O P - S F N E T - Volume 16, Number 3 – May 15, 2009

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

The Electronic News Net of the
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Today's Topics:

Calendar of Events:

June 8-12, 2009
Sixth International Conference on Computational Methods and Function Theory, Ankara, Turkey. 15.4 #2
http://www.bilkent.edu.tr/~cmft/

June 14-20, 2009
47th International Symposium on Functional Equations Gargnano, Italy.
GianLuigi.Forti@mat.unimi.it

June 15-18, 2009
3rd International Conference on Mathematics & Statistics, Athens, Greece
http://www.atiner.gr/docs/Mathematics.htm

June 25-28, 2009
International Conference on Applied Analysis and Scientific Computation
Shanghai Normal University, Shanghai, China 15.5 #4
http://mathsc.shnu.edu.cn/conference/index.htm

June 29 - July 3, 2009
Workshop "Discrete systems and special functions", Newton Institute for Mathematical Sciences, Cambridge, UK. 15.5 #9
http://www.newton.ac.uk/programmes/DIS/ws.htm

July 6-10, 2009

2009 SIAM Annual Meeting, Denver, Colorado, USA
http://www.siam.org/meetings/an09/

July 20-24, 2009

FPSAC'09 -21st Annual International Conference on
Formal Power Series and Algebraic Combinatorics, Hagenberg, Austria
15.5 #3
http://www.risc.jku.at/conferences/fpsac2009

July 20-25, 2009

10th Symposium on Orthogonal Polynomials, Special Functions and Applications (OPSFA-10), Leuven, Belgium 15.5 #2 16.1 #2
http://wis.kuleuven.be/OPSFA/OPSFA10.html

July 31--August 2, 2009

3rd Jairo Charris Seminar-Symmetries of differential and difference equations - Universidad Sergio Arboleda, Bogotá, Colombia.
http://www.usergioarboleda.edu.co/matematicas/jairo_charris.htm

August 26-28, 2009

Workshop on Orthogonal Polynomials, Hankel and Jacobi Matrices, Copenhagen, Denmark 16.3 #1
http://www.matdat.life.ku.dk/~henrikp/wop/

September 4-9, 2009

2nd Dolomites Workshop on Constructive Approximation and Applications" (DWCAA09), Alba di Canazei (Trento), Italy
http://www.math.unipd.it/~dwcaa09

September 13-19, 2009

International Conference on Functional Equations and Inequalities, Krakow, Poland
http://mat.ap.krakow.pl/icfei/13ICFEI/index.php

September 24-30, 2009

6th Maratea Conference on Functional Analysis and Approximation Theory (FAAT2009), Acquafreda di Maratea, Italy
http://www.dm.uniba.it/faat2009

September - October 2, 2009

Approximation and extrapolation of convergent and divergent sequences and series, CIRM Luminy, France
http://www.math.unipd.it/~luminy09/index.html

December 14-18, 2009

Brownian motion and random matrices - American Institute of Mathematics, Palo Alto, California
http://aimath.org/ARCC/workshops/brownianrmt.html

Topic #1 ---------- OP-SF NET 16.3 ---------- May 15, 2009

From: Henrik L. Pedersen henrikp@dina.kvl.dk
Subject: Copenhagen Workshop on Orthogonal Polynomials, Hankel and Jacobi Matrices

ANNOUNCEMENT:
Dear colleagues, we are happy to announce a workshop on "Orthogonal Polynomials, Hankel and Jacobi Matrices" to be held in Copenhagen, August 26--28, 2009.

The program includes plenary talks by
* Walter van Assche, Katholieke Universiteit Leuven, Belgium
* Mourad Ismail, University of Central Florida, USA
* Erik Koelink, Radboud Universiteit, The Netherlands
* Eli Levin, The open University of Israel, Israel
* Francisco Marcellán, Universidad Carlos III de Madrid, Spain
* Josef Obermaier, Helmholtz Zentrum München, Germany
* Christian Remling, University of Oklahoma, USA
* Ryszard Szwarc,Wroclaw University, Poland
* Peter Yuditskii, Universität Linz, Austria

The workshop will take place at the Department of Basic Sciences and Environment at the Faculty of Life Sciences of the University of Copenhagen.

The campus of the faculty of Life Sciences is situated in central Copenhagen.

For more information and registration we refer to
www.matdat.life.ku.dk/~henrikp/wop/

Deadline for registration is on July 31, 2009.

