

OP - SF NET - Volume 17, Number 1 – January 15, 2010

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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:

March 22-26, 2010

Recent Advances in Function Related Operator Theory, Rincon, Puerto Rico
<http://www.albany.edu/rafrot/>

May 13-15, 2010

International Conference Devoted to the Memory of Academician M.
Kravchuk (1892-1942)
National Technical University of Ukraine, Kyiv, Ukraine
kravchukconf@yandex.ru

May 27-28, 2010

From A = B to Z = 60, a conference in honor of Doron Zeilberger's 60th
birthday, Rutgers University, Piscataway, NJ, USA 16.5 #1
<http://math.rutgers.edu/events/Z60/>

June 21-25, 2010

"Functions and Operators", Krakow, Poland.

<http://www.im.uj.edu.pl/fao2010>

July 4-7, 2010

Seventh international conference on Lattice Path Combinatorics and Applications, Siena, Italy

http://www.unisi.it/eventi/lattice_path_2010

July 5-9, 2010

Orthogonal Polynomials in Probability Theory, Texas A&M University, College Station, Texas, USA 17.1 #1

<http://www.math.tamu.edu/~manshel/OPPT/main.html>

July 12-16, 2010

SIAM Annual Meeting, Pittsburgh, Pennsylvania, USA

<http://www.siam.org/meetings/an10/index.php>

August 2-6, 2010

Formal Power Series and Algebraic Combinatorics 2010

San Francisco State University, San Francisco, CA, USA

<http://math.sfsu.edu/fpsac>

August 16-December 17, 2010

MSRI Future Scientific Programs: Random Matrix Theory, Interacting Particle Systems and Integrable Systems

Mathematical Sciences Research Institute, Berkeley, California

www.msri.org/calendar/programs/ProgramInfo/259/show_program

August 19-27, 2010

International Congress of Mathematicians, Hyderabad, India

<http://www.icm2010.org.in/>

September 13-17, 2010

Random Matrix Theory and Its Applications I

Mathematical Sciences Research Institute, Berkeley, California

www.msri.org/calendar/workshops/WorkshopInfo/508/show_workshop

September 17-19, 2010

Symmetry, Separation, Super-integrability and Special Functions (S4)

Conference, in honor of Willard Miller on the occasion of his

retirement, University of Minnesota, Minneapolis, MN, USA, 16.6 #1

<http://math.umn.edu/conferences/s4/>

September 20-21, 2010

MSRI-Connections for Women: An Introduction to Random Matrices

Mathematical Sciences Research Institute, Berkeley, California

www.msri.org/calendar/workshops/WorkshopInfo/509/show_workshop

October 10-15, 2010

New Perspectives in Univariate and Multivariate Orthogonal Polynomials,
Banff International Research Station, Alberta, Canada
http://www.birs.ca/birspages.php?task=displayevent&event_id=10w5061

December 6-10, 2010

MSRI-Random Matrix Theory and its Applications II
Mathematical Sciences Research Institute, Berkeley, California
http://www.msri.org/calendar/workshops/WorkshopInfo/517/show_workshop

Topic #1 ----- OP-SF NET 17.1 ----- January 15, 2010

From: OP-SF NET Editors

Subject: Orthogonal Polynomials in Probability Theory

As part of a Workshop in Analysis and Probability Concentration Week,
a conference **Orthogonal Polynomials in Probability Theory** will be held
July 5-9, 2010, at Texas A&M University, College Station, Texas, USA

Topics of the conference include:

- **Random matrices.** Orthogonal polynomials in random matrix theory. Limit theorems, diagonalization of the fluctuations covariance matrix, etc.
- **Free probability.** Polynomial families in free probability theory. Orthogonal polynomials in second order freeness, free chaos, free Appell polynomials, etc.
- **Multiple stochastic integrals.** Stochastic integration and polynomial families. Appell polynomials, orthogonal polynomials, time-space harmonic polynomials, etc.

