Donna Jean Cedio Fengya

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Education

- Ph.D., Mathematics, Rutgers, The State University, May 1997. Specialization: Numerical Partial Differential Equations.

- M.A., Applied Mathematics, Montclair State University, May 1989.

- B.S., Computer Science and Mathematics, Montclair State University, May 1984.

- Society of Actuaries - Actuarial exams, requirements and professional development completed towards the professional ASA/FSA designations :

  Exam P–Probability
  Exam M–Actuarial Models–Financial Economics Segment (MFE)
  Exam M–Actuarial Models–Life Contingencies Segment (MLC)
  Exam C–Construction and Evaluation of Actuarial Models
  Validation by Educational Experience (VEE) requirement – Applied Statistics
  20 Credits Professional Development

Academic Experience

- William Paterson University, Mathematics Department
  o Professor (9/12- Present)
  o Associate Professor (9/07 – Present)
  o Assistant Professor, William (9/01 – 8/07)

  Courses taught include: Mathematical Models in Finance I and II,   Derivative Markets, Advanced Calculus, Topics in Applied Mathematics, Numerical Analysis, Differential Equations, Integrated Research Methods/Statistics II, MAEN: Statistics and Applications, MAEN: Algebra in Middle School Mathematics, Linear Algebra, Mathematics Seminar (senior capstone), Logic and Methods of Higher Mathematics, Calculus I and II, Precalculus, Business Mathematics, Finite Math, Algebra, Trigonometry and Functions, and College Algebra.

- Consultant to Professor R. Barat, Hazardous Substance Management Research Center, New Jersey Institute of Technology, Newark, NJ (6/98-6/99).

  Analyzed methods for capture and removal of toxic charged particles.

- Assistant Professor, James Madison University, Mathematics Department, (8/97-8/99).

  Courses taught include Calculus I, Calculus II, and Business Calculus.

Corporate Experience

- MetLife Insurance Company, Bridgewater, NJ, Actuarial Consultant (9/99-8/01).

  Managed and coordinated the migration of group products to Polysystems valuation software. Analyzed the impact of new reserve methodologies, regulations, and product designs. Performed quarterly reserve analysis.

- Prudential Insurance Company, Roseland NJ 07068, Programming and Calculations Analyst (9/84-8/89).

  Developed cash flow models for New York certification, created mathematical and computational models for establishing reserve levels, conducted gain and loss analysis for term conversion reserves, worked on tax revaluation project to encompass structural changes in New Jersey insurance tax laws, and prepared reports exhibiting reserve factor calculations for the New Jersey State Actuarial Bureau.

Computer Skills

Extensive Experience with Excel, Java, Python, FORTRAN, CHEMKIN, COBOL, PL/I, Assembly language, Basic, Maple, LaTeX, Access, and Actuarial Polysystems.

Professional Workshops Attended

- Associate of the Society of Actuaries Curriculum Changes University Webinar, William Paterson University Representative and Participant, August 5, 2021.

- Academic Partnerships WP Online Faculty Workshops: Attended a series of workshops designed to provide the training and course redesign support for the developing Academic Partnerships WP Online courses, June-July 2021.

- YuJa workshop, William Paterson University, IRT, June 24, 2021.

- Professional Lesson Study Workshop, William Paterson University, July 19-21, 2011.

- Curriculum Topic Study (CTS) Workshop, June 17, 2010.

- Deloitte & Touche LLP, MetLife Demutualization Training, 8/99.

- IBM - Catapult Software Training, Excel 97 Intermediate, New York, N.Y., 9/99

- IBM - Catapult Software Training, Access 97 Fundamentals, New York., N.Y., 9/99.

Grants

- Math and Science Partnership Grant: Reclaiming Educational Foundations of Rigorous Math and Science (MSP Reforms II), 2011-2012, Project Director, $591,666.

- Math and Science Partnership Grant: Reclaiming Educational Foundations of Rigorous Math and Science (MSP Reforms II), 2010-2011, Project Director, $576,093.

- The Center for Research Faculty Summer 2009 Research Award, $4000, Computational Modeling of the Toroidal Jet-Stirred Reactor: A Maximum Mixedness Approach.

- Women's Math Group Tutoring and Mentoring Program, 2005-2006 William Paterson University Incentive Grant, $8000.