The workshop is organized by Christian Berg, Jacob Stordal Christiansen and Henrik Laurberg Pedersen.

Topic #2 ---------- OP-SF NET 16.3 ---------- May 15, 2009

From: OP-SF NET Editors
Subject: Book on Orthogonal Polynomials from Euler's point of view

This information is taken from http://www.cambridge.org/us/

Orthogonal Polynomials and Continued Fractions From
Euler's Point of View
Series: Encyclopedia of Mathematics and its Applications (No. 122)
Author: Sergey Khrushchev, Atilim University, Ankara

Hardback (ISBN-13: 9780521854191)
Published September 2008
520 pages; 12 line figures; 180 exercises

This new and exciting historical book tells how Euler introduced the idea of orthogonal polynomials and how he combined them with continued fractions, as well as how Brouncker's formula of 1655 can be derived from Euler's efforts in Special Functions and Orthogonal Polynomials. The most interesting applications of this work are discussed, including the great Markoff's Theorem on the Lagrange spectrum, Abel's Theorem on integration in finite terms, Chebyshev's Theory of Orthogonal Polynomials, and very recent advances in Orthogonal Polynomials on the unit circle. As continued fractions become more important again, in part due to their use in finding algorithms in approximation theory, this timely book revives the approach of Wallis, Brouncker and Euler and illustrates the continuing significance of their influence. A translation of Euler's famous paper 'Continued Fractions, Observation' is included as an Addendum.

Contents

Preface;
1. Continued fractions: real numbers;
2. Continued fractions: Algebra;
3. Continued fractions: Analysis;
4. Continued fractions: Euler;
5. Continued fractions: Euler's Influence;
6. P-fractions;
7. Orthogonal polynomials;
8. Orthogonal polynomials on the unite circle;
A1. Continued fractions, Observations;
Bibliography; Index.

Topic #3 ---------- OP-SF NET 16.3 ---------- May 15, 2009

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 March and April 2009.

http://arxiv.org/abs/0903.0117
Derivative Polynomials for tanh, tan, sech and sec in Explicit Form
Authors: Khristo N. Boyadzhiev

http://arxiv.org/abs/0903.0644
Interlacing and asymptotic properties of Stieltjes polynomials
Authors: A. Bourget, T. McMillen

http://arxiv.org/abs/0903.1000
Bernstein Polynomials and n-Copulas
Authors: MD Taylor

http://arxiv.org/abs/0903.2029
Classification of All Noncommutative Polynomials Whose Hessian Has Negative Signature One and A Noncommutative Second Fundamental Form
Authors: Harry Dym, Jeremy M. Greene, J. William Helton, Scott A. McCullough

http://arxiv.org/abs/0903.2614
On asymptotic behavior of Heine-Stieltjes and Van Vleck polynomials
Authors: A. Martinez-Finkelshtein, E. A. Rakhmanov

http://arxiv.org/abs/0903.2647
Vector Fields on the Space of Functions Univalent Inside the Unit Disk via Faber Polynomials
Authors: Helene Airault

http://arxiv.org/abs/0903.2955
Some identities of symmetry for the generalized Bernoulli numbers and polynomials
Authors: Taekyun Kim

http://arxiv.org/abs/0903.3652
Asymptotics of the best polynomial approximation of $|x|^p$ and of the best Laurent polynomial approximation of $\sgn(x)$ on two symmetric intervals
Authors: F. Nazarov, F. Peherstorfer, A. Volberg, P. Yuditskii

http://arxiv.org/abs/0903.3996
Branching rules for symmetric Macdonald polynomials and sl_n basic hypergeometric series
Authors: Alain Lascoux, S. Ole Warnaar

http://arxiv.org/abs/0903.4369
Hilbert Transforms Associated with Dunkl-Hermite Polynomials
Authors: Néjib Ben Salem, Taha Samaali

http://arxiv.org/abs/0903.4394
A new Clunie type theorem for difference polynomials
Authors: Risto Korhonen

http://arxiv.org/abs/0903.4405
Binary nullity, Euler circuits and interlace polynomials
Authors: Lorenzo Traldi

http://arxiv.org/abs/0903.4597
Spaces of real polynomials with common roots
Authors: Yasuhiko Kamiyama

http://arxiv.org/abs/0903.4852
Differentiability of eigenfunctions of the closures of differential operators with polynomial-type coefficients
Authors: Fuminori Sakaguchi, Masahito Hayashi

