to Orthogonal Polynomials  
and Applications, [Hotel Prince de Galles](#), Douala/Limbe, Cameroon  
<http://www.aims-volkswagen-workshops.org/workshop-information.html>

**October 26–29, 2018**

The Mediterranean International Conference of Pure and Applied Mathematics  
and Related Areas, Dedicated to Professor Gradimir V. Milovanovic on the  
occasion of his 70<sup>th</sup> Anniversary, Antalya, Turkey  
<http://micopam2018.akdeniz.edu.tr/information>

**November 11–17, 2018**

Symmetries and Integrability of Difference Equations (SIDE13:2018)  
Fukuoka, Japan  
<http://side-conferences.net>

**July 22–26, 2019**

International Symposium on Orthogonal Polynomials, Special Functions & Applications  
(OPSFA–15)  
RISC, Johannes Kepler University, Linz, Austria

Topic #1 ——— OP – SF Net 25.2 ——— March 15, 2018

From: Yang Chen ([chenyayang57@gmail.com](mailto:chenyayang57@gmail.com))  
Subject: Estelle Basor named as AMS Fellow

Estelle Basor (American Institute of Mathematics) has been named a Fellow of the AMS, “For contributions to analysis and for service to the mathematical community.”

The list of 2018 AMS Fellows is available at:  
<http://www.ams.org/profession/ams-fellows/new-fellows>.

Topic #2 ——— OP – SF Net 25.2 ——— March 15, 2018

From: Ronald F. Boisvert ([boisvert@nist.gov](mailto:boisvert@nist.gov))  
Subject: Increasing awareness of the NIST DLMF

As the NIST Digital Library of Mathematical Functions (DLMF), <http://dlmf.nist.gov>, approaches its 8<sup>th</sup> anniversary, we continue to be surprised at the number of researchers who are not aware of it. This is evidenced by the continuing high citation rate of the classic Abramowitz and Stegun handbook. The DLMF aims to bring this classic text into the 21<sup>st</sup> century by providing a free online resource. The mathematical content has doubled, and is supported with rich metadata, current references, interactive graphics and math-aware search. So, please help us spread the word!

We continue to update and expand the information in the DLMF. If you would like to learn more about the DLMF and its recent activities, see the recent article published in [Physics Today](#), which can be found [here](#).

Topic #3 ——— OP – SF Net 25.2 ——— March 15, 2018

From: Karl Deckers ([Karl.Deckers@math.univ-lille1.fr](mailto:Karl.Deckers@math.univ-lille1.fr))  
Subject: Announcement: Approximation and Matrix Functions 2018 in Lille, France

[Approximation and Matrix Functions](#) (amf2018)  
Laboratoire Paul Painlevé, Université de Lille, France  
May 31 – June 1, 2018

The interaction between numerical linear algebra and constructive approximation theory has been shown to be very fruitful in the last decade, especially in the area of computing matrix functions. The aim of this meeting is to gather specialists in constructive approximation theory including orthogonal polynomials, rational approximation, low rank Tensor approximation in high dimensions, asymptotic analysis, and others. A special emphasis is given on various applications in linear algebra such as matrix functions or random matrices.

**Invited Speakers:**

Gerlind Hoch-Plonka, University of Göttingen  
Ana Filipa Loureiro, University of Kent

Lars Grasedyck, TU Aachen  
Stefan Güttel, University of Manchester  
Arno Kuijlaars, KU Leuven  
Ivan Markovsky, University of Bruxelles  
Bernard Mourrain, INRIA Sophia  
Nick Trefethen, University of Oxford + ENS Lyon  
Raf Vandebril, KU Leuven

There will also be a poster session. We kindly invite you to submit an abstract.

**Deadlines:**

Abstract submission ..... April 30, 2018  
Online registration ..... April 30, 2018

We are looking forward to meeting you in Lille in May 2018.

