O P - S F N E T - Volume 17, Number 2 – March 15, 2010

Editors:
Diego Dominici dominicd@newpaltz.edu
Martin Muldoon muldoon@yorku.ca

The Electronic News Net of the
SIAM Activity Group on Orthogonal Polynomials and Special Functions
http://math.nist.gov/opsf/
Please send contributions to: poly@siam.org
Subscribe by mailing to: poly-request@siam.org
or to: listproc@nist.gov

Today's Topics

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 1-4, 2010

Conference on Random matrices, Centre de Mathématiques de Jussieu / Chevaleret, Paris, France
http://www.cmapx.polytechnique.fr/~benaych/conference/page_conference_may31-june4.html/Paris_6_%26_ANR_GranMa.html

June 14-18, 2010

Symmetries and Integrability of Difference Equations SIDE-9, Varna, Bulgaria
http://old.inrne.bas.bg/SIDE-9/

June 21-23, 2010

Conference on Special Functions and their Applications - CSFA 2010, Gwalior, India
http://www.ssfaindia.webs.com/conf.htm

June 21-25, 2010

"Functions and Operators", Krakow, Poland.
http://www.im.uj.edu.pl/fao2010

June 24-27, 2010

ACA'10, Applications of Computer Algebra, including Special session on Computation of Special Functions, Vlore, Albania
http://aca2010.info/index.php/aca2010/aca2010

July 4-7, 2010

Seventh international conference on Lattice Path Combinatorics and Applications, Siena, Italy
http://www.unisi.it/eventi/lattice_path_2010

July 4-9, 2010

First Jaen Conference on Approximation, Ubeda, Spain 17.2 #4
http://www.ujaen.es/revista/jja

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 12-15, 2010

OPW - Orthogonal Polynomials, applications in Statistics and Stochastic Processes, Warwick, UK 17.2 #5
http://www2.warwick.ac.uk/fac/sci/statistics/crism/workshops/orthogonal-polynomials

July 12-16, 2010

SIAM Annual Meeting, Pittsburgh, Pennsylvania, USA
http://www.siam.org/meetings/an10/index.php

July 12-16, 2010
International Workshop on Operator Theory and its Applications (IWOTA 2010), Technische Universität Berlin, Germany
http://www3.math.tu-berlin.de/iwota_2010/

July 19-23, 2010
16th International Conference on Difference Equations and Applications, Riga, Latvia
http://icdea2010.lu.lv/

July 25 - 28, 2010
International Symposium on Symbolic and Algebraic Computation (ISSAC 2010), Technische Universität München, München, Germany
http://www.issac-conference.org/2010/

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 17.2 #6
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

January 3-5, 2011

ICMS-2011, International Conference on Mathematical Sciences in honour of Profesor A. M. Mathai, Kottayam, Kerala, India 17.2 #10
See page 20 of this issue

June 5-11, 2011

Computational Complex Analysis and Approximation Theory (CCAAT 2011).
in honor of Professor Nicolas Papamichael, Protaras, Cyprus
http://www.cyprusconferences.org/ccaat/

Topic #1 ---------- OP-SF NET 17.2 ---------- March 15, 2010

From: Francisco J. Marcellán pacomarc@ing.uc3m.es
Subject: Message from the Chair

Dear members of SIAG OPSF:

Following the ideas mentioned in my November message (OP-SF NET 16.6, Topic #1) we have submitted the following proposals to SIAM:

1. - Gabor Szegő Award

As you know, several SIAM Activity Groups promote special awards for researchers of their fields of activity. From our SIAG we have submitted to the President of SIAM the following proposals for consideration:

1.1.- Candidates for the Gabor Szegő Award must not be more 10 years from the defense of the PhD Thesis.

1.2.- According to the standard practices with other SIAG awards, SIAM will provide a plaque or certificate, but no cash award.

1.3.- The Selection Committee would be composed of the Chairman of our OPSF SIAG, two people proposed by our officers and two people from the Organizing Committee of OPSFA. We will respect gender rules for the composition of the Committee.

1.4.- Candidates must be nominated by two members of the SIAG and submit their CVs to be considered.

1.5.- An invited lecture in an OPSFA meeting , "The Gabor Szegő Lecture", together with a formal presentation ceremony of the prize is proposed.

The tentative timetable for the procedure will be from October 2010 (deadline for submission of applications) to February 2011 (the decision of the Committee). Your comments in order to improve the proposal would be welcome.