- 2005 Sonia Kovalesky Day Grant, awarded by the Association for Women in Mathematics and supported by the National Security Agency, $2050.

- The Center for Research Faculty Summer 2005 Research Award, $4960. "A Mathematical Investigation Into the Maximum Mixedness Model."

- Women's Math Group Tutoring and Mentoring Program, 2004-2005 William Paterson University Incentive Grant, $4000.

- The Center for Research Faculty Summer 2004 Research Award, $2000. "The Mathematical Modeling of Biowall Reactors for In-Situ Groundwater Treatment."

- The Center for Research Faculty Summer 2003 Research Award, $4000. "Developing a Mathematical Model to Simulate a Stirred Reactor Using the Maximum Mixedness Model for Species with Specifiable Degrees of Thermal Mixing."

- The Center for Research Faculty Summer 2002 Research Award, $4500. "The Mathematical Modeling and Computational Solution of a Chemical Reactor: The Maximum Mixedness Approach."

- Submitted proposal for a NSF POWRE Grant, 12/09/98. Requested amount $74,994. POWRE: "Real Time Monitoring and Control of Organic Emissions from Stationary Combustors."

Significant Software Developed

- Cedio-Fengya, D.J. "PDCC: Price, Duration and Convexity Calculator". An Excel program to approximate the adjusted value of a bond or investment portfolio under interest rate fluctuations and variations in time to maturity, Revised to incorporate time to maturity variations, Fall 2021.

- Cedio-Fengya, D.J.,"MMPASR: A Robust FORTRAN Program for Modeling Chemical Combustion with Detailed Reaction Mechanisms for Simulating Imperfect Macromixing and Micromixing in Jet-Stirred Chemical Reactors., September 2018.

- Cedio-Fengya, D.J., "MMMPSR: A FORTRAN Program Employing the Maximum Mixedness Approach to the Computational Modeling of Non-Ideal Reactors". Last significant revision, Summer 2016.

- Cedio-Fengya, D.J. "TOPIND: A FORTRAN Program to Compute the Topological Indices of a Hydrocarbon Accounting for the Presence of Double, Triple, or Aromatics Bonds, Fall 2012.

- Cedio-Fengya, D.J. , Stevens, J.G., BIO2D: A FORTRAN Program to Model Biowall Reactor Performance, Spring 2006.

- Cedio-Fengya, D.J. , PARTDEP: A FORTRAN Program to Calculate the Particle Penetration and Deposition for the Electrocatalytic Control Model of Exhaust Soot, 1998.

- Cedio-Fengya, D.J., LOCINC - LOCATE, SOLVEP, PARAM, PARAMEPS, POLTEN, FORMERR: A software package consisting of six FORTRAN programs which solve elliptical partial differential equations and locate inclusions in a conductor given appropriate boundary measurements and conductivities, 1997.

- Cedio-Fengya, D.J., CALCINT -ALDEP, CALCH: A Software package consisting of FORTRAN Programs Which Solve an Elliptic Partial Differential Equation and Determine the Interface Between Two Fluids, 1996.

Research in Progress

- Computationally Modeling Bond Duration, Convexity and Prices Under Market Rate and Time to Maturity Variations.

- Applying a Conditional Oscillator for the Mathematical Modeling of the Neural Perception of Musical Consonance and Dissonance.

- The Derivation and Implementation of a Computational Model with Detailed Reaction Mechanisms for Simulating Imperfect Macro mixing and Micromixing in Jet-Stirred Chemical Reactors.

Refereed Publications

- Barat, R.B., Cedio-Fengya, D.J., Stevens, J.G., The Maximum Mixedness Model Applied with Detailed Reaction Mechanisms. International Journal of Chemical Reactor Engineering. ISSN (Online) 1542-6580, ISSN (Print) 2194-5748, DOI: https://doi.org/10.1515/ijcre-2016-0144, January 2017.

- Cedio Fengya, D.J., Asymptotic and Boundary Integral Formulae for the Computational Reconstruction of Small Conductivity Imperfections. Zeitschrift für Angewandte Mathematik und Physik (ZAMP) Vol. 58, No. 3 pp. 357-379, May 2007.

- Cedio-Fengya, D.J., Stevens, J.G., Mathematical Modeling of Biowall Reactors for In-Situ Groundwater Treatment. Mathematical Biosciences and Engineering, Vol. 3, No. 4 pp. 615-634, October 2006.