**Organizers:**

Ana C. Matos, Université de Lille  
Laurent Smoch, Université du Littoral  
Karl Deckers, Université de Lille  
Bernd Beckermann, Université de Lille

Topic #4 ——— OP – SF Net 25.2 ——— March 15, 2018

From: OP–SF Net Editors  
Subject: Announcement: Combinatory Analysis 2018 at PSU, USA

**Combinatory Analysis 2018:** a Conference in Honor of George Andrews' 80<sup>th</sup> Birthday  
Pennsylvania State University, University Park, Pennsylvania, USA  
June 21–24, 2018, 2018

Combinatory Analysis 2018 will serve as an avenue for mathematicians, graduate students, and others interested in partitions to explore new achievements, research trends, and problems in this area. It will also provide an opportunity to celebrate the 80<sup>th</sup> birthday of George Andrews, one of the world's leading experts in partitions and  $q$ -series for the last several decades.

**Plenary Speakers** (confirmed):

Krishna Alladi, University of Florida  
George Andrews, Penn State University  
Alexander Berkovich, University of Florida  
Bruce Berndt, University of Illinois, Urbana–Champaign  
Bill Chen, Nankai University

Sylvie Corteel, CNRS, LIAFA, Université Denis Diderot – Paris 7  
Kimmo Eriksson, Malardalen University, Sweden  
Frank Garvan, University of Florida  
Christian Krattenthaler, University of Vienna  
Jeremy Lovejoy, CNRS, LIAFA, Université Denis Diderot – Paris 7  
Ken Ono, Emory University  
Peter Paule, RISC and Johannes Kepler University, Austria  
Drew Sills, Georgia Southern University  
Richard Stanley, MIT  
Ole Warnaar, University of Queensland  
Ae Ja Yee, Penn State University  
Doron Zeilberger, Rutgers University.

There will be also be a number of slots for contributed talks.  
The deadline for submitting contributed paper talks is **April 1, 2018**.  
The registration deadline is **May 1, 2018** .

**Organizers:**

Krishnaswami Alladi, University of Florida  
Bruce Berndt, University of Illinois, Urbana–Champaign  
Peter Paule, RISC and Johannes Kepler University, Austria  
James Sellers (local organizer), Penn State University  
Ae Ja Yee (local organizer), Penn State University

Topic #5 ——— OP – SF Net 25.2 ——— March 15, 2018

From: Miguel Ángel Cárdenas Cobo ([macobo@ujaen.es](mailto:macobo@ujaen.es))  
Subject: Announcement: IX Jaen Conference on Approximation Theory in Jaen, Spain

**IX Jaen Conference on Approximation Theory:**

A Conference in Honor of Guillermo López-Lagomasino's 70<sup>th</sup> birthday  
Úbeda, Jaen, Spain  
July 8–13, 2018

On behalf of the Organizing Committee, we would like to invite you to attend the Conference (including on–line participation), and to contribute a talk or a poster. We also provide the possibility to organizing minisymposia on subjects of current interest.

**Plenary Speakers** (confirmed):

Ding–Xuan Zhou, City University of Hong Kong, China  
Heiner Gonska, Universität Duisburg–Essen, Germany

Sergey Tikhonov, ICREA, Centre de Recerca Matemàtica, Spain

Edward Saff, Vanderbilt University, USA

Jörg Peters, University of Florida, USA

Volodymyr Andrievskii, Kent State University, USA

The Conference is an activity of the Jaen Approximation Project. The Jaen Approximation Project has organized ten editions of the Úbeda Meeting on Approximation and eight editions of the Jaen Conference on Approximation. It also issues the [Jaen Journal on Approximation](#) since 2009.

The objective of these conferences is to provide a useful and nice forum for researchers to meet and discuss. In this sense, the conference program has been designed to join together the group during four/five days with a program full of scientific and social activities.

The Conference will be devoted to some significant aspects on Approximation Theory, Computer Aided Geometric Design, Numerical Methods and the Applications of these fields in other areas.

The Conference will take place in Úbeda, Spain, a World Heritage Site.

