

Nancy Jean Wyshinski
Department of Mathematics
Trinity College
Hartford, CT 06106
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Education

- May, 1991 Ph.D., Mathematics, University of Colorado, Boulder, CO
Thesis title: *Asymptotic Properties of Polynomials Satisfying Three-term Recurrence Relations*
- May, 1988 M.S., Applied Mathematics, University of Colorado, Boulder, CO
Thesis title: *Approximations for a Family of Stieltjes Transforms Associated with the Two-point Pad'e Table*
- May, 1980 M.A., Mathematics, University of Colorado, Boulder, CO
- May, 1978 B.A., Mathematics, Bloomsburg University, Bloomsburg, PA

Professional Positions Held

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| 6/2013-5/2014 | Interim Director of the First Year Program |
| 7/99 – 6/02, 7/05-6/06 | <i>Chair</i> , Department of Mathematics, Trinity College, Hartford, CT |
| 7/96 - present | <i>Associate Professor of Mathematics</i> , Trinity College, Hartford, CT |
| 9/91 - 6/96 | <i>Assistant Professor of Mathematics</i> , Trinity College, Hartford, CT |

Classes taught: Elements of Statistics (Math107) Elementary Functions (Math109), Discrete Mathematics (Math119), Mathematical Gems (Math123), Mathematical Pearls (Math123), Functions and Limits (Math125), Calculus with Algebra and Trigonometry (Math126) Calculus I (Math131), Calculus II (Math132), Accelerated Calculus II (Math142), Calculus III (Math231), Intermediate Statistics (Math157), Abstraction and Argument (Math205), Number Theory (Math253), Linear Algebra (Math228), Differential Equations (Math 234), Mathematics of Discrete Structures (Math303), Mathematics of Continuous Structures (Math304), Orthogonal Polynomials (Math304), Probability (Math305), Mathematical Statistics (Math306), Numerical Analysis (Math309), Analysis I (Math331), Analysis II (Math332), Senior Seminar - Continued Fractions (Math400), Senior Seminar – Complex Variables (Math400)

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| Summer '01,'02 | <i>Adjunct Faculty Member</i> , Graduate Liberal Studies Program, Wesleyan University, Middletown, CT
Classes taught: Discrete Mathematics, Linear Algebra, Mathematical Gems |
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| Summer '08 | <i>Adjunct Faculty Member</i>
Gateway Community College, New Haven, CT
Class taught: Linear Algebra |
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Research Publications

1. Positive T-fraction Expansions for a Family of Special Functions, (with William B. Jones), *Analytic Theory of Continued Fractions III*, Lisa Jacobsen (ed.), Lecture Notes in Mathematics 1406, Springer-Verlag, New York (1989), 48-66.
2. Asymptotic Properties of a Family of Orthogonal Polynomial Sequences, (with William B. Jones, Arne Magnus and John H. McCabe), *J. Comput. Appl. Math.* 32 (1), (1990), 143-151.
3. An Application of Separate Convergence for Continued Fractions to Orthogonal Polynomials, (with William B. Jones and W.J. Thron), *Canadian Mathematical Bulletin*, (1992), 381-389.
4. Asymptotic Behavior of Polynomials Satisfying Three-Term Recurrence Relations, (with William B. Jones and W.J. Thron), *J. Approx. Theory* (1992), 67-93.
5. Asymptotic Properties of J-fractions and Related Orthogonal Polynomials, (with William B. Jones and W.J. Thron), *Approx. Theory*, George Anastassiou, (ed.), Lecture Notes in Pure and Applied Mathematics Series/138, (1992), 329-340.
6. A Family of Classical Determinate Stieltjes Moment Problems with Discrete Solutions, (with William B. Jones and W.J. Thron), *Nonlinear Numerical Methods and Rational Approximation II*, Kluwer Academic Publishers, (1994), 409-422.
7. Computation of Special Functions by Pad'e Approximants with Orthogonal Polynomial Denominators, (with Cathleen M. Cravotto, William B. Jones and W.J. Thron), *Numerical Algorithms*, Volume 11 (1996), 117-141.
8. Computation of the Binet and Gamma Functions by Stieltjes Continued Fractions, (with Cathleen M. Cravotto and William B. Jones), *Orthogonal Functions, Moment Theory and Continued Fractions*, William B. Jones and A. Sri Ranga (eds.), Lecture Notes in Pure and Applied Mathematics, Marcel Dekker, Inc., (1998), Chapter 9, 151-178.
9. Real Numbers with Polynomial Continued Fraction Expansions (with James Mc Laughlin), *Acta Arith.* **116** (2005), no. 1, 63-79.
10. Convergence Theorem for Continued Fractions of the Form $\sum_{n=1}^{\infty} a_n/1$ (with James Mc Laughlin), *The Journal of Computational and Applied Mathematics*, Volume **179**, Issues 1--2, 1 July 2005, Pages 255-262.
11. Ramanujan and the Regular Continued Fraction Expansion of Real Numbers (with James Mc Laughlin), *The Mathematical Proceedings of the Cambridge Philosophical Society*, Volume **138** - Issue 03 - May 2005, pp 367 - 381.
12. Further Combinatorial Identities Deriving from the n-th Power of a 2×2 Matrix (with James Mc Laughlin), *Discrete Applied Mathematics*, **154** (2006), no. 8, 1301--1308.

