

OP - SF NET - Volume 20, Number 5 - September 15, 2013

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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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Calendar of Events:

September 16-20, 2013

The Third Najman Conference on Spectral Problems for Operators and Matrices, Biograd, Croatia

http://web.math.pmf.unizg.hr/najman_conference/index.html

September 21-27, 2013

Conference of Numerical Analysis and Applied Mathematics 2013 (ICNAAM 2013), in Rhodes, Greece

<http://www.icnaam.org>

October 13-18, 2013

Eleventh International Conference Approximation and Optimization in the Caribbean, Puebla, México.

<http://www.fcfm.buap.mx/eventos/appopt2013/>

October 23-24, 2013

Second International Conference of Mathematics and its Applications
Basra City, Iraq

Contact: Ahmad Zainy Al-Yasry <http://www.azainy.com/>

December 6-7, 2013

Conference on the occasion of Richard Askey's 80th birthday, Madison,
Wisconsin, USA. 20.2 #2, 20.4 #5

<http://www.math.umn.edu/~stant001/askey80>

December 16-20, 2013

XXIVth International Workshop on Operator Theory and its Applications,
Bangalore, India

<http://math.iisc.ernet.in/~iwota2013/>

January 20-24, 2014

OrthoQuad2014. An International Symposium on Orthogonality,
Quadrature and Related Topics In Memory of Pablo González Vera,
Puerto de la Cruz, Tenerife, Canary Islands, Spain.

<http://gama.uc3m.es/pablo/>

April 11-13, 2014

American Mathematical Society, Central Section Meeting, including Special
Session on "Complex Function Theory and Special Functions", Lubbock,
Texas, USA

May 26-30, 2014

Constructive Functions 2014. On honor of Ed Saff's 70th birthday.
Vanderbilt University, Nashville, Tennessee, USA.

<http://www.math.vanderbilt.edu/~constructive2014/>

July 14-18, 2014

XXXth International Colloquium on Group Theoretical Methods in Physics,
Ghent, Belgium

<http://www.group30.ugent.be/>

December 11-20, 2014

Foundations of Computational Mathematics, Montevideo, Uruguay
(including workshops on Approximation Theory and on Special Functions
and Orthogonal Polynomials)

http://www.fing.edu.uy/~jana/www2/focm_2014.html

Topic #1 ----- OP-SF NET 20.5 ----- September 15, 2013

From: Paco Marcellán pacomarc@ing.uc3m.es
Subject: SIAG Elections

From the Chair of the SIAG OPSF:

The following list of nominees for positions in our Activity Group for the period January 2014 – December 2016 has been approved by the Executive Director and the President of SIAM.

Chair: Walter van Assche; Kerstin Jordaan

Vice Chair: Jeff Geronimo; Peter Miller

Program Director: Diego Dominici; Howard Cohl

Secretary: Luis Garza; Yuan Xu .

Members of the Activity Group will soon receive information from SIAM with links to biographical information and instructions for voting. You are kindly invited to participate in the election process.

Topic #2 ----- OP-SF NET 20.5 ----- September 15, 2013

From: Tom Koornwinder T.H.Koornwinder@uva.nl
Subject: Bibliography of Elliptic Hypergeometric Functions

Hjalmar Rosengren is maintaining a Bibliography of Elliptic Hypergeometric Functions: see <http://www.math.chalmers.se/~hjalmar/bibliography.html>

He writes: "Elliptic hypergeometric functions first appeared in Date et al. (1988), and more explicitly in Frenkel and Turaev (1997). For surveys, see Chapter 11 of Gasper & Rahman (2004) or Spiridonov (2008). When compiling this bibliography, I have restricted myself to publications where elliptic hypergeometric sums or integrals appear explicitly, deliberately excluding many relevant papers on closely related topics."

He welcomes corrections, additions and comments at the address given in the above url.

Topic #3 ----- OP-SF NET 20.5 ----- September 15, 2013

From : OP-SF NET Editors
Subject: Constructive Functions 2014

A conference “Constructive Functions 2014” will be held at Valderbilt University, Nashville, Tennessee, USA during the period May 26-30, 2014. The following information is from the conference web site

<http://www.math.vanderbilt.edu/~constructive2014/>

The focus of this conference is on all aspects of constructive function theory, from asymptotics to zero distribution, and on minimum energy problems on manifolds. The conference will honor the 70th birthday of Ed Saff. The topics and broad international involvement in this conference reflect Ed's seminal contributions to these areas of research as well as his career long efforts to build connections between mathematical communities around the world.