The participants are expected to arrive on July 8<sup>th</sup>, 2018 and to leave on July 13<sup>th</sup>, 2018. The opening ceremony will take place on July 9<sup>th</sup> and the closing ceremony will take place on July 12<sup>th</sup>.

The Conference will feature six/eight invited speakers who will each give 45 minutes plenary talks. We invite you to contribute a talk or a poster. In this edition, we also offer the possibility to attend on-line and to contribute a poster.

The conference will be dedicated to Prof. Guillermo López-Lagomasino on the occasion of his 70<sup>th</sup> birthday.

Last but not least important, the Conference provides you with the possibility to visit a World Heritage Site and taste a wide culinary variety. According to previous experiences, accompanying people will enjoy the Conference.

For further information, please visit the conference website:

<http://www.ujaen.es/revista/jja/jca>.

Topic #6      ———      OP – SF Net 25.2      ———      March 15, 2018

From: Henrik Laurberg Pedersen ([henrikp@math.ku.dk](mailto:henrikp@math.ku.dk)) and Jacob Stordal Christiansen ([stordaljc@gmail.com](mailto:stordaljc@gmail.com))

Subject: Announcement: OPDS2018 in Copenhagen, Denmark

[International Conference on Orthogonal Polynomials and Holomorphic Dynamics](#)

[Carlsberg Academy](#), Copenhagen, Denmark

August 14–17, 2018

The aim of the conference is to bring together experts in areas related to orthogonal polynomials and holomorphic dynamical systems to exchange knowledge.

The scientific program includes (50 minute) **Invited Talks** by:

David Damanik, Rice University, USA

David Gomez-Ullate, Complutense University of Madrid, Spain

John Hamal Hubbard, Cornell University, USA

Sarah C. Koch, University of Michigan, USA

Arno Kuijlaars, KU Leuven, Belgium

Kevin Pilgrim, Indiana University Bloomington, USA

Nikos Stylianopoulos, University of Cyprus, Cyprus

Barry Simon, Caltech, USA

Saeed Zakeri, The City University of New York, USA

Anna Zdunik, Warsaw University, Poland

Maxim Zinchenko, University of New Mexico, USA

For **registration** and **submission** of abstracts see:

<http://www.math.ku.dk/~henrikp/opds2018>.

**Conference venue:**

The conference is held at the Carlsberg Academy in Copenhagen. The historic buildings were build by and home to brewer J. C. Jacobsen. Later they functioned as honorary residence for university professors including Niels Bohr. The talks are expected to take place in the magnificent hall known as “Pompeii”.

**Conference Organizers:**

Jacob Stordal Christiansen, Lund University, Sweden

Christian Henriksen, Technical University of Denmark, Denmark

Henrik Laurberg Pedersen, University of Copenhagen, Denmark

Carsten Lunde Petersen, Roskilde University, Denmark

The conference is funded by:

[The Danish Council for Independent Research – Natural Sciences](#).

**Topic #7** ——— **OP – SF Net 25.2** ——— **March 15, 2018**

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 2018. This list has been separated into two categories.

## OP-SF Net Subscriber E-Prints

<http://arxiv.org/abs/1801.00210>

A study of elliptic gamma function and allies  
Vicențiu Pașol, Wadim Zudilin

<http://arxiv.org/abs/1801.00521>

Asymptotic Gap Probability Distributions of the Gaussian Unitary Ensembles and Jacobi Unitary Ensembles  
Shulin Lyu, Yang Chen, Engui Fan

<http://arxiv.org/abs/1801.01313>

Thinplate splines on the sphere  
R.K. Beatson, W. zu Castell

<http://arxiv.org/abs/1801.01570>

How Many Rounds Should You Expect in Urn Solitaire?  
Shalosh B. Ekhad, Doron Zeilberger

<http://arxiv.org/abs/1801.02267>

Laguerre–Freud equations for Generalized Hahn polynomials of type I  
Diego Dominici