13. A q -continued fraction (with Doug Bowman and James Mc Laughlin) , *The International Journal of Number Theory* , Volume **2** (2006), no. 4, 523-547

14.. Ramanujan and Extensions and Contractions of Continued Fractions (with James Mc Laughlin), *The Ramanujan Journal* ,**14** (2007), no. 3, 389--404 .

Contributed and Invited Talks

1. *Positive T-fraction Expansions for a Family of Special Functions*, July 1, 1988, Analytic Theory of Continued Fractions Conference, Redstone, CO.

2. *Asymptotic Properties of a Family of Orthogonal Polynomial Sequences*, September 25, 1989, Extrapolation and Rational Approximation Congress, Centre International de Rencontres Math'ematiques, Luminy, France.

3. *An Application of Separate Convergence for Continued Fractions to Orthogonal Polynomials*}, March 22, 1990, First US-USSR Conference on Approximation Theory, University of South Florida, Tampa,FL.

4. *An Application of Separate Convergence for Continued Fractions to Orthogonal Polynomials*, March 14, 1991, Sixth Annual Southeastern Conference on Approximation Theory, Memphis State University, Memphis, TN.

5. *An Application of Asymptotic Properties*, July 3, 1991, 1991 Summer Conference on Continued Fractions and Pad'e Approximants, University of Colorado, Boulder, and Colorado State University, Fort Collins, CO.

6. *Asymptotic Properties of J-fractions and Related Orthogonal Polynomials*, January 17, 1992, International Congress on Extrapolation and Rational Approximation, Universidad de La Laguna, Tenerife, Canary Islands, Spain.

7. *A Taste of Continued Fractions*, March 26, 1992, Bloomsburg University, Bloomsburg, PA.

8. *Positive T-fraction Expansions for a Family of Special Functions*, June 25, 1992, Fourth Workshop on Analytic Theory of Continued Fractions, Leon, Norway.

9. *A Family of Classical Determinate Stieltjes Moment Problems with Discrete Solutions*, July 2, 1992, Fourth Workshop on Analytic Theory of Continued Fractions, Leon, Norway.

10. *A Family of Classical Determinate Stieltjes Moment Problems with Discrete Solutions*, July 23, 1993, 1993 Summer Workshop on the Analytic Theory of Continued Fractions and Related Subjects, University of Colorado, Boulder, CO.