2.- Services provided by our SIAG

First of all, our SIAG newsletter is our most visible activity of SIAG. As a consequence of the excellent work done by Diego Dominici and Martin Muldoon (thanks Diego and Martin) we receive every two months updated information concerning activities related to our fields of research interest. A more intensive feedback is needed in order to receive opinions about people attending meetings, job positions, book information, as well about mathematical problems.

Second, some other ways for internal and external communication are OPSF-Web, and OPSF-Talk.

OPSF-Net is a one-way information service (electronic newsletter) from the leadership to the membership via SIAM headquarters, but mirrored and archived for use by the general public at NIST and University of Amsterdam.

OPSF-Web is a place where the general public can find relevant information in several categories: names of current SIAG officers, the official SIAM membership list, conference calendar, links to the OPSF-Net archives and the OPSF-Talk archive, conference reports and proceedings, bibliographies, obituaries, positions available, and several other categories. As noted by others, OPSF-Web was created a long time ago and needs to be rejuvenated. The categories need to be reconsidered, and a more modern interface designed that is not just a long list of links. Bonita Saunders, our Webmaster, has begun to develop some ideas in this direction. Like OPSF-Net, OPSF-Web is a one-way information service. However, Bonita would like to develop a capability for the general public to enter relevant information directly into a form at the website, for example announcing job openings. (To avoid spam, the entries would need to be read and approved, and possibly edited, by a moderator before being released publicly.) She has begun to develop other ideas also, partly by looking at some of the other available websites that function as information services. I asked her not to make any substantive changes without prior approval from us, and suggested that we might ask her for a brief written proposal of her planned approach.

OPSF-Talk is a true two-way communication device (a listserv), but moderated to avoid spam. Originally it was intended as a way for people to ask for solutions or insights into technical questions but it has not been used very much. The immediacy of email, as opposed to clicking into a website, is a real advantage in drawing people's attention to new information, especially time-critical information such as job openings. A website is better for longer-term and archival purposes.

We have decided to transfer the distribution of OPSF-Talk from NIST to SIAM. One advantage for us is that SIAM will make sure the active membership of our group is always up to date on the mailing list. Also, we will have the authority to add anyone else. As moderators of OPSF-Talk we have named Diego Dominici and Bonita Saunders who have agreed to serve our community in this relevant role (thanks Diego and Bonita).

Taking into account our SIAG must increase its activity in SIAM as a proof of our commitment, we will very please to receive your comments and remarks about these two points.

Sincerely yours,
Paco Marcellán,
Chair of SIAG on OPSF.

Topic #2 ---------- OP-SF NET 17.2 ---------- March 15, 2010

From: Francisco J. Marcellán pacomarc@ing.uc3m.es
Subject: Grants for postgraduates and postdocs in Spain

In the near future (March-April 2010) there will be available three positions (postgraduate positions for preparing a PhD thesis) in Orthogonal Polynomials and Approximation Theory. One of these fellowships is to work in in the group led by Paco Marcellán and Guillermo López Lagomasino in Madrid, and the other two, for preparing the PhD thesis in Seville in the group led by Antonio Durán. The duration of these positions is 4 years. Also in Seville, there will be available a postdoc position for two years.

Those interested please, as soon as possible, contact Guillermo López Lagomasino (in Madrid (http://gama.uc3m.es/) at lago@math.uc3m.es and Antonio Durán (in Sevilla http://euler.us.es/~opap/) at duran@us.es

Topic #3 ---------- OP-SF NET 17.2 ---------- March 15, 2010

From: OP-SF NET Editors
Subject: Computation of Special Functions at ACA'10

During ACA'10, Applications of Computer Algebra, to be held in Vlore, Albania, during June 24-27, 2010, there will be a special session on Computation of Special Functions, organized by Diego Dominici and Veronika Pillwein.
From the announcement:

“A possible way of defining the so-called "special functions" is to choose those mathematical functions which are widely used in scientific and technical applications, and of which many useful properties are known.

“A familiar classification of special functions is by increasing complexity, starting with polynomials and algebraic functions and progressing through the "elementary" or "lower" transcendental functions (logarithms, exponentials, trigonometric, etc.) to the "higher" transcendental functions (Bessel, parabolic cylinder, etc.) Special functions are used in all fields of science. The most well-known application areas are physics, engineering, chemistry and computer science. Because of their importance, several books and a large collection of papers have been devoted to the numerical computation of these functions. But up to this date, even environments such as Maple, Mathematica, MATLAB and libraries such as IMSL, CERN and NAG offer no routines for the reliable evaluation of special functions. Here the notion of reliable indicates that, together with the function evaluation, a guaranteed upper bound on the total error or, equivalently, an enclosure for the exact result, is computed. At the same time, recently developed methods in symbolic computation are applied for the simplification and evaluation of quantities involving special functions.