There will be Mini-courses by:

- Jinho Baik (University of Michigan)
- Roland Speicher (Queen's University)

Speakers:

Jinho Baik, University of Michigan (mini-course)
Włodzimierz Bryc, University of Cincinnati
Stephen Curran, UC Berkeley
David Damanik, Rice University (tentative)
Holger Dette, Ruhr University, Bochum
F. Alberto Grünbaum, UC Berkeley
Arno Kuijlaars, Katholieke Universiteit Leuven
Ion Nechita, University of Ottawa (tentative)
Ivan Nourdin, Paris VI
Victor Perez Abreu, CIMAT
Josep Lluís Solé, Universitat Autònoma de Barcelona

Roland Speicher, Queen's University (mini-course)
Frederic Utzet, Universitat Autònoma de Barcelona

Local organizer: [Michael Anshelevich](#).

The concentration week is part of a month-long Workshop in Analysis and Probability, held every summer at the Texas A&M University in College Station, Texas. The other concentration week on "Set Theory and Functional Analysis" is July 26-30, followed by SUMIRFAS on July 30 - August 1.

For further information, see
<http://www.math.tamu.edu/~manshel/OPPT/main.html>

Topic #2 ----- OP-SF NET 17.1 ----- January 15, 2010

From: OP-SF NET Editors
Subject: NIST Handbook – Cambridge University Press Announcement

According to the web page
www.cambridge.org/us/catalogue/catalogue.asp?isbn=0521192250
the printed version of the NIST Handbook of Mathematical Functions is to be available in the US from March 2010.

“This handbook results from a 10-year project conducted by the National Institute of Standards and Technology with an international group of expert authors and validators. It is destined to replace its predecessor, the classic but long-outdated NBS Handbook of Mathematical Functions, edited by Abramowitz and Stegun.”

The web page for the project is at <http://dlmf.nist.gov/>

Topic #3 ----- OP-SF NET 17.1 ----- January 15, 2010

From: OP-SF NET Editors
Subject: SIGMA Special Issue

The SIGMA special issue "Elliptic Integrable Systems, Isomonodromy Problems, and Hypergeometric Functions" is freely available online at
<http://www.emis.de/journals/SIGMA/Elliptic-Integrable-Systems.html>

The issue contains 13 papers with a total of 291 pages.

The Guest Editors for this special issue are
[Masatoshi Noumi](#) (Kobe University, Japan)
[Eric M. Rains](#) (California Institute of Technology, USA)

[Hjalmar Rosengren](#) (Chalmers University of Technology and University of Gothenburg, Sweden)

[Vyacheslav P. Spiridonov](#) (Joint Institute for Nuclear Research, Dubna, Russia)

The present collection includes papers by participants of the workshop "Elliptic Integrable Systems, Isomonodromy Problems, and Hypergeometric Functions", held at Max Planck Institute for Mathematics in Bonn July 21–25, 2008. The meeting was a satellite to the 5th European Congress of Mathematics, and a continuation of the workshop "Elliptic Integrable Systems" held at RIMS (Kyoto) in November 2004.

The workshop gathered 35 participants from 13 countries. There were 23 lectures, presenting the latest advances on elliptic hypergeometric functions and their relation to integrable systems, Painlevé equations and other fields. A detailed programme can be found at the conference [web page](#).

Papers in this Issue:

Manin Matrices, Quantum Elliptic Commutative Families and Characteristic Polynomial of Elliptic Gaudin Model

Vladimir Rubtsov, Alexey Silantyev and Dmitri Talalaev

Monopoles and Modifications of Bundles over Elliptic Curves

Andrey M. Levin, Mikhail A. Olshanetsky and Andrei V. Zotov

Basic Hypergeometric Functions as Limits of Elliptic Hypergeometric Functions

Fokko J. van de Bult and Eric M. Rains

Theta Functions, Elliptic Hypergeometric Series, and Kawanaka's Macdonald Polynomial Conjecture