11. *A Family of Classical Determinate Stieltjes Moment Problems with Discrete Solutions*, September 10, 1993, Nonlinear Numerical Methods and Rational Approximation II Congress, University of Antwerp, Belgium.
12. *Computation of Special Functions*, July 28, 1994, Workshop on the Analytic Theory of Continued Fractions and Related Topics, University of Colorado, Boulder, CO.
13. *Determination of Significant Digits in the Computation of Special Functions*, September 6, 1994, Orthogonal Polynomials and Numerical Analysis Congress, Centre International de Rencontres Math'ematiques, Luminy, France.
14. *Computation of Special Functions using Continued Fractions*, September 19, 1994, Continued Fractions, their Generalizations and Applications, Pidstryhach Institute of Applied Problems of Mechanics and Mathematics, Ukrainian Academy of Sciences, L'viv, Ukraine.
15. *Computation of Special Functions*, June 26, 1996, Workshop on Orthogonal Functions, Moment Theory, Pad\`e Approximants and Applications, Campinas, SP, Brazil.
16. *Continued Fractions and the Computation of Special Functions Related to the Gamma Function*, June 28, 1997, Continued Fractions and Geometric Function Theory, University of Trondheim, Trondheim, Norway.
17. *Determination of Significant Digits and Special Functions Related to the Gamma Function*, September 16, 1997, New approaches to solving differential equations, Pidstryhach Institute of Applied Problems of Mechanics and Mathematics, Ukrainian Academy of Sciences, Droghobych, Ukraine.
18. *On Continued Fractions*, September, 2000, L'viv, Ukraine.
19. *On Continued Fractions*, October, 2002, L'viv, Ukraine.
20. *A Convergence Theorem for Continued Fractions of the Form $\sum_{n=1}^{\infty} a_n/1^n$* , Conference on Orthogonal Functions and Related Topics, August 12, 2003, Roros, Norway
21. *A Convergence Theorem*, September 19, 2006, Uhzgorod ,Ukraine
22. *On Continued Fractions*, September 24, 2006, L'viv ,Ukraine.

Published Abstracts

1. Asymptotic Properties of a Family of Orthogonal Polynomial Sequences, (with William B. Jones, Arne Magnus and John H. McCabe), *Communications in the Analytic Theory of Continued Fractions* (John Gill and John H. McCabe (editors)), Vol. 1, Spring 1992, 72-73.
2. Asymptotic Properties of Polynomials Satisfying Three-Term Recurrence Relations, *Communications in the Analytic Theory of Continued Fractions* (John Gill and John H. McCabe (editors)), Vol. 1, Spring 1992, 74-78.
3. Positive T-fraction Expansions for a Family of Special Functions, (with William B. Jones), *Communications in the Analytic Theory of Continued Fractions* (John Gill and John H. McCabe (editors)), Vol. 1, Spring 1992, 147-148.
4. An Application of Separate Convergence for Continued Fractions to Orthogonal Polynomials, (with William B. Jones and W.J. Thron), *Communications in the Analytic Theory of Continued Fractions* (John Gill and John H. McCabe (editors)), Vol. 2, Spring 1993, 34-35.
5. Asymptotic Behavior of Polynomials Satisfying Three-Term Recurrence Relations, (with William B. Jones and W.J. Thron), *Communications in the Analytic Theory of Continued Fractions* (John Gill and John H. McCabe (editors)), Vol. 2, Spring 1993, 36.
6. Asymptotic Properties of J-fractions and Related Orthogonal Polynomials, (with William B. Jones and W.J. Thron), *Communications in the Analytic Theory of Continued Fractions* (John Gill and John H. McCabe (editors)), Vol. 2, Spring 1993, 39.

Conferences Organized with James Mc Laughlin

1. AMS Special Session on Continued Fractions, National Joint Mathematics Meetings of the American Mathematical Society and the Mathematical Association of America, January, 2004, Phoenix, AZ
2. AMS Special Session on Continued Fractions, National Joint Mathematics Meetings of the American Mathematical Society and the Mathematical Association of America, January, 2006, San Antonio, TX
3. AMS Special Session on Continued Fractions, National Joint Mathematics Meetings of the American Mathematical Society and the Mathematical Association of America, January, 2009, Washington, DC
4. AMS Special Session on Continued Fractions, National Joint Mathematics Meetings of the American Mathematical Society and the Mathematical Association of America, January, 2011, New Orleans, LA