- Cedio-Fengya, D.J., Barat, R.B., Stevens, J.G., A Maximum Mixedness Stirred Reactor Model with Specifiable Degrees of Thermal Mixing. Chemical and Physical Processes in Combustion, Proceedings of the Combustion Institute, October 2003.

- Callahan, V., Barat, R.B., Cedio-Fengya, D.J., Stevens, J.G., The Effect of Particle Size Distribution on the Deposition of Charged Particles in Tubes. Advances in Environmental Research, Vol. 7, No. 1, pp. 105-115, November 2002.

- Cedio Fengya, D.J., Romerio, M.V. and Vogelius, M., Determination of the Interface Between the Fluids in a Hall-Heroult Cell from Measurements of Electric Potentials and Currents on the Electrodes. SIAM Journal of Control and Optimization, 37 (1999), pp. 245-277.

- Cedio-Fengya, D.J., Stevens, J.G, Extending the Integral Method by Symbolic Computation, JCIS 98 Proceedings, Vol. 3, 10/98.

- Cedio Fengya, D.J., Moskow, S., and Vogelius, M., Identification of Conductivity Imperfections of Small Diameter by Boundary Measurements; Continuous Dependence and Computational Reconstruction, Inverse Problems, Vol 14. No 3, pp 553-595, 6/1998.

Preprints and Technical Reports

- Cedio-Fengya, D.J., Barat, R.B., Stevens, J.G., A Maximum Mixedness Reactor Model with Specifiable Degrees of Thermal Mixing, College of Science and Health Center for Research, Technical Report No. 149, 3/04.

- Cedio Fengya, D.J., Moskow, S., and Vogelius, M., Identification of Conductivity Imperfections of Small Diameter by Boundary Measurements; Continuous Dependence and Computational Reconstruction, IMA Preprint Series #1502, 1997.

Books and Workbooks

- Cedio-Fengya, D.J., Mathematics with Business Applications, 200 pages. In preparation - draft available upon request.

- Cedio-Fengya, D.J, Reclaiming Educational Foundations of Rigorous Math and Science: Introduction to Set Theory, Probability, Geometric Probability and Statistics, pp 1-150, August 2009.

- Cedio-Fengya, D.J, Reclaiming Educational Foundations of Rigorous Math and Science, Introduction to Set Theory, Probability and Statistics, pp 1-134, August 2008.

- Cedio-Fengya, D.J., Katz, G., Zeleke, M., Reclaiming Educational Foundations of Rigorous Math and Science, Part I: Number Systems, Operations, and Functions Chapters 1-6, pp. 1-55, August 2007.

- Cedio-Fengya, D.J., Praxis Workshop: Content Knowledge Workbook of Sample Problems II , March 2007.

- Cedio-Fengya, D.J., Praxis Workshop: Content Knowledge Workbook of Sample Problems I, October 2005.

Conferences and Conference Presentations

- Applying a Conditional Oscillator for the Mathematical Modeling Of the Neural Perception of Musical Consonance and Dissonance, Frontiers in Applied & Computational Mathematics Conference 2022, Poster Presentation, 5/20/22.

- Course Hero Virtual Education Summit, Attended virtual conference and workshops focused on current issues affecting Universities today including: Defining Roles as Educators for Student Success, Building a Community of Learners and Upgrading STEM and Project Based Learning, July 28–29, 2022

- Society of Actuaries University Roundtable Discussions on Diversity, Equity, and Inclusion for CAE, UCAP-AC, UCAP-IC, and other connected university faculty and administrators. Participated in roundtable discussions as the Actuarial Director and representative of William Paterson University's SOA certified UCAP-IC program August 13, 2021.

- The Connected Faculty Summit, Arizona State University- Teach Online. Two-day faculty conference designed to have faculty and university leaders identify and share the best possible higher education pedagogy, techniques, and tools for online and blended learning in order to design and deliver the most engaging experience for all learners. June 9-10, 2021.

- Course Hero Virtual Education Summit, Attended conference and workshops focused on current issues affecting Universities today including: Teaching During COVID 19, Using Equitable and Student-Centric Teaching Techniques, and Effectively Teaching Virtual Classes, July 29, 2020 - July 31, 2020.