<http://arxiv.org/abs/1801.02650>

Higher order recurrences and row sequences of Hermite–Padé approximation  
G. López Lagomasino, Y. Zaldivar Gerpe

<http://arxiv.org/abs/1801.03004>

Direct and inverse results on row sequences of simultaneous Padé–Faber approximants  
N. Bosuwan, G. López Lagomasino

<http://arxiv.org/abs/1801.04360>

Rational Solutions of the Painlevé–III Equation  
Thomas Bothner, Peter D. Miller, Yue Sheng

<http://arxiv.org/abs/1801.04625>

On difference operators for symmetric Krall–Hahn polynomials  
Antonio J. Durán, Manuel D. de la Iglesia

<http://arxiv.org/abs/1801.05097>

Boolean Function Analogs of Covering Systems  
Anthony Zaleski, Doron Zeilberger

<http://arxiv.org/abs/1801.05608>

Catalan numbers, Hankel determinants and Fibonacci polynomials  
Johann Cigler

<http://arxiv.org/abs/1801.05625>

Biorthogonality and para-orthogonality of  $R_I$  polynomials  
Kiran Kumar Behera, A. Swaminathan



<http://arxiv.org/abs/1801.05749>

On Gaussian random matrices coupled to the discrete Laplacian  
Rostyslav Kozhan

<http://arxiv.org/abs/1801.06002>

Short walk adventures  
Armin Straub, Wadim Zudilin

<http://arxiv.org/abs/1801.06013>

Inverse of infinite Hankel moment matrices  
Christian Berg, Ryszard Szwarc

<http://arxiv.org/abs/1801.06083>

The  $q$ -Onsager algebra and the universal Askey–Wilson algebra  
Paul Terwilliger

<http://arxiv.org/abs/1801.07304>

Beta distributions and Sonine integrals for Bessel functions on symmetric cones  
Margit Rösler, Michael Voit

<http://arxiv.org/abs/1801.07325>

Gaussian bounds for the weighted heat kernels on the interval, ball and simplex  
Gerard Kerkycharian, Pencho Petrushev, Yuan Xu

<http://arxiv.org/abs/1801.07326>

Gaussian bounds for the heat kernels on the ball and simplex: Classical approach  
Gerard Kerkycharian, Pencho Petrushev, Yuan Xu

<http://arxiv.org/abs/1801.07454>

Center of mass distribution of the Jacobi unitary ensembles: Painlevé V, asymptotic expansions  
Longjun Zhan, Gordon Blower, Yang Chen, Mengkun Zhu

<http://arxiv.org/abs/1801.07596>

Asymptotic behaviour of the third Painlevé transcendents in the space of initial values  
Nalini Joshi, Milena Radnovic

<http://arxiv.org/abs/1801.07640>

Model theory and combinatorics of banned sequences  
Hunter Chase, James Freitag

<http://arxiv.org/abs/1801.08670>

A class of Meijer's G functions and further representations of the generalized hypergeometric functions  
D.B. Karp, J.L. López

<http://arxiv.org/abs/1801.08859>

On a new  $q$ -analogue of Appell polynomials  
P. Njionou Sadjang

<http://arxiv.org/abs/1801.09099>

Recurrence relations for orthogonal polynomials on a triangle  
Sheehan Olver, Alex Townsend, Geoff Vasil

<http://arxiv.org/abs/1801.09160>

Infinite products involving Dirichlet characters and cyclotomic polynomials  
K. Dilcher, C. Vignat

<http://arxiv.org/abs/1801.09181>

Generalized Lambert series, Raabe's integral and a two-parameter generalization of Ramanujan's formula for  $\zeta(2m+1)$