“Many years ago proving special function identities was a tedious and error prone task which required long training and structural insight. Nowadays, scientists may choose among a variety of algorithms that are up to fulfilling the task of finding closed form expressions or reducing complexity by delivering a compact description in terms of difference or differential relations. With these programs, dealing with special functions is straight-forward, efficient and reliable.
“The goal of this session will be to understand the latest developments in the computation of special functions and the implementation of these procedures using computer algebra.”

For further information on ACA’10, see:
http://aca2010.info/index.php/aca2010/aca2010

Topic #4 ---------- OP-SF NET 17.2 ---------- March 15, 2010

From: Francisco J. Marcellán pacomarc@ing.uc3m.es
Subject: First Jaén Conference on Approximation

The First Jaén Conference on Approximation will be held in Úbeda, Spain during July 4-9, 2010.

The aim of this conference is to provide a useful and pleasant forum for researchers in the relevant subjects. In this sense, the conference program has been designed to keep the group together for five days with a program of scientific and social activities.

The Conference will focus on some significant aspects of Approximation Theory, Computer Aided Geometric Design, and Numerical Methods as well as on the applications of these fields in other areas.

The Conference will take place at the Cultural Center "Hospital de Santiago" in Úbeda, a World Heritage Site.

The Conference will feature eight invited speakers who will give one-hour plenary talks. The confirmed invited speakers are F. Altomare (Università di Bari, Italy), C. Brezinski (Université de Lille I, France), N. Dyn (Tel Aviv University, Israel), D. S. Lubinsky (Georgia Institute of Technology, Atlanta, USA) C. A. Micchelli (University of Albany, USA), J. M. Sanz-Serna (Universidad de Valladolid, Spain), V. Totik (University of South Florida, Tampa, USA - University of Szeged, Hungary), Yuan Xu (University of Oregon, USA)

The conference will include a special session dedicated to Prof. Mariano Gasca on the occasion of his retirement. Prof. Mariano Gasca, is closely related to Jaén. He was the first Director of the Jaén branch of the University of Granada as well as he is a member of the editorial board of Jaen Journal on Approximation, a member of the Scientific Committee of Úbeda Meeting on Approximation and he has many academic descendants in Jaén.

For further information, see
http://www.ujaen.es/revista/jja

Topic #5 ---------- OP-SF NET 17.2 ---------- March 15, 2010

From: OP-SF NET Editors
Subject: Warwick Workshop on Orthogonal Polynomials

A workshop **OPW - Orthogonal Polynomials, applications in Statistics and Stochastic Processes**, will be held in Warwick, UK, July 12-15, 2010.

From the Workshop web site:

This workshop aims to bring together a wide variety of scientists that have made important contributions to the theory and applications of Orthogonal Polynomials, with the purpose of investigating the frontiers of the theory and the possibilities of its extension and further applicability in Statistics and Probability.

Topics that are aimed to be covered include (but are not limited to): Canonical correlation analysis for copulae; Hypergroups and Spectral analysis of discrete and continuous stochastic processes; Random Matrices and Random Covariance Functions.

The workshop will host 18 invited speakers

Igor Borisov (Sobolev Inst.), Persi Diaconis (Stanford), Stephen Evans (Berkeley), Patrik Ferrari (Bonn), Bob Griffiths (Oxford), Mourad Ismail (UCF), Kshitij Khare (USF) , Angelo Koudou (Nancy), Arno Kuijlaars (Louvain), Rupert Lasser (München) , Gerard Letac (Toulouse) , Neil O'Connell (Warwick), Eric Rains (CalTech) , Evgeny Strahov (Jerulasem) , Ryszard Szwarc (Wroclaw), Pierre Van Moerbecke (Louvain) (to confirm), Michael Voit (Dortmund), Jacek Wesolowski (Warsaw).

and will be open to contributed talks and posters. We aim to provide support for career-young researchers willing to participate.