Robin Langer, Michael J. Schlosser and S. Ole Warnaar

Kernel Functions for Difference Operators of Ruijsenaars Type and Their Applications

Yasushi Komori, Masatoshi Noumi and Jun'ichi Shiraishi

Hilbert-Schmidt Operators vs. Integrable Systems of Elliptic Calogero-Moser Type III. The Heun Case

Simon N.M. Ruijsenaars

A Lax Formalism for the Elliptic Difference Painlevé Equation

Yasuhiko Yamada

A First Order q -Difference System for the BC_1 -Type Jackson Integral and Its Applications

Masahiko Ito

Middle Convolution and Heun's Equation

Kouichi Takemura

Elliptic Hypergeometric Solutions to Elliptic Difference Equations
Alphonse P. Magnus

Hypergeometric τ -Functions of the q -Painlevé System of Type $E_7^{(1)}$
Tetsu Masuda

Elliptic Hypergeometric Laurent Biorthogonal Polynomials with a Dense Point
Spectrum on the Unit Circle
Satoshi Tsujimoto and Alexei Zhedanov

Differential and Functional Identities for the Elliptic Trilogarithm
Ian A.B. Strachan

The main SIGMA page is at
<http://www.emis.de/journals/SIGMA/>

Topic #4 ----- OP-SF NET 17.1 ----- January 15, 2010

From: OP-SF NET Editors
Subject: Papers from 2008 Madrid Workshop

From:
<http://www.ams.org/bookstore-getitem/item=conm-507>

Recent Trends in Orthogonal Polynomials and Approximation Theory
Edited by: **Jorge Arvesú** and **Francisco Marcellán**, *Universidad Carlos III de Madrid, Leganés, Spain*, and **Andrei Martínez-Finkelshtein**, *Universidad de Almería, Spain*

Contemporary Mathematics

2010; 298 pp; softcover

Volume: 507

ISBN-10: 0-8218-4803-8

ISBN-13: 978-0-8218-4803-6

List Price: US\$89

Member Price: US\$71

Order Code: CONM/507

Not yet published.

Expected publication date is March 13, 2010.

This volume contains invited lectures and selected contributions from the International Workshop on Orthogonal Polynomials and Approximation Theory, held at Universidad Carlos III de Madrid on September 8-12, 2008, and which honored Guillermo López Lagomasino on his 60th birthday.

This book presents the state of the art in the theory of Orthogonal Polynomials and Rational Approximation with a special emphasis on their applications in random matrices, integrable systems, and numerical quadrature. New results and methods are presented in the papers as well as a careful choice of open problems, which can foster interest in research in these mathematical areas. This volume also includes a brief account of the scientific contributions by Guillermo López Lagomasino.

Readership: Graduate students and research mathematicians interested in orthogonal polynomials, approximation theory, and their applications.

Table of Contents

- F. Marcellán and A. Martínez-Finkelshtein -- Guillermo López Lagomasino: mathematical life
- B. de la Calle Ysern -- A walk through approximation theory
- L. Baratchart and M. Yattselev -- Asymptotic uniqueness of best rational approximants to complex Cauchy transforms in L^2 of the circle
- L. Garza and F. Marcellán -- Quadrature rules on the unit circle. A survey.
- A. Ibort, P. Linares, and J. G. Llavona -- On the multilinear trigonometric problem of moments
- A. B. J. Kuijlaars -- Multiple orthogonal polynomial ensembles
- E. Levin and D. S. Lubinsky -- Some equivalent formulations of universality limits in the bulk
- A. López García -- Greedy energy points with external fields
- A. Martínez-Finkelshtein and E. A. Rakhmanov -- On asymptotic behavior of Heine-Stieltjes and Van Vleck polynomials
- E. B. Saff -- Remarks on relative asymptotics for general orthogonal polynomials
- B. Simon -- Fine structure of the zeros of orthogonal polynomials: a progress report
- H. Stahl -- A potential-theoretic problem connected with complex orthogonality
- W. Van Assche -- Orthogonal polynomials and approximation theory: some open problems

