O P - S F N E T - Volume 21, Number 1 – January 15, 2014

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Calendar of Events:

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/

January 30-31, 2014
Conference "The Geometry of Special Functions",
Radboud University, Nijmegen, The Netherlands
http://www.ru.nl/math/research/geometry-special/

February 17-20, 2014
Masterclass by Barry Simon on
"Spectral Theory of Orthogonal Polynomials", Aarhus, Denmark
http://qgm.au.dk/events/show/artikel/masterclass-by-barry-simon-caltech/

April 11-13, 2014

American Mathematical Society, Central Section Meeting, including Special Sessions on "Applications of Special Functions in Combinatorics and Analysis" (organized by Atul Dixit and Timothy Huber) and "Complex Function Theory and Special Functions" (organized by Roger W. Barnard and others), Lubbock, Texas, USA
http://www.ams.org/meetings/sectional/2211_program.html

April 11-13, 2014

Kent Spectral Theory Conference, Canterbury, England
http://www.kent.ac.uk/smsas/events/spectral-theory.html

May 19-23, 2014

Workshop on Random Matrices and Jacobi Operators, Mittag-Leffler Institute, Djursholm, Sweden
http://www.mittag-leffler.se/?q=0519

May 26-30, 2014

Constructive Functions 2014. In honor of Ed Saff's 70th birthday. Vanderbilt University, Nashville, Tennessee, USA.
http://www.math.vanderbilt.edu/~constructive2014/

June 17-20, 2014

Fourth Iberoamerican Workshop on Orthogonal Polynomials and Applications (EIBPOA 2014), Bogotá, Colombia
www.matematicas.unal.edu.co/newsite/fcweb/index.php?id=179&L=1

June 23-26, 2014

Fifth Jaen Conference on Approximation Theory, Computer Aided Geometric Design, Numerical Methods and Applications, Úbeda, Spain.
http://ucua.ujaen.es/ajlopez/jca/dates.php

July 7-11, 2014

SIAM Annual Meeting, Chicago, Illinois, USA
http://www.siam.org/meetings/an14/

July 14-18, 2014

XXXth International Colloquium on Group Theoretical Methods in Physics, Ghent, Belgium
http://www.group30.ugent.be/

July 21-25, 2014

VIII Pan American Workshop in Applied and Computational Mathematics/Computational Science and Engineering, Barranquilla, Colombia
http://www.csrc.sdsu.edu/panam2014/index.html

October 18-19, 2014
> American Mathematical Society, Eastern Section Meeting, including Special Session on "Special Functions and their Applications" (organized by Mourad Ismail and Nasser Saad), Halifax, Nova Scotia, Canada

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 21.1   --------   January 15, 2014

From: OP-SF NET Editors
Subject: Election results

As a result of the recent elections for SIAG/ OPSF officers for the term January 2014-December 2016, we have a new Chair (Walter Van Assche) and a new Secretary (Yuan Xu), while Jeff Geronimo will continue as Vice Chair and Diego Dominici as Program Director. A big "Thank You" to Paco Marcellán, the outgoing Chair, and Peter Clarkson, the outgoing Secretary and to all those who stood for election.

Topic #2   ---------   OP-SF NET 21.1   --------   January 15, 2014

From: Walter Van Assche Walter.VanAssche@wis.kuleuven.be
Subject: Message from the (new) Chair

First of all I wish every member of our activity group the best for 2014. The results of the election of officers for the activity group show that I will be your chair until December 2016. Jeff Geronimo will stay on as Vice Chair, Diego Dominici as Program Director, and Yuan Xu will be the new Secretary. Thanks for your confidence in us and on my part I will do my best to serve the activity group as well as I can for the next three years. I want to thank Paco Marcellán for his work as Chair during the past six years and Peter Clarkson for his task as Secretary. Note that Peter Clarkson is still the representative of our activity group for SIAM news, so if you know of anything interesting which deserves more attention in SIAM News, then you should contact Peter. Also thanks to Martin Muldoon and Diego Dominici for taking care of our electronic newsletter OPSF-NET and to Bonita Saunders for maintaining the OPSF-website at NIST (http://math.nist.gov/opsf/).

The new officers have not met this year and there are surely some plans of action that need to be considered.

I am quite happy that the previous officers succeeded in establishing the Gabor Szegő prize and this will certainly be continued. I am hoping to attach a reasonable money prize in addition to the certificate and the invitation to speak at the OPSFA meeting, but we need to find some ways to raise money for this. Another point of action is to get more involved in the social networks: having a website is important but the present website at NIST and the website at SIAM (http://www.siam.org/activity/opsf/) are outdated and could use a more dynamic interface. SIAM also has a wiki-page (http://wiki.siam.org/siag-os/) but it is quite static and the information is not recent. The OPSF-Talk (moderated) mailing list can be stopped but I suggest replacing it by a blog. The OPSF-Net electronic newsletter should be continued but I believe that Martin Muldoon would like to pass his role in it on to another reliable and active member. So I'd like to open a call for people willing to do some work for the activity group, with priority to communication and networking through various channels.