Atul Dixit, Rajat Gupta, Rahul Kumar, Bibekananda Maji

<http://arxiv.org/abs/1801.09433>

Self-duality of Markov processes and intertwining functions

Chiara Franceschini, Cristian Giardinà, Wolter Groenevelt

<http://arxiv.org/abs/1801.09537>

Positive-definiteness and integral representations for special functions

Jorge Buescu, António Paixão

<http://arxiv.org/abs/1801.09654>

Quantum Fractional Revival on Graphs

Ada Chan, Gabriel Coutinho, Christino Tamon, Luc Vinet, Hanmeng Zhan

<http://arxiv.org/abs/1801.09895>

One of the odd zeta values from  $\zeta(5)$  to  $\zeta(25)$  is irrational. By elementary means  
Wadim Zudilin

<http://arxiv.org/abs/1801.09921>

On the properties of the  $(p, \nu)$ -extension of the Whittaker function  $M_{\kappa, \mu}(z)$

S. A. Dar, R. B. Paris

<http://arxiv.org/abs/1801.10261>

Bispectrality and Time-Band-Limiting: Matrix valued polynomials

F. Alberto Grünbaum, Inés Pacharoni, Ignacio N. Zurrián

<http://arxiv.org/abs/1801.10554>

Structure relations of classical orthogonal polynomials of the quadratic and  $q$ -quadratic variable

Maurice Kenfack Nangho, Kerstin Jordaan

<http://arxiv.org/abs/1802.00711>

Gromov-Witten invariants of the Riemann sphere

Boris Dubrovin, Di Yang, Don Zagier

<http://arxiv.org/abs/1802.00993>

A two-parameter extension of the Urbanik semigroup

Christian Berg

<http://arxiv.org/abs/1802.01153>

Painlevé IV critical asymptotics for orthogonal polynomials in the complex plane

Marco Bertola, Tamara Grava, Jose Gustavo Rebelo

<http://arxiv.org/abs/1802.01506>

On  $q$ -analogues of some series for  $\pi$  and  $\pi^2$   
Qing-Hu Hou, Christian Krattenthaler, Zhi-Wei Sun

<http://arxiv.org/abs/1802.02221>

Inequalities for integrals of the modified Struve function of the first kind  
Robert E. Gaunt

<http://arxiv.org/abs/1802.03962>

An extension of Laplace's method  
Gergő Nemes

<http://arxiv.org/abs/1802.04616>

Ramanujan-type formulae for  $1/\pi$ :  $q$ -analogues  
Victor J. W. Guo, Wadim Zudilin

<http://arxiv.org/abs/1802.05221>

Stochastic Darboux transformations for quasi-birth-and-death processes and urn models  
F. Alberto Grünbaum, Manuel D. de la Iglesia

<http://arxiv.org/abs/1802.05226>

Geometric and monotonic properties of hyper-Bessel functions  
İbrahim Aktaş, Árpád Baricz, Sanjeev Singh

<http://arxiv.org/abs/1802.05460>

Shape invariance and equivalence relations for pseudowronskians of Laguerre and Jacobi polynomials  
David Gomez-Ullate, Yves Grandati, Robert Milson

<http://arxiv.org/abs/1802.05990>

Some determinants of path generating functions, II  
Christian Krattenthaler, Daniel Yaqubi

<http://arxiv.org/abs/1802.06506>

Equidistribution of zeros of polynomials  
K. Soundararajan

<http://arxiv.org/abs/1802.06657>

On the product formula and convolution associated with the index Whittaker transform  
Rúben Sousa, Manuel Guerra, Semyon Yakubovich

<http://arxiv.org/abs/1802.07122>

Reproducing kernel orthogonal polynomials on the multinomial distribution  
Persi Diaconis, Robert Griffiths

<http://arxiv.org/abs/1802.07310>

Simple proofs and expressions for the restricted partition function and its polynomial part  
S. Robins, C. Vignat

<http://arxiv.org/abs/1802.08210>

Half-space Macdonald processes  
Guillaume Barraquand, Alexei Borodin, Ivan Corwin

<http://arxiv.org/abs/1802.08856>

Hypergeometry inspired by irrationality questions  
Christian Krattenthaler, Wadim Zudilin

<http://arxiv.org/abs/1802.09190>

Generalized Burchnell–type identities for orthogonal polynomials and expansions  
Mourad E. H. Ismail, Erik Koelink, Pablo Roman