The conference web site lists the following plenary speakers:

Sasha Aptekarev, Keldish Institute for Applied Mathematics
Laurent Baratchart, INRIA Sophia Antipolis
Andrei Martínez-Finkelshtein, Universidad de Almeria
Arno Kuijlaars, Katholieke Universiteit Leuven
Guillermo López Lagamasino, Universidad Carlos III de Madrid
Igor Pritsker, Oklahoma State University
Peter Sarnak, Princeton University
Barry Simon, California Institute of Technology
Ian Sloan, University of New South Wales
Lisa Lorentzen, Norwegian University of Science and Technology
Nikos Stylianopoulos, University of Cyprus
Vilmos Totik, University of South Florida and University of Szeged
Nick Trefethen, Oxford University
Richard Varga, Kent State University

Topic #4 ----- OP-SF NET 20.5 ----- September 15, 2013

From : OP-SF NET Editors
Subject: Presentations at SIAM Annual meeting

SIAM has posted audio and slides for many of the talks given during the Annual Meeting held in San Diego in July 2013. These can be accessed through the link <http://goo.gl/emBZ7y>

For example, one can access the invited presentation “Orthogonal Polynomials and Cubature Formulas” by Yuan Xu. The presentations by Greg Knese, Doron

Lubinsky and Miguel Pinar in the Minisymposium “Multivariate Orthogonal Polynomials” and the presentations by Peter Clarkson, Peter Miller and Sheehan Olver in the Minisymposium “Painleve Equations - Nonlinear Special Functions” are included also.

Topic #5 ----- OP-SF NET 20.5 ----- September 15, 2013

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, mostly during July and August 2013.

<http://arxiv.org/abs/1307.2458>

More basic hypergeometric limits of the elliptic hypergeometric beta integral
Fokko J. van de Bult

<http://arxiv.org/abs/1307.2876>

Aspects of elliptic hypergeometric functions
V.P. Spiridonov

<http://arxiv.org/abs/1307.4991>

Asymptotic distribution of zeros of a certain class of hypergeometric polynomials
Addisalem Abathun, Rikard B\ogvad

<http://arxiv.org/abs/1308.2316>

On two Thomae-type transformations for hypergeometric series with integral parameter differences
Y. S. Kim, Arjun. K. Rathie, R. B. Paris

<http://arxiv.org/abs/1308.3083>

On certain hypergeometric identities deducible by using beta integral method
Adel K. Ibrahim, Medhat A. Rakha, Arjun K. Rathie

<http://arxiv.org/abs/1308.5588>

Special values of the hypergeometric series
Akihito Ebisu

<http://arxiv.org/abs/1307.5999>

On linearly related orthogonal polynomials in several variables
M. Alfaro, A. Peña, T.E. Pérez, M.L. Rezola

<http://arxiv.org/abs/1307.1326>

Constructing bispectral orthogonal polynomials from the classical discrete families of Charlier, Meixner and Krawtchouk
Antonio J. Durán, Manuel D. de la Iglesia

<http://arxiv.org/abs/1308.1003>

Singular values of products of Ginibre random matrices, multiple orthogonal polynomials and hard edge scaling limits
Arno B.J. Kuijlaars, Lun Zhang

<http://arxiv.org/abs/1308.4364>

A note on the Geronimus transformation and Sobolev orthogonal polynomials
Maxim Derevyagin, Francisco Marcellán

<http://arxiv.org/abs/1308.6614>

The sharp estimates on the orthogonal polynomials from the Steklov class
A. Aptekarev, S. Denisov, D. Tulyakov

<http://arxiv.org/abs/1307.7819>

Complex versus real orthogonal polynomials of two variables
Yuan Xu

<http://arxiv.org/abs/1307.8429>

The intersection of bivariate orthogonal polynomials on triangle patches
Tom H. Koornwinder, Stefan A. Sauter

<http://arxiv.org/abs/1307.0300>

A few remarks on Euler and Bernoulli polynomials and their connections with binomial coefficients and modified Pascal matrices
Paweł J. Szabłowski

<http://arxiv.org/abs/1307.0341>

Apéry Polynomials and the multivariate Saddle Point Method
Thorsten Neuschel

<http://arxiv.org/abs/1307.0357>

Continuous q-Hermite polynomials: An elementary approach
Johann Cigler

<http://arxiv.org/abs/1307.0692>

Interbasis expansions for the isotropic 3D harmonic oscillator and bivariate Krawtchouk polynomials
Vincent X. Genest, Luc Vinet, Alexei Zhedanov

<http://arxiv.org/abs/1307.1418>

Stabilization of coefficients for partition polynomials
Robert P. Boyer, William J. Keith