One of the important tasks of the activity group is to have meetings on Orthogonal Polynomials and Special Functions. The subject is still very much alive: the Notices of the American Mathematical Society has a feature on *Hypergeometric Functions, How special are they?* in the January 2014 issue. There are several meetings announced in the newsletter and we will continue organizing mini-symposia at the SIAM meetings. I would also like to see us getting involved in the organization of summer schools, preferably in the years between two of the OPSFA meetings. All these matters will be discussed soon by the officers and I am confident that at least part of the above-mentioned issues will be taken care of in reasonable time. I hope to see some of you soon somewhere at a conference, workshop, seminar or meeting and please feel free to get in touch if you have an idea or suggestion for improving the work of the activity group.

Walter Van Assche

Topic #3   ---------   OP-SF NET 21.1   --------   January 15, 2014

From: Martin Muldoon   muldoon@yorku.ca
Subject: Dick Askey at 80

On December 6-7, 2013, Dick Askey was honored on the occasion of his 80th birthday (earlier in 2013) by a conference on the campus of the University of Wisconsin, Madison, the institution with which he has been associated for 50 years.

The plenary speakers were:
George Andrews, "Dick, Rogers and Ramanujan -- The Aftermath of the 1975-76 Seminar";
Mourad Ismail, "The Askey--Wilson polynomials";
Tom Koornwinder, "Dick Askey's positive addition to Amsterdam";
Hung-Hsi Wu, "School mathematics, a status report".

Half-hour talks were given by Bruce Berndt, Shaun Cooper, Persi Diaconis, Kathy Driver, Charles Dunkl, Plamen Iliev, Christian Krattenthaler, Willard Miller, Hjalmar Rosengren, Alan Sokal, Paul Terwilliger, Walter Van Assche, Ole Warnaar, Roderick Wong and Doron Zeilberger.

The talks included many references to Askey's work and influence and some nostalgia for earlier meetings organized by him or in his honor. At the conference banquet, speaker after speaker paid tribute to Dick and to his influence on their lives and careers

The photo, extracted from a larger one by George Gasper, shows a cross-section of those attending. It is but one of several photos taken by Patsy Wang-Iverson, George Gasper, Tom Koornwinder and others, that can be seen at the conference web site

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

The conference was very well organized by a committee consisting of Tom Koornwinder, Dennis Stanton, Paul Terwilliger and Ole Warnaar.   The conference and accommodation arrangements were excellent. But, in bizarre remembrance of the late season snowstorm that disrupted departures from Madison after the "Advanced Seminar on Special Functions" in 1975, December 8 brought an early season weather disturbance that played havoc with flights to some destinations.

From: Peter Clarkson
Subject: Constructive Approximation "Painlevé Equations" special issue

The latest issue of Constructive Approximation is part one of the special issue, entitled "Painlevé Equations" with guest editors Percy Deift and Alexander Its, whch is freely available for downloading until January 31, 2014. The link is http://link.springer.com/journal/365/39/1/page/1

The articles are:

Introduction
Percy Deift and Alexander Its

Global Asymptotics of the Second Painlevé Equation in Okamoto's Space
P. Howes and N. Joshi

Painlevé I, Coverings of the Sphere and Belyi Functions
Davide Masoero

Relations Between Linear Equations and Painlevé's Equations
S.Y. Slavyanov

Distributions of Poles to Painlevé Transcendents via Padé Approximations
V.Y. Novokshenov

Numerical Solution of Riemann–Hilbert Problems: Random Matrix Theory and Orthogonal Polynomials
Sheehan Olver and Thomas Trogdon

Automatic Deformation of Riemann–Hilbert Problems with Applications to the Painlevé II Transcendents
Georg Wechslberger and Folkmar Bornemann

Painlevé Kernels in Hermitian Matrix Models
Maurice Duits

The Tacnode Riemann–Hilbert Problem
Arno Kuijlaars

The Relationship Between Semiclassical Laguerre Polynomials and the Fourth Painlevé Equation
Peter A. Clarkson and Kerstin Jordaan

Painlevé Functions and Conformal Blocks
N. Iorgov, O. Lisovyy, A. Shchechkin and Y. Tykhyy

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 November and December 2013.