<http://arxiv.org/abs/1802.09708>

Series solutions of Laguerre– and Jacobi–type differential equations in terms of orthogonal polynomials and physical applications  
A. D. Alhaidari

<http://arxiv.org/abs/1802.09856>

On (shape–)Wilf–equivalence for words  
Ting Guo, Christian Krattenthaler, Yi Zhang

<http://arxiv.org/abs/1802.09885>

The determinant of an elliptic Sylvesteresque matrix  
Gaurav Bhatnagar, Christian Krattenthaler

## Other Relevant OP–SF E–Prints

<http://arxiv.org/abs/1801.00352>

Coherence, squeezing and entanglement — an example of peaceful coexistence  
K. Górska, A. Horzela, F. H. Szafraniec

<http://arxiv.org/abs/1801.00403>

Exact eigenfunction amplitude distributions of integrable quantum billiards  
Rhine Samajdar, Sudhir R. Jain

<http://arxiv.org/abs/1801.01084>

Planar Orthogonal Polynomials As Type II Multiple Orthogonal Polynomials  
Seung–Yeop Lee, Meng Yang

<http://arxiv.org/abs/1801.01251>

Period integral of open Fermat surfaces and special values of hypergeometric functions  
Tomohide Terasoma

<http://arxiv.org/abs/1801.01289>

On sums of squares of  $|\zeta(\frac{1}{2} + i\gamma)|$  over short intervals  
Aleksandar Ivić

<http://arxiv.org/abs/1801.01380>

The cost of controlling strongly degenerate parabolic equations  
Piermarco Cannarsa, Patrick Martinez, Judith Vancostenoble

<http://arxiv.org/abs/1801.01588>

On a class of polynomials connected to Bell polynomials  
Miloud Mihoubi, Madjid Sahari

<http://arxiv.org/abs/1801.01906>

Rankin–Cohen brackets and Serre derivatives as Poincaré series  
Brandon Williams

<http://arxiv.org/abs/1801.02182>

On Laporta’s 4–loop sunrise formulae  
Yajun Zhou

<http://arxiv.org/abs/1801.02213>

On two conjectured supercongruences involving truncated hypergeometric series  
Guo–Shuai Mao, Hao Pan

<http://arxiv.org/abs/1801.02312>

Newton diagram of positivity for  ${}_1F_2$  generalized hypergeometric functions  
Yong–Kum Cho, Hera Yun

<http://arxiv.org/abs/1801.02313>

Probability distributions of multi–species  $q$ –TAZRP and ASEP as double cosets of parabolic subgroups  
Jeffrey Kuan

<http://arxiv.org/abs/1801.02373>

Discrete Gaussian distributions via theta functions  
Daniele Agostini, Carlos Améndola

<http://arxiv.org/abs/1801.02428>

Quadratic Transformations of Hypergeometric Function and Series with Harmonic Numbers  
Martin Nicholson

<http://arxiv.org/abs/1801.02481>

Combinatorial Proofs of Two Overpartition Theorems Connected by a Universal Mock Theta Function  
Doris D. M. Sang, Diane Y. H. Shi

<http://arxiv.org/abs/1801.02511>

Direct sampling method for anomaly imaging from  $S$ –parameter  
Won–Kwang Park

<http://arxiv.org/abs/1801.02516>

Detection of small inhomogeneities via direct sampling method in transverse electric polarization  
Won–Kwang Park

<http://arxiv.org/abs/1801.02749>

Degenerations, theta functions and geometric quantization in mirror symmetry  
Atsushi Kanazawa

<http://arxiv.org/abs/1801.02772>

Restricted sum formula for finite and symmetric multiple zeta values  
Hideki Murahara, Shingo Saito

<http://arxiv.org/abs/1801.03067>

On statistical models on super trees  
A. S. Gorsky, S. K. Nechaev, A. F. Valov

<http://arxiv.org/abs/1801.03390>

Case study: Approximations of the Bessel Function  
D. S. Karachalios, I. V. Gosea, Q. Zhang, A. C. Antoulas