Workshop organizers:

Persi Diaconis (Stanford)
Bob Griffiths (Oxford)
Dario Spanò (Warwick), Chair
Jon Warren (Warwick)
Nikos Zygouras (Warwick)

For further information, see
http://www2.warwick.ac.uk/fac/sci/statistics/crism/workshops/orthogonal-polynomials

Topic #6 ---------- OP-SF NET 17.2 ---------- March 15, 2010

From: OP-SF NET Editors
Subject : BIRS Workshop on Multivariate Orthogonal Polynomials

A conference "New Perspectives in Univariate and Multivariate Orthogonal Polynomials", will be held at the Banff International Research Station, Alberta, Canada during October 10-15 2010.

From the conference web site

Organizers: Plamen Iliev (Georgia Institute of Technology), Tom Bloom (University of Toronto), Jeffrey Geronimo (Georgia Institute of Technology), Doron Lubinsky (Georgia Institute of Technology), Edward Saff (Vanderbilt University).

Objectives of Workshop

The focus of the conference will be univariate and multivariate orthogonal polynomials, especially their spectral theory, and asymptotic behavior. The aim is to bring together experts who have different approaches to these questions – for example those using pluripotential theory and those using real multivariate techniques, as well as those involved in spectral theory and asymptotics in the univariate case. Most orthogonal polynomial workshops have tended to separate real techniques from complex ones, and univariate from multivariate perspectives. There has not been any meeting focusing on this cross-section of researchers in these varying directions in the past few years. We expect the communication of ideas and methods from these different approaches will encourage new techniques and research across several topics.

Program of the Workshop

There will be about 6 one hour long talks and 30 half hour talks. There will be ample time in between for questions, and discussion. There will be a focused problem session during the conference – probably half way though, so that participants can consider these for a few days during their stay in Banff.

Relevance, Importance and Timeliness

In recent years, asymptotics and spectral theory of orthogonal polynomials have been used to study random matrices, combinatorial questions, Toda lattices, discrete Schrodinger operators and weighted approximation. The real and complex, univariate and multivariate techniques that underlie some of these asymptotics have been undergoing rapid development. The problems within the focus of the conference are widely applied, highly regarded, and very active areas of research. The conference would be timely, and have a different focus from any other that we know of. Between 5 and 10 of the participants will be young researchers (including some graduate students and postdocs).

For further information, see

http://www.birs.ca/birspages.php?task=displayevent&event_id=10w5061

Topic #7 ---------- OP-SF NET 17.2 ---------- March 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 January and February 2010.

http://arxiv.org/abs/1001.0028
Cyclic sieving for generalised non-crossing partitions associated to complex reflection groups of exceptional type
Authors: Christian Krattenthaler (Universität Wien), Thomas W. Müller (Queen Mary)

http://arxiv.org/abs/1001.0030
Cyclic sieving for generalised non-crossing partitions associated to complex reflection groups of exceptional type - the details
Authors: Christian Krattenthaler (Universität Wien), Thomas W. Müller (Queen Mary)

http://arxiv.org/abs/1001.0034
New identities involving q-Euler polynomials of higher order
Authors: Taekyun Kim, Y. H. Kim

http://arxiv.org/abs/1001.0469
On some classical problems concerning L_{∞}-extremal polynomials with constraints
Authors: Franz Peherstorfer

http://arxiv.org/abs/1001.0478
Orthogonal polynomials on several intervals: accumulation points of recurrence coefficients and of zeros
Authors: Franz Peherstorfer

http://arxiv.org/abs/1001.0491
Asymptotic representation of minimal polynomials on several intervals
Authors: Franz Peherstorfer

http://arxiv.org/abs/1001.1277
Piecewise Certificates of Positivity for matrix polynomials
Authors: Ronan Quarez (IRMAR)

http://arxiv.org/abs/1001.1573
Euler number and polynomials of higher order
Authors: Taekyun Kim

http://arxiv.org/abs/1001.2219
Asymptotic zero distribution of complex orthogonal polynomials associated with Gaussian quadrature
Authors: A. Deano, D. Huybrechs, A.B.J. Kuijlaars

http://arxiv.org/abs/1001.2835
Various applications of the (exponential) complete Bell polynomials
Authors: Donal F. Connon

http://arxiv.org/abs/1001.3134
Some Properties of Macdonald Polynomials with Prescribed Symmetry
Authors: W. Baratta

http://arxiv.org/abs/1001.3400
A New Generating Function of (q-) Bernstein Type Polynomials and their Interpolation Function
Authors: Yilmaz Simsek, Mehmet Acikgoz

http://arxiv.org/abs/1001.3683
Orthogonal polynomials of compact simple Lie groups
Authors: Maryna Nesterenko, Jiri Patera, Agnieszka Tereszkiewicz