http://arxiv.org/abs/1309.6931
On Alpert Multiwavelets
Jeffrey S. Geronimo, Francisco Marcellan

http://arxiv.org/abs/1311.4502
Multiplicate inverse forms of terminating hypergeometric series
Christian Lavault (LIPN)

http://arxiv.org/abs/1311.4695
Hyperelliptic curves over $\mathbb{F}_q$ and Gaussian hypergeometric series
Rupam Barman, Gautam Kalita

http://arxiv.org/abs/1311.5252
On the p-integrality of A-hypergeometric series
Alan Adolphson, Steven Sperber

http://arxiv.org/abs/1312.0064
On a representation of Humbert's double hypergeometric series in a series of Gauss's 2F1 function
Arjun K. Rathie

http://arxiv.org/abs/1312.5777
HYPERDIRE: HYPERgeometric functions DIfferential REduction: MATHEMATICA based packages for differential reduction of generalized hypergeometric functions: F_D and F_S Horn-type hypergeometric functions of three variables
Vladimir V. Bytev, Mikhail Yu. Kalmykov, Sven-Olaf Moch

http://arxiv.org/abs/1312.6786
Monodromies at infinity of confluent A-hypergeometric functions
Kana Ando, Alexander Esterov, Kiyoshi Takeuchi

http://arxiv.org/abs/1311.0563
On the Christoffel--Darboux formula for generalized matrix orthogonal polynomials of multigraded-Hankel type
Carlos Álvarez-Fernández, Manuel Mañas

http://arxiv.org/abs/1311.2292
Laurent Biorthogonal Polynomials and Riordan Arrays
Paul Barry

http://arxiv.org/abs/1311.4530
Exceptional orthogonal polynomials and generalized Schur polynomials
Yves Grandati

http://arxiv.org/abs/1312.0150
Matrix Orthogonal Laurent Polynomials on the Unit Circle and Toda Type
Integrable Systems
Gerardo Ariznabarreta, Manuel Manas

http://arxiv.org/abs/1312.2283
Non-Real Zero Decreasing Operators Related to Orthogonal Polynomials
Andre Bunton, Nicole Jacobs, Samantha Jenkins, Charles McKenry Jr., Andrzej
Piotrowski, Louis Scott

http://arxiv.org/abs/1312.4376
Zero distribution of complex orthogonal polynomials with respect to
exponential weights
Daan Huybrechs, Arno Kuijlaars, Nele Lejon

http://arxiv.org/abs/1311.0365
Plancherel-Rotach formulae for average characteristic polynomials of products of
Ginibre random matrices and the Fuss-Catalan distribution
Thorsten Neuschel

http://arxiv.org/abs/1311.0372
Quadratic differentials and asymptotics of Laguerre polynomials with varying
complex parameters
M. J. Atia, A. Martinez-Finkelshtein, P. Martinez-Gonzalez, F. Thabet

http://arxiv.org/abs/1311.1705
Products of Bessel functions and associated polynomials
G. Dattoli, E. Di Palma, E. Sabia, S. Licciardi

http://arxiv.org/abs/1311.2230
On linear combinations of Chebyshev polynomials
Dragan Stankov

http://arxiv.org/abs/1311.3570
Multi-indexed Jacobi polynomials and Maya diagrams
Kouichi Takemura

http://arxiv.org/abs/1311.4148
Some new identities on the Apostol-Bernoulli polynomials of higher order
derived from Bernoulli basis
Armen Bagdasaryan, Serkan Araci

http://arxiv.org/abs/1311.5067
Multivariate Stirling Polynomials of the First and Second Kind
Alfred Schreiber

http://arxiv.org/abs/1311.5992
On the modified q-Genocchi numbers and polynomials and their applications
Serkan Araci, Armen Bagdasaryan, Erkan Agyuz, Mehmet Acikgoz

http://arxiv.org/abs/1311.3624
Parabolic refined invariants and Macdonald polynomials
Wu-yen Chuang, Duiliu-Emanuel Diaconescu, Ron Donagi, Tony Pantev

http://arxiv.org/abs/1312.0255
Identities involving the $\left(h,q\right)$-Genocchi polynomials and
$\left(h,q\right)$-Zeta-type function
Armen Bagdasaryan, Erdogan Sen, Yuan He, Serkan Araci, Mehmet Acikgoz

http://arxiv.org/abs/1312.0698
Zero distribution of polynomials satisfying a differential-difference equation
Diego Dominici, Walter Van Assche

http://arxiv.org/abs/1312.1604
Asymptotic expansions of exponentials of digamma function and identity for
Bernoulli polynomials
Neven Elezović

http://arxiv.org/abs/1312.2767
Some remarks about q-Chebyshev polynomials and q-Catalan numbers and
related results
Johann Cigler

http://arxiv.org/abs/1312.3628
New operational formulas and generating functions for the generalized Zernike
polynomials
Bouchra Aharmim, Amal El Hamyani, Fouzia El Wassouli, Allal Ghanmi

http://arxiv.org/abs/1312.3907
Diophantine equations with Euler polynomials
D. Kreso, Cs. Rakaczki