<http://arxiv.org/abs/1801.03653>

Sums of gcd-sum functions with weights concerning the Gamma function and Bernoulli polynomials  
Isao Kiuchi, Sumaia Saad Eddin

<http://arxiv.org/abs/1801.03654>

Proving some identities of Gosper on  $q$ -trigonometric functions  
Mohamed El Bachraoui

<http://arxiv.org/abs/1801.04075>

Laplace, Residue, and Euler integral representations of GKZ hypergeometric functions  
Saiei-Jaeyeong Matsubara-Heo

<http://arxiv.org/abs/1801.04639>

An Elementary Dyadic Riemann Hypothesis  
Oliver Knill

<http://arxiv.org/abs/1801.04643>

Generalized Lambert Series Identities and Applications in Rank Differences  
Bin Wei, Helen W.J. Zhang

<http://arxiv.org/abs/1801.04711>

A note on the zeros of the zeta-function of Riemann  
Aleksandar Ivić

<http://arxiv.org/abs/1801.05003>

Bounds for some entropies and special functions  
Adina Barar, Gabriela Raluca Mocanu, Ioan Rasa

<http://arxiv.org/abs/1801.05004>

Heun functions related to entropies  
Adina Barar, Gabriela Raluca Mocanu, Ioan Rasa

<http://arxiv.org/abs/1801.05008>

Extremal Polynomials and Entire Functions of Exponential Type  
Michael Revers

<http://arxiv.org/abs/1801.05045>

Two-dimensional Dirac fermion in presence of an asymmetric vector potential  
A. Ishkhanyan, V. Jakubsky

<http://arxiv.org/abs/1801.05054>

Heun functions and combinatorial identities  
Adina Barar, Gabriela Raluca Mocanu, Ioan Rasa

<http://arxiv.org/abs/1801.05176>

The hypergeometric function for the root system of type  $A$  with a certain degenerate parameter

Nobukazu Shimeno, Yuichi Tamaoka

<http://arxiv.org/abs/1801.05677>

Real-analytic Eisenstein series via the Poincaré bundle

Johannes Sprang

<http://arxiv.org/abs/1801.05679>

Zonal and Associated Functions on  $SO_0(p, q)$  Groups

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Some integrals and series involving the Stieltjes constants

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Marc Casals, Peter Zimmerman

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The De Bruijn–Newman constant is non-negative

Brad Rodgers, Terence Tao

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A functional logarithmic formula for hypergeometric functions  ${}_3F_2$

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Ramanujan’s Master Theorem and two formulas for zero-order Hankel transform

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Arieh Iserles, Karolina Kropielnicka, Pranav Singh

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Magnus–Lanczos methods with simplified commutators for the Schrödinger equation with a time-dependent potential

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Evaluations of infinite series involving reciprocal quadratic hyperbolic functions

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New Proofs of Ramanujan's Identities on False Theta Functions

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A recurrence relation for Wronskian Hermite polynomials

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An extension of the Whittaker function

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Fuchsian equations with three non-apparent singularities

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The Toda and Painlevé systems associated with semiclassical matrix-valued orthogonal polynomials of Laguerre type

Mattia Cafasso, Manuel D. de la Iglesia

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A periodic solution of period two of a delay differential equation

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Spectral Shape Preserving Approximation

Vladimir S. Chelyshkov



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Fekete–Szegő Inequality for Analytic and Bi-univalent Functions Subordinate to Chebyshev Polynomials

Feras Yousef, B. A. Frasin, Tariq Al-Hawary

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Taylor series for generalized Lambert  $W$  functions

Paul Castle

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Biorthogonal Polynomial System Composed of  $X$ -Jacobi Polynomials from Different Sequences

Gregory Natanson

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Green Function of the Poisson Equation:  $D=2,3,4$

U. D. Jentschura, J. Sapirstein

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Fujii's development on Chebyshev's conjecture