http://arxiv.org/abs/1001.3820
A note on moments of derivatives of characteristic polynomials
Authors: Paul-Olivier Dehaye

http://arxiv.org/abs/1001.0034
New identities involving q-Euler polynomials of higher order
Authors: Taekyun Kim, Y. H. Kim

http://arxiv.org/abs/1002.0271
Approximation by polynomials and Blaschke products having all zeros on a circle
Authors: David W. Farmer, Pamela Gorkin

http://arxiv.org/abs/1002.0372
Roots of the derivative of the Riemann zeta function and of characteristic polynomials
Authors: Eduardo Dueñez, David W. Farmer, Sara Froehlich, Chris Hughes, Francesco Mezzadri, Toan Phan

http://arxiv.org/abs/1002.0862
Polynomials Related to Harmonic Numbers and Evaluation of Harmonic Number Series II
Authors: Ayhan Dil, Veli Kurt

http://arxiv.org/abs/1002.1118
Orthogonality of Hermite polynomials in superspace and Mehler type formulae
Authors: Kevin Coulembier, Hendrik De Bie, Frank Sommen

http://arxiv.org/abs/1002.2060
On Complex (non analytic) Chebyshev Polynomials in $\bbC^2$
Authors: I. Moale, P. Yuditskii

http://arxiv.org/abs/1002.2230
Discriminants and Nonnegative Polynomials
Authors: Jiawang Nie

http://arxiv.org/abs/1002.2314
On Burkholder function for orthogonal martingales and zeros of Legendre polynomials
Authors: Alexander Borichev, Prabhu Janakiraman, Alexander Volberg

http://arxiv.org/abs/1002.2517
The Airy transform and the associated polynomials
Authors: D. Babusci, G. Dattoli, D. Sacchetti

http://arxiv.org/abs/1002.2666
Exceptional orthogonal polynomials and the Darboux transformation
Authors: David Gomez-Ullate, Niky Kamran, Robert Milson

http://arxiv.org/abs/1002.3221
Some remarks on Ramanujan sums and cyclotomic polynomials
Authors: László Tóth

http://arxiv.org/abs/1002.3735
Recurrence relation for Jones polynomials
Authors: Barbu Berceanu, Abdul Rauf Nizami

http://arxiv.org/abs/1002.3746
Optimal stopping, Appell polynomials and Wiener-Hopf factorization representations of excessive functions of Lévy processes
Authors: Paavo Salminen

http://arxiv.org/abs/1002.3967
Polynomial Solutions of Differential Equations
Authors: H. Azad, M. T. Mustafa

http://arxiv.org/abs/1002.4657
A Survey on q-Polynomials and their Orthogonality Properties
Authors: Roberto S. Costas-Santos, Joaquin F. Sanchez-Lara

http://arxiv.org/abs/1002.4987
q-deformed harmonic and Clifford analysis and the q-Hermite and Laguerre polynomials
Authors: Kevin Coulembier, Frank Sommen

http://arxiv.org/abs/1002.3458
Feynman graph polynomials
Authors: Christian Bogner, Stefan Weinzierl

http://arxiv.org/abs/1001.2345
Jucys-Murphy elements, orthogonal matrix integrals, and Jack measures
Authors: Sho Matsumoto

http://arxiv.org/abs/1001.0299
The solutions of four q-functional equations
Authors: Jun-Ming Zhu

http://arxiv.org/abs/1002.4384
A Proof of George Andrews' and David Robbins' q-TSPP Conjecture
Authors: Christoph Koutschan, Manuel Kauers, Doron Zeilberger

http://arxiv.org/abs/1001.0494
Unconditional and Conditional Large Gaps between the zeros of the Riemann Zeta-Function
Authors: S. H. Saker

http://arxiv.org/abs/1001.1495
An elegant refinement of a double inequality for the gamma function
Authors: Feng Qi, Bai-Ni Guo

http://arxiv.org/abs/1001.1496
Two monotonic functions involving gamma function and volume of unit ball
Authors: Feng Qi, Bai-Ni Guo

http://arxiv.org/abs/1001.1571
Dedekind's eta-function and Rogers-Ramanujan identities
Authors: S. Ole Warnaar, Wadim Zudilin

http://arxiv.org/abs/1001.1824
On the Mellin transforms of powers of Hardy's function
Authors: Aleksandar Ivic

http://arxiv.org/abs/1001.1869
Analytic Continuation of some zeta functions
Authors: Gautami Bhowmik (LPP)