http://arxiv.org/abs/1312.7053
Highest weight categories and Macdonald polynomials
Anton Khoroshkin

http://arxiv.org/abs/1312.7105
On the distribution of zeros of the Hermite-Pade polynomials for three algebraic
functions $1,f,f^2$ and the global topology of the Stokes lines for some
differential equations of the third order
Sergey Suetin

http://arxiv.org/abs/1312.7838
The Legendre polynomials associated with Bernoulli, Euler, Hermite and
Bernstein polynomials
Serkan Araci, Mehmet Acikgoz, Armen Bagdasaryan, Erdogan Sen

http://arxiv.org/abs/1311.1165
On the zeros of the big q-Bessel functions and applications
Fethi Bouzeffour, Hanen Ben Mansour

http://arxiv.org/abs/1311.1450
Exponential-type Inequalities Involving Ratios of the Modified Bessel Function of
the First Kind and their Applications
Prakash Balachandran, Weston Viles, Eric D. Kolaczyk

http://arxiv.org/abs/1312.1500
Asymptotic expansions of integral means and applications to the ratio of
gamma functions
Neven Elezović, Lenka Vukšić

http://arxiv.org/abs/1312.1604
Asymptotic expansions of exponentials of digamma function and identity for
Bernoulli polynomials
Neven Elezović

http://arxiv.org/abs/1312.5881
Asymptotic formulas and inequalities for gamma function in terms of tri-gamma
function
Cristinel Mortici, Feng Qi

http://arxiv.org/abs/1312.7115
A curious formula related to the Euler Gamma function
Bakir Farhi

http://arxiv.org/abs/1311.5171
Accumulation points of the sets of real parts of zeros of the partial sums of the
Riemann zeta function
Gaspar Mora

http://arxiv.org/abs/1312.6919
Apéry's theorem and problems for the values of Riemann's zeta function and
their q-analogues
Wadim Zudilin

http://arxiv.org/abs/1312.7837
Some New Symmetric Identities for the q-Zeta Type Functions
Serkan Araci, Armen Bagdasaryan, Cenap Ozel, H.M. Srivastava

http://arxiv.org/abs/1311.1487
Approximation pathologies for certain continued fractions
Avraham Bourla

http://arxiv.org/abs/1312.6752
A Value Region Problem for Stieltjes Type Continued Fractions
Slawomir Klimek, Matt McBride, Sumedha Rathnayake, Kaoru Sakai

http://arxiv.org/abs/1311.0557
Singularity confinement for matrix discrete Painleve Equations
Giovanni A. Cassatella-Contra, Manuel Mnas, Piergiulio Tempesta

http://arxiv.org/abs/1311.1877
The first Painlevé equation on the weighted projective space
Hayato Chiba

http://arxiv.org/abs/1311.3217
The sine-law gap probability, Painlevé 5, and asymptotic expansion by the
topological recursion
Olivier Marchal, Bertrand Eynard, Michel Bergère

http://arxiv.org/abs/1311.6194
An Overview of Geometric Asymptotic Analysis of Continuous and Discrete
Painlevé Equations
Nalini Joshi

http://arxiv.org/abs/1312.1874
On WKB theoretic transformations for Painleve transcendents on degenerate
Stokes segments
Kohei Iwaki

http://arxiv.org/abs/1311.5838
A Riemann--Hilbert approach to Jacobi operators and Gaussian quadrature
Thomas Trogdon, Sheehan Olver

http://arxiv.org/abs/1311.2659
Riemann-Hilbert Approach to the Helmholtz Equation in a quarter-plane.
Revisited
Alexander Its, Elizabeth Its

http://arxiv.org/abs/1311.2976
Riemann-Hilbert Approach to the Elastodynamic Equation. Half plane
Alexander Its, Elizabeth Its

http://arxiv.org/abs/1311.3043
Renormalization and quantum modular forms, part I: Maass wave forms
Yingkun Li, Hieu T. Ngo, Robert C. Rhoades

http://arxiv.org/abs/1311.3044
Renormalization and quantum modular forms, part II: Mock theta functions
Yingkun Li, Hieu T. Ngo, Robert C. Rhoades

http://arxiv.org/abs/1311.6089
On Dyson's crank conjecture and the uniform asymptotic behavior of certain inverse theta functions
Kathrin Bringmann, Jehanne Dousse

http://arxiv.org/abs/1312.7390
Nonintersecting Brownian motions on the unit circle. Part I: noncritical cases
Karl Liechty, Dong Wang

Topic #6 --------- OP-SF NET 21.1 -------- January 15, 2014

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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3600 University City Science Center
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 21.1   --------   January 15, 2014

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 21.2 should be sent by March 1, 2014.

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 (2014-2016) are:
Chair: Walter Van Assche
Vice Chair: Jeff Geronimo
Program Director: Diego Dominici
Secretary: Yuan Xu
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