Topic #5 ----- OP-SF NET 17.1 ----- January 15, 2010

From: OP-SF NET Editors

Subject: Proceedings of Bogota Seminar

From:

<http://www.ams.org/bookstore?fn=20&arg1=alggeom&ikey=CONM-509>

Differential Algebra, Complex Analysis and Orthogonal Polynomials

Edited by: Primitivo B. Acosta-Humánez, Universidad Sergio Arboleda, Bogotá, Colombia, and Francisco Marcellán, Universidad Carlos III de Madrid, Leganés, Spain. A co-publication of the AMS and Instituto de Matemáticas y sus Aplicaciones (IMA).

Contemporary Mathematics
2010; 231 pp; softcover
Volume: 509
ISBN-10: 0-8218-4886-0
ISBN-13: 978-0-8218-4886-9
List Price: US\$79
Member Price: US\$63
Order Code: CONM/509
Not yet published.
Expected publication date is April 10, 2010.

This volume represents the 2007-2008 Jairo Charris Seminar in Algebra and Analysis on Differential Algebra, Complex Analysis and Orthogonal Polynomials, which was held at the Universidad Sergio Arboleda in Bogotá, Colombia. It provides the state of the art in the theory of Integrable Dynamical Systems based on such approaches as Differential Galois Theory and Lie Groups as well as some recent developments in the theory of multivariable and q -orthogonal polynomials, weak Hilbert's 16th Problem, Singularity Theory, Tournaments in flag manifolds, and spaces of bounded analytic functions on the unit circle. The reader will also find survey presentations, an account of recent developments, and the exposition of new trends in the areas of Differential Galois Theory, Integrable Dynamical Systems, Orthogonal Polynomials and Special Functions, and Bloch-Bergman classes of analytic functions from a theoretical and an applied perspective. The contributions present new results and methods, as well as applications and open problems, to foster interest in research in these areas. A co-publication of the AMS and Instituto de Matemáticas y sus Aplicaciones (IMA).

Readership: Graduate students and research mathematicians interested in orthogonal polynomials, differential algebra, and integrability of dynamical systems.

Table of Contents

- D. Blázquez-Sanz and J. J. Morales-Ruiz -- Differential Galois theory of algebraic Lie-Vessiot systems
- L. Fernández, F. Marcellán, T. E. Pérez, and M. A. Piñar -- Recent trends on two variable orthogonal polynomials
- C. A. Gomez S. -- On the integrability of the Riccati equation
- M. E. H. Ismail -- Two discrete systems of q -orthogonal polynomials
- J. Ławrynowicz, L. F. Reséndis O., and L. M. Tovar S. -- Like-hyperbolic Bloch-Bergman classes
- J. T. Lázaro -- Some words about the application of Tchebycheff systems to weak Hilbert's 16th problem
- D. Mond -- From the index of a differential operator to the Milnor number of a singularity
- J. J. Morales-Ruiz and J.-P. Ramis -- Integrability of dynamical systems through differential Galois theory: a practical guide

- M. Paredes and S. Pinzón -- Tournaments and parabolic almost complex structures on flag manifolds

Topic #6 ----- OP-SF NET 17.1 ----- January 15, 2010

From: Tom Koornwinder T.H.Koornwinder@uva.nl

Subject: A mistaken portrait of Legendre

In an interesting story in Notices of the AMS, December 2009,

<http://www.ams.org/notices/200911/rtx091101440p.pdf>

Peter Duren tells of how the well-known and much reproduced "portrait of Legendre" is not, in fact, a portrait of the famous mathematician!