http://arxiv.org/abs/1001.2013
Analytic van der Corput Lemma for p-adic and F_q((t)) oscillatory integrals, singular Fourier transforms, and restriction theorems
Authors: Raf Cluckers

http://arxiv.org/abs/1001.2340
The asymptotics a Bessel-kernel determinant which arises in Random Matrix Theory
Authors: Torsten Ehrhardt

http://arxiv.org/abs/1001.2660
Jacobian Elliptic Functions, Continued Fractions and Ramanujan Quantities
Authors: Nikos Bagis, M.L. Glasser

http://arxiv.org/abs/1001.2889
Fractional Vector Calculus and Fractional Special Function
Authors: Ming-Fan Li, Ji-Rong Ren, Tao Zhu

http://arxiv.org/abs/1001.2911
Gamma,Psi,Bernoulli Functions via Hurwitz Zeta Function
Authors: Vivek V.Rane

http://arxiv.org/abs/1001.2962
A method for locating where the real part of the Riemann zeta function becomes negative for its real argument greater than one
Authors: Dominic C. Milioto

http://arxiv.org/abs/1001.3400
A New Generating Function of (q-) Bernstein Type Polynomials and their Interpolation Function
Authors: Yilmaz Simsek, Mehmet Acikgoz

http://arxiv.org/abs/1001.3814
Area Littlewood-Paley functions associated with Hermite and Laguerre operators
Authors: J.J. Betancor, S.M. Molina, L. Rodriguez-Mesa

http://arxiv.org/abs/1001.4007
Jacob's ladders and the asymptotic formula for short and microscopic parts of the Hardy-Littlewood integral of the function $|\zeta(1/2+it)|^4$
Authors: Jan Moser

http://arxiv.org/abs/1001.4611
A completely monotonic function involving the tri- and tetra-gamma functions
Authors: Feng Qi, Bai-Ni Guo

http://arxiv.org/abs/1002.0362
New zero free regions for the derivatives of the Riemann zeta function
Authors: Thomas Binder, Sebastian Pauli, Filip Saidak

http://arxiv.org/abs/1002.0976
Interlacing of real zeros of Bessel functions
Authors: Tamas Palmai, Barnabas Apagyi

http://arxiv.org/abs/1002.1175
Maass waveforms arising from sigma and related indefinite theta functions
Authors: Sander Zwegers

http://arxiv.org/abs/1002.1344
Factorization procedure and new generalized Hermite functions
Authors: Marco A. Reyes, M. Ranferi Gutierrez

http://arxiv.org/abs/1002.1616
Landau-Siegel zeros and zeros of the derivative of the Riemann zeta function
Authors: David W. Farmer, Haseo Ki

http://arxiv.org/abs/1002.1682
Probabilistic interpretation of the Möbius function identity and the Riemann Hypothesis
Authors: R. M. Abrarov, S. M. Abrarov

http://arxiv.org/abs/1002.1679
On the intersections of Fibonacci, Pell, and Lucas numbers
Authors: Max A. Alekseyev

http://arxiv.org/abs/1002.2327
Picard solution of Painlevé VI and related tau-functions
Authors: Vladimir V. Mangazeev

http://arxiv.org/abs/1002.2443
An amortized-complexity method to compute the Riemann zeta function
Authors: G.A. Hiary

http://arxiv.org/abs/1002.2598
Integral representations of hypergeometric functions of confluent type from the WZNW conformal field theory
Authors: Hajime Nagoya, Juanjuan Sun

http://arxiv.org/abs/1002.2685
A class of higher order Painleve systems arising from integrable hierarchies of type A
Authors: Takao Suzuki

http://arxiv.org/abs/1002.2695
An Unconditional large gap between the Zeros of the Riemann Zeta-Function and Existence of Conditional Large Gaps
Authors: S. H. Saker

http://arxiv.org/abs/1002.4127
More than 41% of the zeros of the zeta function are on the critical line
Authors: Hung Bui, Brian Conrey, Matthew Young

http://arxiv.org/abs/1002.4171
Two arguments that the nontrivial zeros of the Riemann zeta function are irrational
Authors: Marek Wolf

http://arxiv.org/abs/1002.4511
The matrix Stieltjes moment problem: a description of all solutions
Authors: Sergey M. Zagorodnyuk

http://arxiv.org/abs/1001.2213
Asymptotics for a special solution to the second member of the Painleve I hierarchy
Authors: T. Claeys

http://arxiv.org/abs/1001.3466
Multiple analogues of binomial coefficients and related families of special numbers
Authors: Hasan Coskun