- The Connected Faculty Summit, Arizona State University (remote), Two-day faculty conference designed to have faculty and university leaders identify and share the best possible higher education pedagogy, techniques, and tools for online and blended learning in order to design and deliver the most engaging experience for all learners. Attended and participated the break-out sessions, July 13-14, 2020.

- Mathematical Association of America, New Jersey Section Spring meeting, William Paterson University, April 16, 2016.

- New Jersey Public Sector Healthcare Conference, Trenton N.J., 9/2014.

- Student Success Conference Planning Committee and Panel Moderator, William Paterson University, May 16, 2014.

- Math Association of America New Jersey Section Conference(MAA-NJ)
Project NExT (New Experiences in Teaching) Consultant and Panelist, Montclair State University, 10/ 2011.

- U.S. Department of Education 2011 Math Science Partnership (MSP) Regional Conference, Baltimore, Md., Participated and presented as William Paterson University MSP Project Director, February 24-26, 2011.

- Math Association of America (MAA) New Jersey Section Meeting, NJ –NExT (New Experiences in Teaching) Panelist, "On the Road to Tenure", April 2008.

- Math Association of America (M.A.A.) New Jersey Section Meeting, Rutgers University, New Brunswick, N.J., Session Presider, Spring 2004.

- Technical Meeting of the Eastern States Section of the Combustion Institute, Penn State University, Presenter, 10/03.

- "Extending the Integral Method by Symbolic Computation", International Conference on Computer Science and Informatics, Research Triangle Park, N.C. 10/98.

- Organizer of and presenter at the Mathematical Modeling Session Organizer and Presenter and Project NExT participant for the Math Association of America/Mathfest Summer Meeting and Conference, Toronto Canada, Project NExT Workshop Participant 7/98.

- Participated as a project NExT Fellow at the at the 1998 Joint AMS/SIAM Annual Meeting in Baltimore, 1/98.

- Participated as a project NExT Fellow at the 1997 Math Association of America/Mathfest Summer Meeting in Atlanta, 8/97.

- American Math Society /Society of Industrial and Applied Mathematics (AMS/SIAM) Summer Research Symposium on Inverse Problems and Optimal Design in Industry, Philadelphia, Pa, 7/93.

- 1993 Society of Industrial and Applied Mathematics (SIAM) Annual Meeting, Philadelphia, Pa, 1993.

Other Research and Academic Presentations

- "A Mathematical Investigation into the Maximum Mixedness Model", William Paterson University Research and Scholarship Day, 2/06.

- Directed, Organized and Presented "Sonia Kovalevsky Day", William Paterson University, 4/05.

- "An Investigation Into Conditional Probability." Math Fair Guest Speaker William Paterson University, 11/05.

- "Mathematical Modeling of Biowall Reactors for In-Situ Groundwater Treatment", William Paterson University Research and Scholarship Day, 10/04.

- A Maximum Mixedness Stirred Reactor Model, Math Awareness Week, William Paterson University, 4/04.

- "A Maximum Mixedness Stirred Reactor Model with Specifiable Degrees of Thermal Mixing." Technical Meeting: Eastern States Section of the Combustion Institute, Penn State University, 10/03.

- "Developing a Mathematical Model to Simulate a Stirred Reactor", Faculty-Student Scholarship Day, 10/03.

- "Simulation of a Toroidal Jet Stirred Combustor Using the Maximum Mixedness Model", William Paterson University Research and Scholarship Day, 4/03.

- "Careers in the Mathematical Sciences", Math Awareness Week, William Paterson University, 4/02.

- "An Investigation Into Conditional Probability." Math Fair Guest Speaker William Paterson University, 11/01.

- "The Actuarial Profession: Changes for the New Millennium", William Paterson University, 5/01.

- "The Actuarial Profession: Changes for the New Millennium", Mathematics Colloqium , James Madison University, 12/00.

Educational Workshops

- Introduction to Excel: Presented a Two-Part Workshop on the Excel basics to Actuarial Science majors and interested students in related fields, Fall 2017, 2018.

- Math in the Garden: A Hands-On Approach to Teaching Math and Science. Co-organized and presented a Three-Part Workshop Series for Teachers at City Green with Dr. Alon on February 20, 2013, February 27, 2013 and March 6 2013.

- Math and Science Partnership: Reclaiming Educational Foundations of Rigorous Math and Science II (MSP Reforms II) Math and Science Common Core Standards and Interdisciplinary Workshop. Director and Instructor, November 19, 2011.