Dave Platt, Tim Trudgian

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Four-dimensional Painlevé-type difference equations

Hiroshi Kawakami

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Discriminants of classical quasi-orthogonal polynomials, with combinatorial and number-theoretic applications

Masanori Sawa, Yukihiro Uchida

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Combinatorial proofs for identities related with generalizations of the mock theta functions  $\omega(q)$  and  $\nu(q)$

Frank Z.K. Li, Jane Y.X. Yang

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Bessel Identities in the Waldspurger Correspondence over the Complex Numbers

Jingsong Chai, Zhi Qi

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Two  $q$ -analogues of Euler's formula  $\zeta(2) = \pi^2/6$

Zhi-Wei Sun

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Dunkl-Schrödinger operators

Amel Hammi, Bechir Amri

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Ramanujan series with a shift  
Jesús Guillera

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A new method for proving some inequalities related to several special functions  
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Difference equations related to Jacobi-type pencils  
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Szilárd Szabó

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The algebraic de Rham realization of the elliptic polylogarithm via the Poincaré bundle  
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Waldemar Hebisch

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Pierre Le Doussal, Satya N. Majumdar, Grégory Schehr

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Construction of the raising operator for Rosen–Morse eigenstates in terms of the Weyl fractional integral  
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On a certain identity involving the Gamma function  
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Takao Komatsu, Claudio de J. Pita Ruiz

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A Riemann–Hilbert problem for uncoupled BPS structures  
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Abel’s Lemma and Dirichlet’s Test Incorrectly Determine that a Trigonometric Version of the Dirichlet Series  $\zeta(s) = \sum n^{-s}$  is Convergent Throughout the Critical Strip at  $t \neq 0$   
Ayal Sharon

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Superintegrable systems, polynomial algebra structures and exact derivations of spectra  
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Hardy spaces for the Dunkl harmonic oscillator  
Agnieszka Hejna

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A  $q$ -analogue for Euler’s  $\zeta(6) = \pi^6/945$   
Ankush Goswami

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A note on the discrete Cauchy–Kovaleskaya extension  
Nelson Faustino

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Numerical performance of optimized Frolov lattices in tensor product reproducing kernel Sobolev spaces  
Christopher Kacwin, Jens Oettershagen, Mario Ullrich, Tino Ullrich

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New fractal dimensions and some applications to arithmetic patches  
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Liangping Qi, Rong Yuan

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Henri Moscovici, Robert J. Stanton, Jan Frahm

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Infinitely many odd zeta values are irrational. By elementary means  
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Orthogonal Basis Function Over the Unit Circle with the Minimax Property  
Richard J. Mathar

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Daniel Zelterman

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The twisted mean square and critical zeros of Dirichlet  $L$ -functions  
Xiaosheng Wu

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Painlevé analysis of Ricci solitons over warped products  
Alejandro Betancourt de la Parra

Topic #8 ——— OP – SF Net 25.2 ——— March 15, 2018

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](mailto:howard.cohl@nist.gov), or [spost@hawaii.edu](mailto:spost@hawaii.edu).

Contributions to OP–SF NET 25.3 should be sent by May 1, 2018.

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

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Sarah Post, Program Director

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Topic #9      OP – SF Net 25.2      March 15, 2018

From: OP–SF Net Editors

Subject: Thought of the Month by George E. Andrews

“When I became President–Elect of the American Mathematical Society, someone complained to me that ten abstracts that he submitted to the annual meeting, including proofs of the Riemann Hypothesis and  $P = NP$  were rejected, and threatened to sue the AMS. His proof that  $P = NP$  was particularly elegant: ‘Cancel out the  $P$ , and the identity  $N = 1$  is well–known’. I told him that I am only the President–Elect, and the one in charge is still the President, James Glimm. This may be why Glimm seemed cold to me throughout that whole meeting.”

George E. Andrews, Comments at the conference “Jordan Arrays and Related Topics,” Illinois Wesleyan University, June 23, 2016.