See also the source of some of Peter Duren's report in one by Gérard Michon

<http://home.att.net/~numerica/answer/record.htm#legendre>

Topic #7 ----- OP-SF NET 17.1 ----- January 15, 2010

From: Tom Koornwinder T.H.Koornwinder@uva.nl

Subject: SASTRA Ramanujan Lectures

The SASTRA Ramanujan Lectures appear as a special issue of The Ramanujan Journal; see Vol. 20, Number 3, December, 2009.at

<http://www.springerlink.com/content/1382-4090>

This issue consists of research papers and surveys which are outgrowths of talks given by some of the invited speakers at the most recent SASTRA conference. These conferences have been held annually since 2003 in SASTRA's Srinivasa Ramanujan Centre in Kumbakonam, Tamil Nadu, India, coinciding each year with Ramanujan's birthday (December 22). The opening article by George Andrews is entitled "The meaning of Ramanujan now and for the future". Other papers in this issue related to special functions are

On Ramanujan's function $k(q)=r(q)r^2(q^2)$, by Shaun Cooper,

Auxiliary functions in transcendental number theory, by Michel Waldschmidt

and **The Askey scheme as a four-manifold with corners** by Tom Koornwinder, available as a preprint at <http://arxiv.org/abs/0909.2822>

At the most recent year's SASTRA conference (December 2009)

the SASTRA Ramanujan prize was awarded to Kathrin Bringmann; see

<http://www.math.ufl.edu/sastra-prize/2009.html>

Topic #8 ----- OP-SF NET 17.1 ----- January 15, 2010

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 2009.

<http://arxiv.org/abs/0912.1030>

Zeros of 2 by 2 Matrix Polynomials

Authors: [Marla Slusky](#)

<http://arxiv.org/abs/0912.1834>

Harmonic- Fubini and harmonic- Bell Polynomials and Their Generalizations

Authors: [Ayhan Dil](#), [Veli Kurt](#)

<http://arxiv.org/abs/0912.3670>

Trigonometric polynomials deviating the least from zero in measure and related problems

Authors: [Vitalii V. Arestov](#), [Alexei S. Mendeleev](#)

<http://arxiv.org/abs/0912.4357>

The tree method for multidimensional q-Hahn and q-Racah polynomials

Authors: [Fabio Scarabotti](#)

<http://arxiv.org/abs/0912.4674>

On Chebyshev polynomials and torus knots

Authors: [A.M. Gavrilik](#), [A.M. Pavlyuk](#)

<http://arxiv.org/abs/0912.4703>

Structured matrices, continued fractions, and root localization of polynomials

Authors: [Olga Holtz](#), [Mikhail Tyaglov](#)

<http://arxiv.org/abs/0912.4758>

On the q-extension of higher-order Euler polynomials

Authors: [Taekyun Kim](#)

<http://arxiv.org/abs/0912.4845>

q-Euler numbers and polynomials associated with multiple q-zeta functions

Authors: [Taekyun Kim](#)

<http://arxiv.org/abs/0912.4931>

Some Identities for the Bernoulli, the Euler and the Genocchi Numbers and Polynomials

Authors: [Taekyun Kim](#)

<http://arxiv.org/abs/0912.5119>

Barnes type multiple q-zeta functions and q-Euler polynomials

Authors: [Taekyun Kim](#)

<http://arxiv.org/abs/0912.5220>

Hyperbolic polynomials and the Dirichlet problem

Authors: [F. Reese Harvey](#), [H. Blaine Lawson Jr](#)

<http://arxiv.org/abs/0912.5447>

Properties of the exceptional (X_{ℓ}) Laguerre and Jacobi polynomials

Authors: [Choon-Lin Ho](#), [Satoru Odake](#), [Ryu Sasaki](#)

<http://arxiv.org/abs/0911.0205>

The indeterminate moment problem for the q -Meixner polynomials

Authors: [Wolter Groenevelt](#), [Erik Koelink](#)

<http://arxiv.org/abs/0911.0714>

Generalized Chebyshev Polynomials and Positivity for Regular Cluster Characters

Authors: [G. Dupont](#)