http://arxiv.org/abs/0903.5179
Pairs of lattice paths and positive trigonometric sums
Authors: Victor J. W. Guo, Jiang Zeng

http://arxiv.org/abs/0903.1722
Hypergeometric Origins of Diophantine Properties Associated With the Askey Scheme
Authors: Yang Chen, Mourad E.H. Ismail

http://arxiv.org/abs/0903.3996
Branching rules for symmetric Macdonald polynomials and sl_n basic hypergeometric series
Authors: Alain Lascoux, S. Ole Warnaar

http://arxiv.org/abs/0903.4803
Elliptic Hypergeometric Solutions to Elliptic Difference Equations
Authors: Alphonse P. Magnus

http://arxiv.org/abs/0903.4102
Hypergeometric τ-Functions of the q-Painlevé System of Type $E_7^{(1)}$
Authors: Tetsu Masuda

http://arxiv.org/abs/0903.0853
Local analytic classification of q-difference equations
Authors: J.-P. Ramis, J. Sauloy, C. Zhang

http://arxiv.org/abs/0903.2843
A q-analog of the Bailey-Borwein-Bradley identity
Authors: Khodabakhsh Hessami Pilehrood, Tatiana Hessami Pilehrood

http://arxiv.org/abs/0903.3071
Necessary and sufficient conditions for a function involving divided differences of the di- and tri-gamma functions to be completely monotonic
Authors: Feng Qi, Bai-Ni Guo

http://arxiv.org/abs/0903.4323
Fourier series representations of the logarithms of the Euler gamma function and the Barnes multiple gamma functions
Authors: Donal F. Connon

http://arxiv.org/abs/0903.4539
New proofs of the duplication and multiplication formulae for the gamma and the Barnes double gamma functions
Authors: Donal F. Connon

http://arxiv.org/abs/0903.5123
Some logarithmically completely monotonic functions related to the gamma function
Authors: Feng Qi, Bai-Ni Guo

http://arxiv.org/abs/0903.0888
A note on additivity of polygamma functions
Authors: Feng Qi, Bai-Ni Guo

http://arxiv.org/abs/0903.1003
Some properties of the psi and polygamma functions
Authors: Feng Qi, Bai-Ni Guo

http://arxiv.org/abs/0903.1430
A class of completely monotonic functions involving divided differences of the psi and polygamma functions and some applications
Authors: Feng Qi, Bai-Ni Guo

http://arxiv.org/abs/0903.1984
Sharp inequalities for polygamma functions
Authors: Feng Qi, Bai-Ni Guo

http://arxiv.org/abs/0903.1996
Refinements of lower bounds for polygamma functions
Authors: Feng Qi, Bai-Ni Guo

http://arxiv.org/abs/0903.5085
Regularity Properties for a System of Interacting Bessel Processes
Authors: Sebastian Andres, Max-K. von Renesse

http://arxiv.org/abs/0903.5143
On some properties of orthogonal Weingarten functions
Authors: Benoît Collins, Sho Matsumoto

http://arxiv.org/abs/0903.2853
Rational Orthogonal versus Real Orthogonal
Authors: Dragomir Z. Djokovic, Simone Severini, Ferenc Szollosi

http://arxiv.org/abs/0903.2592
Correlations, Scale Invariance, and the Riemann Hypothesis
Authors: B. Holdom

http://arxiv.org/abs/0903.3007
The asymptotic representation of some series and the Riemann hypothesis
Authors: M. Aslam Chaudhry, Gabor Korvin

http://arxiv.org/abs/0903.3973
Concerning Riemann Hypothesis
Authors: Raghunath Acharya

http://arxiv.org/abs/0903.4006
Gaps between zeros of the derivative of the Riemann \xi-function
Authors: H. M. Bui

http://arxiv.org/abs/0903.4007
Large gaps between consecutive zeros of the Riemann zeta-function
Authors: H. M. Bui

http://arxiv.org/abs/0903.4008
A note on the fourth moment of Dirichlet L-functions
Authors: H. M. Bui, D. R. Heath-Brown

http://arxiv.org/abs/0903.4227
Towards a statistical proof of the Riemann Hypothesis
Authors: Jon Breslaw

http://arxiv.org/abs/0903.1117
Control theory and the Riemann hypothesis: A roadmap
Authors: Markku Nihtilä (University of Kuopio, Department of mathematics and statistics)