http://arxiv.org/abs/1001.1766
Approximation diophantienne et approximants de Hermite-Padé de type I de fonctions exponentielles
Authors: Samy Khémira, Paul Voutier

http://arxiv.org/abs/1002.2685
A class of higher order Painleve systems arising from integrable hierarchies of type A
Authors: Takao Suzuki

http://arxiv.org/abs/1002.3634
Asymptotics of the instantons of Painleve I
Authors: Stavros Garoufalidis, Alexander Its, Andrei Kapaev, Marcos Marino

http://arxiv.org/abs/1001.1812
A classification of sharp tridiagonal pairs
Authors: Tatsuro Ito, Kazumasa Nomura, Paul Terwilliger

http://arxiv.org/abs/1001.2764
Double affine Hecke algebras of rank 1 and the Z_3-symmetric Askey-Wilson relations
Authors: Tatsuro Ito, Paul Terwilliger

http://arxiv.org/abs/1002.0056
The asymptotic properties of Eulerian numbers and refined Eulerian numbers: A Spline perspective
Authors: Renhong Wang, Yan Xu

http://arxiv.org/abs/1002.0083
Asymptotic expansions of several series and their application
Authors: Viktor P. Zastavnyi

http://arxiv.org/abs/1001.2180
Asymptotics of q-Plancherel measures
Authors: Valentin Feray (LaBRI), Pierre-Loïc Méliot (IGM-LabInfo)

http://arxiv.org/abs/1002.3894
The asymptotic expansion for the factorial and Lagrange inversion formula
Authors: Stella Brassesco, Miguel A. Méndez

Topic #8 ---------- OP-SF NET 17.2 ---------- March 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 #9 ---------- OP-SF NET 17.2 ---------- March 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 17.3 should be sent by May 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

Continued on pages 20 and 21

ICMS 2011: "International Conference on Mathematical Sciences in honour of Professor A.M.Mathai"

January 3-5, 2011

Venue: St Thomas College Pala, Kottayam – 686 574, Kerala, INDIA

www.stcp.ac.in

Enquiries can be addressed to:

Seemon Thomas, Mob: 91-9495325341
seemonpala@rediffmail.com

Joy Jacob, Mob:91-9446126315
jjstc2000@yahoo.com

Dilip Kumar, Mob: 91-9446195433
dilipkumar.cms@gmail.com

St Thomas College Pala is one of the first institutions in India to introduce masters program in Statistics. To celebrate the 75th birth anniversary of Professor A.M. Mathai who is one of our prestigious alumni and former faculty, we organize an international conference in his honour during January 3-5, 2011. For a cv of Professor A.M. Mathai log on to www.math.mcgill.ca/mathai/.

The International Conference on Mathematical Sciences (ICMS 2011) aims to bring together academic scientists and researchers to exchange and share their experiences and research findings in Mathematical Sciences, and discuss the practical challenges encountered and the solutions adopted. To promote international participation of researchers from outside India, foreign experts are proposed as invited speakers. The section titles of ICMS-2011 include but are not limited to:

Integral transforms and special functions; Differential equations and applications; Integral, difference, functional equations and fractional calculus; Real and complex analysis; Applied problems of analysis; Theoretical and applied problems of mechanics; Astrophysics; Distribution theory; Stochastic processes; Statistical inference; Multivariate analysis; Mathematical and stochastic modeling; Computation and simulation.

Call for Abstracts

The organizers will accept papers for presentation at the conference subject to approval by referees. Please send abstracts electronically (preferably in LaTeX or Word format) to Dr. Joy Jacob at the email address jjstc2000@yahoo.com. The title of the abstract must be followed by the name(s) of the author(s) (please underline the name of the presenter), their affiliation(s) and e-mail address (es), the body of the abstract, AMS classification numbers, and up to five keywords.

Deadline for submission of abstract: 31 August 2010.

Paper Submission

All full papers will be peer reviewed and chosen based on originality, content, correctness, relevance to conference, contributions and readability. Prospective authors are kindly invited to submit full text including results, tables, figures and references. Full text (.doc, .tex with .pdf) will be accepted only by electronic submission through seemonpala@rediffmail.com or jjstc2000@yahoo.com.

Deadline for submission of full manuscript: 30 September 2010.

Special Journal Issue

All submitted papers in ICMS 2011 will have opportunities for consideration for a Special Issue of a reputed international journal. The selection will be carried out during the review process as well as at the conference presentation stage. Submitted papers must not be under consideration by any other journal for publication. The final decision will be made based on peer review reports by the guest editors and the Editor-in-Chief jointly.