<http://arxiv.org/abs/0911.1585>

Infinitely many shape invariant potentials and cubic identities of the Laguerre and Jacobi polynomials

Authors: [Satoru Odake](#), [Ryu Sasaki](#)

<http://arxiv.org/abs/0911.1586>

Equivalence classes of block Jacobi matrices

Authors: [Rostyslav Kozhan](#)

<http://arxiv.org/abs/0911.2098>

Special polynomials and elliptic integrals

Authors: [D. Babusci](#), [G. Dattoli](#)

<http://arxiv.org/abs/0911.2818>

Orthogonal polynomials in several variables for measures with mass points

Authors: [A. M. Delgado](#), [L. Fernandez](#), [T. E. Perez](#), [M. A. Pinar](#), [Y. Xu](#)

<http://arxiv.org/abs/0911.2856>

On the relation between the full Kostant-Toda lattice and multiple orthogonal polynomials

Authors: [D. Barrios Rolanía](#), [A. Branquinho](#), [A. Foulquié Moreno](#)

<http://arxiv.org/abs/0911.3069>

Complete Bell polynomials and new generalized identities for polynomials of higher order

Authors: [Boris Y. Rubinstein](#)

<http://arxiv.org/abs/0911.3442>

Another set of infinitely many exceptional (X_{ℓ}) Laguerre polynomials

Authors: [Satoru Odake](#), [Ryu Sasaki](#)

<http://arxiv.org/abs/0911.3569>

Multivariate stable polynomials: theory and applications

Authors: [David G. Wagner](#)

<http://arxiv.org/abs/0911.3765>

Derivative Polynomials and Closed-Form Higher Derivative Formulae

Authors: [Djordje Cvijović](#)

<http://arxiv.org/abs/0911.3887>

Covariants of binary forms and new identities for Bernoulli, Euler and Hermite polynomials

Authors: [Leonid Bedratyuk](#)

<http://arxiv.org/abs/0911.5407>

Asymptotic behavior and zero distribution of Carleman orthogonal polynomials

Authors: [Peter Dragnev](#), [Erwin Miña-Díaz](#)

<http://arxiv.org/abs/0911.5513>

Old and New Results About Relativistic Hermite Polynomials

Authors: [C. Vignat](#)

<http://arxiv.org/abs/0911.0941>

The multicomponent 2D Toda hierarchy: generalized matrix orthogonal polynomials, multiple orthogonal polynomials and Riemann--Hilbert problems

Authors: [Carlos Alvarez-Fernandez](#), [Ulises Fidalgo](#), [Manuel Manas](#)

<http://arxiv.org/abs/0912.3812>

An elliptic hypergeometric beta integral transformation

Authors: [Fokko J. van de Bult](#)

<http://arxiv.org/abs/0912.4116>

On the use of the variable change $w=\exp(u)$ to establish novel integral representations of the Riemann zeta(s,a) -function, incomplete gamma-function, confluent hypergeometric Phi-function and beta function

Authors: [Sergey K. Sekatskii](#)

<http://arxiv.org/abs/0912.0197>

Hypergeometric evaluation identities and supercongruences

Authors: [Ling Long](#)

<http://arxiv.org/abs/0912.0620>

Supercongruences satisfied by coefficients of $2F1$ hypergeometric series

Authors: [Heng Huat Chan](#), [Aristides Kontogeorgis](#), [Christian Krattenthaler](#), [Robert Osburn](#)

<http://arxiv.org/abs/0912.0917>

A Note on the $2F1$ Hypergeometric Function

Authors: [Armen Bagdasaryan](#)

<http://arxiv.org/abs/0912.1685>

Zeta function factorisation, Dwork hypersurfaces, hypergeometric hypersurfaces
Authors: [Philippe Goutet](#) (IMJ)