http://arxiv.org/abs/0903.3904
Prime Reciprocal Digit Frequencies and the Euler Zeta Function
Authors: Subhash Kak

http://arxiv.org/abs/0903.0646
Note on Prime Gaps and Zero Spacings
Authors: N. A. Carella

http://arxiv.org/abs/0903.4958
On Generalized Hilbert Matrices
Authors: Ruiming Zhang

http://arxiv.org/abs/0903.2328
Non-real zeros of derivatives of real meromorphic functions
Authors: J.K. Langley

http://arxiv.org/abs/0904.0218
On higher Heine-Stieltjes polynomials
Authors: Thomas Holst, Boris Shapiro

http://arxiv.org/abs/0904.0650
On spectral polynomials of the Heun equation. II
Authors: Boris Shapiro, Kouichi Takemura, Milos Tater

http://arxiv.org/abs/0904.2514
Asymptotics of orthogonal polynomials for a weight with a jump on [-1,1]
Authors: A. Foulquie Moreno, A. Martinez-Finkelshtein, V.L. Sousa

http://arxiv.org/abs/0904.2602
Cauchy Biorthogonal Polynomials
Authors: M. Bertola, M. Gekhtman, J. Szmigielski

http://arxiv.org/abs/0904.4089
Matrix measures on the unit circle, moment spaces, orthogonal polynomials and the Geronimus relations
Authors: Holger Dette, Jens Wagener

http://arxiv.org/abs/0904.4091
Some asymptotic properties of the spectrum of the Jacobi ensemble
Authors: Holger Dette, Jan Nagel

http://arxiv.org/abs/0904.4164
Smooth roots of hyperbolic polynomials with definable coefficients
Authors: Armin Rainer

http://arxiv.org/abs/0904.0214
Differential reduction of generalized hypergeometric functions in application to Feynman diagrams: One-variable case
Authors: Vladimir V. Bytev, Mikhail Yu. Kalmykov, Bernd A.Kniehl

http://arxiv.org/abs/0904.2895
The q-Onsager algebra
Authors: Tatsuro Ito, Paul Terwilliger

http://arxiv.org/abs/0904.0407
Permutation Statistics and q-Fibonacci Numbers
Authors: Adam M. Goyt, David Mathisen

http://arxiv.org/abs/0904.4027
More supplements to a class of logarithmically completely monotonic functions associated with the gamma function
Authors: Senlin Guo, Feng Qi

http://arxiv.org/abs/0904.1053
A transformation formula involving the Gamma and Riemann zeta functions in Ramanujan's Lost Notebook
Authors: Bruce C. Berndt, Atul Dixit

http://arxiv.org/abs/0904.1056
Analogues of a transformation formula of Ramanujan
Authors: Atul Dixit

http://arxiv.org/abs/0904.1277
A few equalities involving integrals of the logarithm of the Riemann zeta-function and equivalent to the Riemann hypothesis II
Authors: Sergey K. Sekatskii, Stefano Beltraminelli, Danilo Merlini

http://arxiv.org/abs/0904.1051
The argument of the Riemann Ξ-function off the critical line
Authors: Xiannan Li

http://arxiv.org/abs/0904.4324
A new take on spherical, Whittaker and Bessel functions
Authors: Ivan Cherednik, Xiaoguang Ma

http://arxiv.org/abs/0904.2216
Tridiagonal realization of the anti-symmetric Gaussian β-ensemble
Authors: Ioana Dumitriu, Peter J. Forrester

http://arxiv.org/abs/0904.3847
Matrix measures, random moments and Gaussian ensembles
Authors: Jan Nagel, Holger Dette

http://arxiv.org/abs/0904.3434
Drinfeld-Sokolov hierarchies of type A and fourth order Painleve systems
Authors: Kenta Fuji, Takao Suzuki

http://arxiv.org/abs/0904.1226
On an Asymptotic Series of Ramanujan
Authors: Yaming Yu

http://arxiv.org/abs/0904.2837
Title: Asymptotic Properties of Random Matrices of Long-Range Percolation Model
Authors: Slim Ayadi

Topic #4 ---------- OP-SF NET 16.3 ---------- May 15, 2009

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).

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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:

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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

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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 #5 ---------- OP-SF NET 16.3 ---------- May 15, 2009

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 16.4 should be sent by July 1, 2009.

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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