- Math and Science Partnership: Reclaiming Educational Foundations of Rigorous Math and Science II (MSP Reforms II) Summer Institute Program. Subjects presented include: Physical Science and Algebra. Director and Instructor, July 13-28, 2011.

- Math and Science Partnership: Reclaiming Educational Foundations of Rigorous Math and Science II (MSP Reforms II) Summer Institute Program. Topics covered include: Heredity, Evolution and Diversity, and Numbers and Operations. Director, and Instructor. Presented workshop on Numbers and Operations, August 9-20, 2010.

- Math and Science Partnership: Reclaiming Educational Foundations of Rigorous Math and Science II (MSP Reforms II) Technology and Interdisciplinary Workshop. Director and Instructor, June 11, 2010.

- Teachers for a Competitive Tomorrow -Math and Science Teachers (MAST) Program Workshop. Organized and provided a professional development Algebra Workshop to Mathematics teachers at Eastside High School. Topics covered include: graphing parabolas, solving equations and use of technology 6/2/10.

- Praxis II Workshop: Study Techniques and Review of Material for the Middle School Mathematics (0069) PRAXIS Exam, April 2011.

- Praxis II Workshop: Study Techniques and Review of Material for the High School Mathematics (0061) PRAXIS Exam, March 2010.

- Teachers for a Competitive Tomorrow -Math and Science Teachers (MAST) Program Workshop. Organized and provided a professional development Algebra Workshop to Mathematics teachers at Eastside High School. Topics covered include: factoring polynomials, solving quadratic equations and quadratic functions, 2/24/10.

- Teachers for a Competitive Tomorrow -Math and Science Teachers (MAST) Program/Grant. Organized and provided a professional development Algebra Workshop to Mathematics teachers at Eastside High School. Topics covered include: solving linear equations, the coordinate plan, and linear equations, 1/13/10.

- Praxis II Workshop: Study Techniques and Review of Material for the Middle School Mathematics (0069) PRAXIS Exam, October 28, 2009 and November 5, 2009.

- "Introduction to Set Theory, Probability, Geometric Probability and Statistics", Reclaiming Educational Foundations of Rigorous Math and Science Workshop, Instructor, August 10-14, 2009.

- "Number Systems, Operations, and Functions", Reclaiming Educational Foundations of Rigorous Math and Science Workshop, Instructor, August 10-14, 2009.

- "Introduction to Set Theory, Probability and Statistics", Reclaiming Educational Foundations of Rigorous Math and Science Workshop, Workshop Instructor, August 11-15, 2008.

- "Number Systems, Operations, and Functions", Mathematics Reforms Workshop: Reclaiming Educational Foundations of Rigorous Math and Science, Workshop Instructor, August 16-20, 2007.

- Praxis II Workshop: Organized and presented a Workshop for the High School Mathematics (0061) PRAXIS Exam William Paterson University. Wrote and distributed a new edition of the PRAXIS workbook to all participants, 3/07.

- Praxis II Workshop: Organized and presented a Workshop for the High School Mathematics (0061) PRAXIS Exam William Paterson University. Developed a workbook which was distributed to all participants, 10/05.

- Praxis II Workshop: Organized and presented a Workshop for the High School Mathematics (0061) PRAXIS Exam William Paterson University, 5/05.

- Organized and presented "Actuarial Lunch and Learn Workshop" at William Paterson University, 11/04.

Additional Workshop and Presentations

- AON Info share – organized presentation by AON on internship and full-time position career opportunities for actuarial students, 9/21/22.

- "The Actuarial Science Degree and Profession", presented to WPU admissions., 9/20/22.

- "Who wants to be an Actuary: The Actuarial Science Profession", Actuarial Science Sessions for incoming undeclared and actuarial science majors, 6/22/22, 7/25/22.

- Promotion and Range Adjustment Workshop: Organized and presented Promotion and Range Adjustment Workshop, William Paterson University, Fall 2010, 2011, 2012, 2013, 2014, 2015.

- Sabbatical Workshop: Organized and presented Sabbatical Workshop, William Paterson University, Fall 2010, 2011, 2012, 2014, 2015.

- Tenure and Retention Workshop: Organized and presented Tenure and Retention Workshop, William Paterson University, Fall 2010, 2011, 2012, 2013, 2014.