<http://arxiv.org/abs/0912.5358>

The Euler Series Transformation and the Binomial Identities of Ljunggren,
Munarini and Simons
Authors: [Khristo N. Boyadzhiev](#)

<http://arxiv.org/abs/0912.5376>

Series Transformation Formulas of Euler Type, Hadamard Product of Functions,
and Harmonic Number Identities
Authors: [Khristo N. Boyadzhiev](#)

<http://arxiv.org/abs/0912.3227>

Evaluation of some simple Euler-type series
Authors: [Khristo N. Boyadzhiev](#)

<http://arxiv.org/abs/0911.3850>

Convergent Interpolation to Cauchy Integrals over Analytic Arcs with Jacobi-Type
Weights
Authors: [Laurent Baratchart](#), [Maxim Yattselev](#)

<http://arxiv.org/abs/0911.5636>

Painlevé VI and the Unitary Jacobi ensembles
Authors: [Yang Chen](#), [Lun Zhang](#)

<http://arxiv.org/abs/0911.5645>

Non-Hermitian Random Matrix Ensembles
Authors: [B.A. Khoruzhenko](#), [H.-J. Sommers](#)

<http://arxiv.org/abs/0912.4720>

Discrete Energy Asymptotics on a Riemannian circle
Authors: [J. S. Brauchart](#), [D. P. Hardin](#), [E. B. Saff](#)

<http://arxiv.org/abs/0911.1332>

Notes on the Zeros of Riemann's Zeta Function
Authors: [Michael S. Milgram](#)

<http://arxiv.org/abs/0912.5477>

Note on multiple q-zeta functions
Authors: [T. Kim](#)

<http://arxiv.org/abs/0912.2390>

On certain sums over the nontrivial zeta zeros
Authors: [Mark W. Coffey](#)

<http://arxiv.org/abs/0912.2389>

Expressions for two generalized Furdui series

Authors: [Mark W. Coffey](#)

<http://arxiv.org/abs/0912.2391>

Addison-type series representation for the Stieltjes constants

Authors: [Mark W. Coffey](#)

<http://arxiv.org/abs/0911.5138>

Fundamental Domains of Gamma and Zeta Functions

Authors: [Cabiria Andreian Cazacu](#), [Dorin Ghisa](#)

<http://arxiv.org/abs/0911.5572>

On a function related to $\zeta(n)$ and γ

Authors: [Roupam Ghosh](#)

<http://arxiv.org/abs/0911.3831>

Recurrence relations and vector equilibrium problems arising from a model of non-intersecting squared Bessel paths

Authors: [A.B.J. Kuijlaars](#), [P. Román](#)

<http://arxiv.org/abs/0911.4658>

The q -tangent and q -secant numbers via continued fractions

Authors: [Heesung Shin](#), [Jiang Zeng](#)

<http://arxiv.org/abs/0912.4983>

Square Partitions and Catalan Numbers

Authors: [Matthew Bennett](#), [Vyjayanthi Chari](#), [R.J. Dolbin](#), [Nathan Manning](#)

<http://arxiv.org/abs/0912.5302>

q -Legendre transformation: partition functions and quantization of the Boltzmann constant

Authors: [Artur E. Ruuge](#), [Freddy van Oystaeyen](#)

<http://arxiv.org/abs/0911.2445>

More integrals of products of Airy functions

Authors: [Francisco M. Fernández](#)

<http://arxiv.org/abs/0912.0241>

Two dimensional symmetric and antisymmetric generalizations of sine functions

Authors: [Jiří Hrivnák](#), [Lenka Motlochová](#), [Jiří Patera](#)

<http://arxiv.org/abs/0912.2362>

Painleve functions in statistical physics

Authors: [Craig A. Tracy](#), [Harold Widom](#)

<http://arxiv.org/abs/0912.3659>

An integral containing the product of four Bessel functions

Authors: [Crucean Cosmin](#)

<http://arxiv.org/abs/0911.2680>

On identities involving the sixth order mock theta functions

Authors: [Jeremy Lovejoy](#)