<http://arxiv.org/abs/1307.2623>

(p,q) -deformed Fibonacci and Lucas polynomials: characterization and Fourier integral transforms

Mahouton Norbert Hounkonnou, Sama Arjika

<http://arxiv.org/abs/1307.2802>

Power-Free Values of Polynomials

Thomas Reuss

<http://arxiv.org/abs/1307.3355>

Modeling of Nonlinear Dynamic Systems with Volterra Polynomials: Elements of Theory and Applications

A.S. Apartsyn, S.V. Solodusha, V.A. Spiryaev

<http://arxiv.org/abs/1307.3983>

The asymptotic number of integral cubic polynomials with bounded heights and discriminants

D. Kaliada, F. Götze, O. Kukso

<http://arxiv.org/abs/1307.4128>

Root Statistics of Random Polynomials with Bounded Mahler Measure

Christopher D. Sinclair, Maxim L. Yattselev

<http://arxiv.org/abs/1307.4357>

Local universality of zeroes of random polynomials

Terence Tao, Van Vu

<http://arxiv.org/abs/1307.4431>

A note on the generalized Bernoulli and Euler Polynomials

Bao Quoc Ta

<http://arxiv.org/abs/1307.5455>

Inequalities for products of polynomials I

I. E. Pritsker, S. Ruscheweyh

<http://arxiv.org/abs/1307.5456>

The multivariate integer Chebyshev problem

P. B. Borwein, I. E. Pritsker

<http://arxiv.org/abs/1307.5457>

How to find a measure from its potential

Igor E. Pritsker

<http://arxiv.org/abs/1307.5594>

On decompositions of trigonometric polynomials

F. Pakovich

<http://arxiv.org/abs/1307.5777>

Generalizing Krawtchouk polynomials using Hadamard matrices

Peter S Chami, Bernd Sing, Norris Sookoo

<http://arxiv.org/abs/1307.5835>

Convergence of Julia polynomials
Igor E. Pritsker

<http://arxiv.org/abs/1307.6200>

Polynomials with integer coefficients and their zeros
Igor E. Pritsker

<http://arxiv.org/abs/1308.0097>

On Hurwitz stable polynomials with integer coefficients
Albrecht Boettcher

<http://arxiv.org/abs/1308.0863>

The partial r -Bell polynomials
Miloud Mihoubi, mourad Rahmani

<http://arxiv.org/abs/1308.2538>

A note on a series containing the Laguerre polynomials
Y. S. Kim, A. K. Rathie, R. B. Paris

<http://arxiv.org/abs/1308.2540>

Matrix-Valued Little q -Jacobi Polynomials
Noud Aldenhoven, Erik Koelink, Ana M. de los Ríos

<http://arxiv.org/abs/1308.3804>

On Convolved Generalized Fibonacci and Lucas Polynomials
José L. Ramírez

<http://arxiv.org/abs/1308.3972>

Numerical semigroups, cyclotomic polynomials and Bernoulli numbers
Pieter Moree

<http://arxiv.org/abs/1308.4217>

A Geometrical Root Finding Method for Polynomials, with Complexity Analysis
Juan Luis García Zapata, Juan Carlos Díaz Martín

<http://arxiv.org/abs/1308.4240>

Casoratian Identities for the Wilson and Askey-Wilson Polynomials
Satoru Odake, Ryu Sasaki

<http://arxiv.org/abs/1308.5320>

Abel-Goncharov's polynomials and the Casas- Alvero conjecture
Semyon Yakubovich

<http://arxiv.org/abs/1308.5018>

On some classes of discrete polynomials and ordinary difference equations
Andrei K. Svinin

<http://arxiv.org/abs/1308.4088>

Computing Real Roots of Real Polynomials - An Efficient Method Based on Descartes' Rule of Signs and Newton Iteration
Michael Sagraloff, Kurt Mehlhorn

<http://arxiv.org/abs/1308.4730>

Squeezed States and Hermite polynomials in a Complex Variable
S. T. Ali, K. Gorska, A. Horzela, F. H. Szafraniec

<http://arxiv.org/abs/1307.7380>

Jacobi polynomials and $SU(2,2)$
E. Celeghini, M.A. del Olmo, M.A. Velasco

<http://arxiv.org/abs/1307.1017>

The Lambert W Function, Laguerre Polynomials, and the Zeros of the QCD Partition Function
Ken Roberts, S. R. Valluri

<http://arxiv.org/abs/1307.3841>

Arithmetic Differential Equations of Painleve' VI Type
Alexandru Buium, Yuri I. Manin