Student Research - Conference Presentations and Posters

- Rudina Bajrushi, "Application of a Maximum Mixedness Model to Simulate a Turbulent Combustion Chamber", Scholarship Day, Otto York Department of Chemical Engineering, New Jersey Institute of Technology.

- Kevin Obara, "Modeling and Simulating Stock and Derivative Prices Using the Black-Scholes-Merton Model" M.A.A-N.J. Sections Meeting 4/08.

- Nicole Zayatz, "An Investigation Into the Maximum Mixedness Model", Research and Scholarship Day, William Paterson University. 3/06.

- Mendy Malko, "Geometric Constructions" M.A.A-N.J. Sections Meeting, Rowan University., 4/04.

Honors Theses and Student Research

- Thalia Perez, Computationally Modeling Bond Prices, Duration, and Convexity Using Python, Spring 2023.
- Samantha Shortino, A Mathematical Mystery: An In-Depth Analysis of the Trisection Problem, Spring 2020.

Independent Studies

- Nicolas Barrera, Selected Topics in Applied Financial Mathematics, Fall 2021.

- Daniel Fortune, Selected Topics in Actuarial Science: Probability and Stochastic Simulation, Fall 2020.

- Tatiana Ramirez, Selected Topics in Applied Discrete Probability, Fall 2019.

Capstone Students Advised

- Thalia Perez, Stochastic Modeling in Actuarial Science, Fall 2022.

- Fedaa Qandeel, Problems in Geometric Probability, Fall 2022.

- Nicolas Barrera, Modeling Duration, Convexity and Present Values Under Interest Rate Variations, Fall 2021.

- Matt Van Pelt, Applying Algebra, Geometry, Trigonometry and Calculus to Solve a Minimization Problem, Fall 2021.

- Daniel Fortune, Actuarial Applications of Stochastic Simulation: Modeling and Projecting Losses, Fall 2020.

- Samantha Shortino, A Mathematical Analysis of the Trisection Problem: Fall 2019.

- Tatiana Ramirez, Mathematical Analysis of Variations on Rock, Paper, Scissors: An Application of Mixed Strategy Nash Equilibrium, Fall 2019.

- Ben Eck, Two Player Strategy Combinatorial Games: The Mathematics behind the games of Heaps and Nim, Spring 2019.

- Corey Barthold, The Black-Scholes-Merton Model for Stock Option Pricing, Fall 2017.

- Jonathan Digangi, Stochastic Interest Models For Valuation of Financial Instruments and Simulating Cash Flows, Spring 2017.

- Jacqueline Anderle, Modeling the Effect of Deductibles and Inflation on the Severity of Claims, Spring 2016.

- Camillia Wisniewski, Modeling Bond and Investment Price Sensitivity, Fall 2015.

- Colleen Devoti, Modeling Bond Values Under Market Rate Fluctuations, Spring 2014.

- Meghan Crampton, Forward and Future Contracts, Fall 2012.

- Joseph Ginexi, The Term Structure of Interest Rates, Spot Rates, and Forward Rates, Fall 2012.

- Dominic Busto, "Evaluating Arithmetic and Geometric Annuities", Spring 2012.

- Daniel Smith, Modeling Bond Duration and Convexity, Fall 2011.

- Andres Salazar, Stochastic Approaches to Interest Rate Modeling, Spring 2011.

- Regina Peruta, "The Maximum Mixedness Model", Spring 2010.

- April Sassano, "Geometric Probability: The Buffon Needle Problem and Other Applications", Fall 2008.

- Kevin Obara, "Modeling Stock and Option Prices Using the Black-Scholes Model', Spring 2008'.

- Kevin Dumlao, "Modeling Mass Spring Systems", Fall 2007

- Tom Frazzitta, "Sabermetrics: Derivation and Applications of the Pythagenport Theorem", Fall 2007

- Poppy Casey, Topics in Financial Mathematics: "Closed Form Formulas for Calculating Duration", Spring 2007

- Sebnum Smith, "Topics in Financial Mathematics: Duration, Partial and Complete Immunization" Spring 2007

- Jennifer Sayegh, "Swimming the Salmon River", Fall 2006

- Nicole Zayatz, "The Mathematical Modeling of a Chemical Reactor Using the Maximum Mixedness Approach", Spring 2006

- Patricia Polise, "The Mathematics of Bungee Jumping" Fall 2005

- Kevin Jagniatkoski, Advanced Financial Analysis: Risk, Duration and Immunization, Spring 2005

- Ahish Gupta, "Mathematical Modeling of the Heat Equation", Fall 2004

- Kristin Wolff, "An Investigation into Pi" Fall 2004

- Mendy Malko, Geometric Constructions, Fall 2003

- Christine Galasso, Topics in Probability and Statistic Applications: Bayesian Estimation in Actuarial Modeling, Fall 2002.