5. AMS Special Session on Continued Fractions, National Joint Mathematics Meetings of the American Mathematical Society and the Mathematical Association of America, January, 2013, San Diego, CA
6. AMS Special Session on Continued Fractions, National Joint Mathematics Meetings of the American Mathematical Society and the Mathematical Association of America, January, 2015, San Antonio, TX

Conferences Attended

1. Joint Mathematics Meetings of the American Mathematical Society and the Mathematical Association of America, January 8-11, 1997, San Diego, CA.
2. Developmental Algebra: Restructuring to Effect Change, January 25, 1997, Western Connecticut State University, Danbury, Connecticut.
3. Call to Action, A Conference on the State of Elementary and Intermediate Algebra Courses in Connecticut Colleges and Universities, April 5, 1997, Central Connecticut State University, New Britain, CT.
4. National Joint Mathematics Meetings of the American Mathematical Society and the Mathematical Association of America, January 13-16, 1999, San Antonio, TX
5. National Joint Mathematics Meetings of the American Mathematical Society and the Mathematical Association of America, January, 2002, San Diego, CA
6. National Joint Mathematics Meetings of the American Mathematical Society and the Mathematical Association of America, January, 2004, Phoenix, AZ
7. National Joint Mathematics Meetings of the American Mathematical Society and the Mathematical Association of America, January, 2006, San Antonio, TX
8. National Joint Mathematics Meetings of the American Mathematical Society and the Mathematical Association of America, January, 2009, Washington, DC
9. National Joint Mathematics Meetings of the American Mathematical Society and the Mathematical Association of America, January, 2011, New Orleans, LA
10. National Joint Mathematics Meetings of the American Mathematical Society and the Mathematical Association of America, January, 2013, San Diego, CA
11. National Joint Mathematics Meetings of the American Mathematical Society and the Mathematical Association of America, January, 2015, San Antonio, TX

Directed Student Honors Theses

1. *RSA Cryptography: Factoring Integers and the Continued Fraction Algorithm*, Maximillan Ben Shaffer, 2004 (with J. Mc Laughlin)
2. *On the geometry of continued fractions*, Fernanda Soledad Mune, 2005 (with J. Mc Laughlin)
3. *Some properties of the distribution of the numbers of points on elliptic curves over a finite prime field*, Saiying He, 2006 (with J. Mc Laughlin)
4. *On Multidimensional Continued Fractions*, Saroj Aryal, 2009
5. *On odd perfect numbers*, Justin Sweeney, 2009
6. *Circle Packing: A Discrete Look at Complex Analysis*, Emma Phillips, 2013
7. *An Incomplete Introduction to the Incompleteness Theorem*, Leo Liyeung, 2013
8. *An Exploration into Collatz Conjecture*, Gokuleshwor Pokharel, 2014

Service to Trinity College

1. Founded, in 1995, the CT Delta Chapter of Pi Mu Epsilon, a national honor society for math majors; serving as the chapter advisor.
2. Mentored students to participate in the Hudson River Undergraduate Math Conference, 1994, 1995, 1996, 1997, 1998, 1999, 2004, 2005
3. First Faculty Mentor for Trinity's New York Posse 4 (www.possefoundation.org), 2006-2008
4. Faculty Mentor for Trinity's Chicago Posse 2, 2010-2012
5. Last Director of the First Year Program, 2013-2014.

Faculty Standing Committees

1. College Affairs, 1993-95
2. Academic Affairs, 1995-98, 2012-present
3. General Education Council, 1998-01
4. Academic Dishonesty Appeals Board, 1998-01
5. Educational Policy Committee, 1998-99 (replacement member)
6. Faculty Research Committee

Other Committees

1. Departmental Search Committee, 1992-present
2. Math Center Advisory Committee
3. Educational Studies Review Committee, Fall 98
4. Educational Studies Search Committee, Spring 99
5. CASE (Committee on Academic Standards and Excellence), Spring 99
6. Committee Reviewing the Director of the Math Center, 99-00
7. Committee Reviewing the Director of the Math Center, 04-05
8. Math Center Review Committee, 05-06
9. Individualized Degree Program (IDP) Council, 07-present