<http://arxiv.org/abs/1307.6140>

Confluences of the Painleve equations, Cherednik algebras and q-Askey scheme
Marta Mazzocco

<http://arxiv.org/abs/1308.4092>

Painlevé VI connection problem and monodromy of $c=1$ conformal blocks
N. Iorgov, O. Lisovyy, Yu. Tykhyy

<http://arxiv.org/abs/1307.7968>

Distance-regular graphs of q -Racah type and the universal Askey-Wilson algebra
Paul Terwilliger, Arjana Žitnik

<http://arxiv.org/abs/1308.3480>

Evaluation modules for the q -tetrahedron algebra
Tatsuro Ito, Hjalmar Rosengren, Paul Terwilliger

<http://arxiv.org/abs/1307.7572>

The algebra $U_q(\mathfrak{sl}_2)$ in disguise
Sarah Bockting-Conrad, Paul Terwilliger

<http://arxiv.org/abs/1308.6650>

The q -Dixon--Anderson integral and multi-dimensional ${}_1\psi_1$ summations
Masahiko Ito, Peter J. Forrester

<http://arxiv.org/abs/1308.6665>

Ramanujan's ${}_1\psi_1$ summation theorem --- perspective, announcement of bilateral q -Dixon--Anderson and q -Selberg integral extensions, and context
Masahiko Ito, Peter J. Forrester

<http://arxiv.org/abs/1307.7410>

Tridiagonal pairs of q -Racah type, the double lowering operator ψ , and the quantum algebra $U_q(\mathfrak{sl}_2)$
Sarah Bockting-Conrad

<http://arxiv.org/abs/1307.7985>

On q -Analogues of Some Families of Multiple Harmonic Sum and Multiple Zeta Star Value Identities
Khodabakhsh Hessami Pilehrood, Tatiana Hessami Pilehrood, Jianqiang Zhao

<http://arxiv.org/abs/1307.5019>

The fractional Bessel equation in Hölder spaces
J. J. Betancor, A. J. Castro, P. R. Stinga

<http://arxiv.org/abs/1308.6451>

The Digamma function, Euler-Lehmer constants and their p -adic counterparts
Tapas Chatterjee, Sanoli Gun

<http://arxiv.org/abs/1307.5723>

Some sums over the non-trivial zeros of the Riemann zeta function
Jesús Guillera

<http://arxiv.org/abs/1307.0961>

Distribution of the roots of the equations $Z(t)=0$, $Z'(t)=0$ in the theory of the Riemann zeta-function
Jan Moser

<http://arxiv.org/abs/1307.1125>

An expansion of $\zeta(3)$ in continued fraction with parameter
L.A.Gutnik

<http://arxiv.org/abs/1308.0065>

Zeros of partial sums of the Dedekind zeta function of a cyclotomic field
Andrew Ledoan, Arindam Roy, Alexandru Zaharescu

<http://arxiv.org/abs/1308.1264>

A Multidimensional Hilbert-Type Integral Inequality Related to the Riemann Zeta Function
Michael Th. Rassias, Bicheng Yang

<http://arxiv.org/abs/1308.3597>

The distribution of the logarithmic derivative of the Riemann zeta-function
S. J. Lester

<http://arxiv.org/abs/1308.5116>

On the distribution of the zeros of the derivative of the Riemann zeta-function
S. J. Lester

Topic #6 ----- OP-SF NET 20.5 ----- September 15, 2013

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 around 130 members scattered about in more than 20 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 Diego Dominici (dominicd@newpaltz.edu) and Martin Muldoon (muldoon@yorku.ca).

Back issues of OP-SF NET can be obtained at the WWW addresses:

<http://staff.science.uva.nl/~thk/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 or to see a link the archive of all messages, 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 email 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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Philadelphia, PA 19104-2688 USA
phone: +1-215-382-9800
email: service@siam.org
WWW : <http://www.siam.org>
<http://www.siam.org/membership/outreachmem.htm>

Topic #7 ----- OP-SF NET 20.5 ----- September 15, 2013

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 email to one of the OP-SF Editors dominicd@newpaltz.edu or muldoon@yorku.ca .
Contributions to OP-SF NET 20.6 should be sent by November 1, 2013.

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. 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 email 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 (2011-2013) are:

Chair: Francisco Marcellán

Vice Chair: Jeff Geronimo

Program Director: Diego Dominici

Secretary: Peter Clarkson

The appointed officers are:

Diego Dominici, OP-SF NET co-editor and OP-SF Talk moderator

Martin Muldoon, OP-SF NET co-editor

Bonita Saunders, Webmaster and OP-SF Talk moderator