Service and Activities

- Penn State University, State College PA., Grader for the Power Round of the American Regions Math League (ARML), National Annual High School Mathematics Problem Solving Competition, often called the "World Series of Mathematics Competitions" for high school students, June 2-3 2023.

- Developed an Environmental and Statistical Modeling Certificate to be offered through the Mathematical Sciences/Actuarial Science and Environmental Science/Sustainability programs. (Approved by the Mathematical Sciences department 4/4/23 and now awaiting final approval by Environmental Sciences.)

- Actuarial Science Program Director. Developed and serve as Program Director for William Paterson Universities Actuarial Science Program and B.S. degree, Spring 2019-present.

- William Paterson University Mathematics Department Executive Council, Fall 2010 2012, Fall 2016-Spring 2017, Fall 2022-Spring 2023.

- William Paterson University, Accepted Students Day, Mathematic's department representative for Mathematics majors and minors and Actuarial Science majors 4/1/2023.

- William Paterson University, Fall Open House Academic Sessions and Academic Fair, Mathematic's department representative for Actuarial Science majors 10/16/2022, 11/12/2022.

- William Paterson University, Actuarial Science majors Academic Advisor, 2020 – present.

- American Regions Math League (ARML), National Annual High School Mathematics Problem Solving Competition, often called the "World Series of Mathematics Competitions, Power Round Grader 6/5/22.

- Academic Partnerships WP Online: Developed the MATH1170 AP Business Mathematics course, Summer 2021-Fall 2021. Course was offered and ran for the first time in Spring 2022.

- William Paterson University Department of Mathematical Sciences Range Adjustment Committee (DFRAC) Spring 2022, Spring 2023.

- Academic Partnerships WP Online: Developed the MATH1170 AP Business Mathematics course, Summer 2021-Fall 2021. Course was offered and ran for the first time in Spring 2022.

- Milliman/WPU Partnership – William Paterson University representative and contact person. Developed a partnership/relationship with Milliman, a global financial services and actuarial consulting firm. Milliman provides internship and job opportunities and in addition to the exam preparation and other scholarship and mentoring opportunities available for students of color and underrepresented groups. Spring 2021-present.

- Proposed revisions to the BS in Actuarial Science to satisfy new industry and ASA/FSA professional designation requirements and meet the technological needs of the profession. Proposal was approved by the Department, College and WPU Senate will be instituted as the new requirements for the BS in Actuarial Science degree for incoming Fall 2022 students.

- Actuarial Science Guest Speakers and Presentation Series Organizer, 2019 – present.

- WPU Actuarial Science Club, Faculty Advisor, Spring 2015 - present.

- William Paterson University Faculty Advisor & Liaison to the Society of Actuaries (SOA) 2004 – present. Recent work includes reviewing significant proposed changes by the SOA to the educational and professional designation process and completing follow-up questionnaires and surveys, and reviewing and, as needed, modifying William Paterson University curriculum.

- William Paterson University Mathematics Educational Liaison and Advisor to the Casualty Actuary Society (CAS) Fall 2013 – present.

- BioBlitz, Garret Mountain Reservation, Participant and Contributor (6/11/2021 – 6/12/2021) - Attended and participated in the expert-led event that focused on identifying as many species as possible in a specific area over a 24-hour period to get a snapshot of an area's biodiversity. I submitted over 50 observations and species via the iNaturalist app to be included in the BioBlitz project finishing third in contributions.

- WPU University Faculty Range Adjustment Committee Member, Spring 2019.

- William Paterson University Mathematics Department Hiring Committee 2016-2017.

- William Paterson University Mathematics Department Promotion Committee, Fall 2010, 2014, 2015, 2016.

- Vice President of Negotiations and Executive Board Member, William Paterson University, AFT Local 1796, May 2010 to January 2016.

- Council of New Jersey State College Locals, Delegate, September 2009 to present.