<http://arxiv.org/abs/0911.3359>

On linear systems and tau functions associated with Lamé's equation and Painlevé's equation VI

Authors: [Gordon Blower](#)

<http://arxiv.org/abs/0911.4209>

Two-dimensional symmetric and antisymmetric generalizations of exponential and cosine functions

Authors: [Jiří Hrivnák](#), [Jiří Patera](#)

<http://arxiv.org/abs/0911.4596>

Closed-form formulae for the derivatives of trigonometric functions at rational multiples of π

Authors: [Djordje Cvijović](#)

<http://arxiv.org/abs/0911.4975>

Approximations of generating functions and a few conjectures

Authors: [Simon Plouffe](#)

<http://arxiv.org/abs/0911.5266>

Derivatives with respect to the degree and order of associated Legendre functions for $|z| > 1$ using modified Bessel functions

Authors: [Howard S. Cohl](#)

<http://arxiv.org/abs/0912.0126>

Generalized Heine Identity for Complex Fourier Series of Binomials

Authors: [Howard S. Cohl](#), [Diego E. Dominici](#)

<http://arxiv.org/abs/0911.1737>

Some determinants of path generating functions

Authors: [Christian Krattenthaler](#), [Johann Cigler](#) (Universität Wien)

<http://arxiv.org/abs/0912.2213>

Solution of the generalized periodic discrete Toda equation II; Theta function solution

Authors: [Shinsuke Iwao](#)

Topic #9 ----- OP-SF NET 17.1 ----- January 15, 2010

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 140 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, which is transmitted periodically by SIAM. It is provided as a free public service; membership in SIAM is not required. The OP-SF Net Editors are Diego Dominici (dominicd@newpaltz.edu) and Martin Muldoon (muldoon@yorku.ca).

To receive the OP-SF NET, send your name and email address to poly-request@siam.org.

Back issues can be obtained at the WWW addresses:
<http://staff.science.uva.nl/~thk/opsfnet>

For several years the Activity Group sponsored a printed Newsletter, most recently edited by Rafael Yanez. Back issues are accessible at:
<http://www.mathematik.uni-kassel.de/~koepf/siam.html>

SIAM has several categories of membership, including low-cost categories for students and residents of developing countries. 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
email: service@siam.org
WWW : <http://www.siam.org>
<http://www.siam.org/membership/outreachmem.htm>

Finally, the Activity Group operates an email discussion group, called OP-SF Talk. To subscribe, send the email message

subscribe opsftalk Your Name

to listproc@nist.gov. To contribute an item to the discussion, send email to opsftalk@nist.gov. The archive of all messages is accessible at:
<http://math.nist.gov/opsftalk/archive>

Topic #10 ----- OP-SF NET 17.1 ----- January 15, 2010

From: OP-SF NET Editors
Subject: Submitting contributions to OP-SF NET

To contribute a news item to OP-SF NET, send email to poly@siam.org with a copy to one of the OP-SF Editors dominicd@newpaltz.edu or muldoon@yorku.ca. Contributions to OP-SF NET 17.2 should be sent by March 1, 2010.

OP-SF NET is a forum 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, job openings.

Send submissions to: poly@siam.org
Subscribe by mailing to: poly-request@siam.org
or to: listproc@nist.gov

Back issues can be obtained at the WWW addresses:

<http://staff.science.uva.nl/~thk/opsfnet>
<http://www.math.ohio-state.edu/JAT/DATA/OPSFNET/opsfnet.html>
<http://math.nist.gov/opsfnet/archive>

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 (2008-2010) are:

Francisco J. Marcellán , Chair
Peter A. Clarkson, Vice Chair
Daniel W. Lozier, Secretary
Peter A. McCoy, Program Director

The appointed officers are:

Diego Dominici, OP-SF NET co-editor
Martin Muldoon, OP-SF NET co-editor
Bonita Saunders, Webmaster