Important Dates

Submission of abstract	by August 31, 2010
Submission of full manuscript	by September 30, 2010
Notification of acceptance for presentation	by October 15, 2010
Conference dates	January 3-5, 2011

Registration

All participants will have to be registered and the registration form in word format is available from www.stcp.ac.in. Early registration is recommended since the number of participants will be limited.

Registration Fees	For foreign participants	For Indian participants
By October 31, 2010	US $150.00	Rs 1200
Between November 1, 2010 and December 31, 2010	US $175.00	Rs 1300
After December 31, 2010	US $200.00	Rs 1500

Students and local participants who do not require accommodation are allowed a reduction of US $50 or Rs 400 in the above tariffs. Registration fee includes:

Food and moderate accommodation in the guest house during conference days, conference materials, banquet and entertainment programs.

Registration fee can be transferred electronically to: A/c- Co-ordinator ICMS 2011, Account No. 0453053000006856, South Indian Bank, Arunapuram, India. For transfer in India (RTGS or NEFT) use IFSC Code: SIBL0000453. For international transfer use SWIFT Code: SOININ 55. Electronic transfer of fee must be indicated with full reference in the registration form.

Please send completed registration form through email or by post to: Seemon Thomas, Co-ordinator, ICMS 2011, Department of Statistics, St. Thomas College, Pala-686 574, INDIA, Ph: +91-4822-201288, Fax: +91-4822-216313, Email: seemonpala@rediffmail.com, seemon@stcp.ac.in.

Presentation certificate will be issued to those who present papers, and all others will be issued attendance certificate provided they attend all sessions.

Technical Equipments for Electronic PowerPoint/Acrobat Presentations will be available. For more details regarding the conference log on to our website www.stcp.ac.in.

Information concerning hotels and their charges will be provided later. We also plan to have a cultural event, and a short sightseeing trip.

For details regarding nearby places of tourist interest log on to www.keralatourism.org.

From: Tom Koornwinder <T.H.Koornwinder@uva.nl>
Subject: Open problem

Fernando Mario de Oliveira Filho formulates in his thesis [2, p.47] the following open problem.

Problem 1. Let $R_n^{(\alpha,\beta)}(x) := P_n^{(\alpha,\beta)}(x)/P_n^{(\alpha,\beta)}(1)$ be a normalized Jacobi polynomial and let $x_{n,1}^{(\alpha,\beta)} < \ldots < x_{n,n}^{(\alpha,\beta)}$ be its successive zeros. For $\alpha \geq 0$ and $-1 < x < 1$ let k be such that

$$\min\{R_j^{(\alpha,\alpha)}(x) \mid j = 0, 1, \ldots\} = R_k^{(\alpha,\alpha)}(x) \tag{1}$$

(such k exists). Is it true that the sequence

$$R_0^{(\alpha,\alpha)}(x), R_1^{(\alpha,\alpha)}(x), \ldots, R_k^{(\alpha,\alpha)}(x) \tag{2}$$

is decreasing?

Remark 1. Because of the identity

$$(k+\alpha+1)(1-x)R_k^{(\alpha+1,\alpha)}(x) = (\alpha+1)\left(R_k^{(\alpha,\alpha)}(x) - R_{k+1}^{(\alpha,\alpha)}(x)\right),$$

a necessary condition for (1) to hold for given k is that $x_{k-1,k-1}^{(\alpha+1,\alpha)} \leq x \leq x_{k,k}^{(\alpha+1,\alpha)}$. But then the sequence (2) is decreasing. Hence, Problem 1 is equivalent to the question whether (1) is true for $x_{k-1,k-1}^{(\alpha+1,\alpha)} \leq x \leq x_{k,k}^{(\alpha+1,\alpha)}$.

Remark 2. As shown in [1, §7], [2, Theorem 3.8], formula (1) is true for $x = x_{k-1,k-1}^{(\alpha+1,\alpha+1)}$.

References

[1] C. Bachoc, G. Nebe, F. M. de Oliveira Filho and F. Vallentin, Lower bounds for measurable chromatic numbers, *Geom. Funct. Anal.* 19 (2009), 645–661;
arXiv:0801.1059v3 [math.CO]

[2] F. M. de Oliveira Filho, *New bounds for geometric packing and coloring via harmonic analysis and optimization*, PhD Thesis, University of Amsterdam, 2009;
http://homepages.cwi.nl/~fmario/thesis.pdf