- Council of New Jersey State College Locals, State Negotiations Team, September 2010 to January 2016.

- Council of New Jersey State College Locals, Elections Committee, 2014 - 2015.

- American Federation of Teachers of New Jersey (AFT NJ) State Delegate, May 2010 to January 2016.

- Math Workshop Facilitator and Competition Team Coach, Todays Learning Center, Clifton N.J. provided weekly math workshops and training for the Noetic Math competition for students grades 2 through 8, 2013-present.

- WPU Faculty Range Adjustment Committee, Union Observer Spring 2011, 2012, 2013, 2015, 2016.

- WPU Promotion Committee, Union Observer 2014.

- Math and Science Partnership: Reclaiming Educational Foundations of Rigorous Math and Science II, Grant Director, 2010 – 2012.

- Math Awareness Week Co-Coordinator, Spring 2003, 2004, 2005, 2010, 2011, 2012, 2013, 2014, 2017.

- William Paterson University Mathematics Department Program Review Curriculum Committee, 2016-2018.

- Math Majors Day: Co-Coordinator & Presenter, Spring 2015, Spring 2016, Spring 2017.

- Math Fair: Co-Coordinator - Fall 2002, 2003; Speaker - Fall 2001, Fall 2005, Fall 2015, Fall 2016.

- William Paterson University Mathematics Department Graduate Program Development and Planning Committee, 2014 - present.

- William Paterson University, Fall Open House 2002, 2003, 2004, 2005, 2009, 2010, 2011, 2013.

- Chemistry Department Hiring Committee, Spring 2010.

- Reformed Teaching Observations, Reclaiming Educational Foundations of Rigorous Math and Science I (REFORMS I) Grant Requirement, Observed 5 Math and Science Teachers at School 3, Paterson, N.J. , Spring 2008, Spring 2009, Fall 2009, Spring 2010.

- Teachers for a Competitive Tomorrow -Math and Science Teachers (MAST) Program. Reviewed Passaic High School Math Department's Algebra final exams for 3 levels of Algebra I and 3 levels of Algebra II to determine how well the material aligned with NJ core standards and prepared students for subsequent courses in the sequence. Completed 6 reports and created the report format and template that was distributed to other faculty for similar assessment, Spring 2009.

- William Paterson University Mathematics Department Elections Officer Fall 2009-Spring 2010.

- William Paterson University, College Of Science and Health Advisory Board, 2004, 2005, 2006, 2008, 2009.

- William Paterson University, AFT Local 1796 Career Development Committee, Fall 2008-Spring 2010.

- New Jersey Undergraduate Math Competition Committee, 04/2008.

- Mathematics Department Assessment Committee and Department Coordinator, Spring 2003 to Spring 2009.

- William Paterson University Senate Assessment Committee, College of Science and Health Representative, 2007-2008.

- William Paterson University, College Of Science and Health Assessment Committee, Fall 2005 to Spring 2007.

- Mathematics Department Union Representative, Fall 2004 to Spring 2010.

- William Paterson University Union Elections Committee (2007-2008).

- William Paterson University Senate Elections Committee, 2004-2005.

- Women's Math Mentoring Program Director, 2004-2006.

- William Paterson University Faculty Senate member at large, Fall 2006.

- Mathematics Department Curriculum Committee Fall 2004 to Spring 2006.

- Developed two new Actuarial Science Courses "Mathematical Models in Finance and Interest Theory" and Econometrics/Time Series Analysis and proposed 4 new courses for the revised statistics minor program.

- Association for Women in Mathematics - William Paterson University Student Chapter Advisor, Fall 2004 to Fall 2007.

- William Paterson University, Academic Advisor, Fall 2003 – Spring 2006.

- Mathematics Department B.A/B.S. Program Revision Subcommittee Summer 2005.

- Womens Math Group Advisor, Fall 2002 to Spring 2007.

- Garden State Undergraduate Math Conference, Undergraduate Math Competition, Team Advisor, 3/04.

- Mathematics Department Liaison to the College of Education, 2003-2004.

- Faculty Advisor for the 2002 and 2003 COMAP sponsored Mathematical Contest in Modeling, William Paterson University team receives Honorable Mention Award 2002.

- Mathematics Department Student Teacher Supervisor, Spring 2002.

- Math Department Seminar Coordinator (2002-2003).

- Department Recording Secretary, William Paterson University (2001-2002).