

CURRICULUM VITA
Maria Eugenia Calzada

Rank:	Professor
Department:	Mathematics and Computer Science
Institution:	Loyola University New Orleans

EDUCATION

1988-1991	Ph.D. , Mathematics Tulane University, New Orleans, Louisiana Dissertation Title: "A Combustion Model for Incompressible Flows" Advisor: Dr. Gary Sod
1986-1988	M.S. , Mathematics Tulane University, New Orleans, Louisiana
1982-1986	A.B. , Mathematics and Economics Boston College, Chestnut Hill, Massachusetts

EMPLOYMENT

2012-2013	Interim Dean College of Humanities and Natural Sciences
2010-Present	Professor Department of Mathematical Sciences Loyola University New Orleans
1998-2010	Associate Professor Department of Mathematics and Computer Science Loyola University New Orleans
1992-1998	Assistant Professor Department of Mathematics and Computer Science Loyola University New Orleans
1991-1992	Visiting Assistant Professor Department of Mathematical Sciences Loyola University New Orleans

ADMINISTRATIVE EXPERIENCE

2012-2013	Interim Dean, College of Humanities and Natural Sciences Loyola University New Orleans
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Academic leader of the largest college at Loyola, with over 120 faculty and staff.

Spring 2009-August 2012

Science Liaison to the Dean's Office,
Loyola University New Orleans

Worked with the science chairs and Dean of the College of Humanities and Natural Sciences. Assignments included (but not limited to) priorities for faculty hires, Common Curriculum, junior and senior course releases, operating budgets, salary compression and equity, tech and lab fees, distribution of grant indirect cost, etc.

2004-2005 Arts and Science Intern for the First Year Experience (FYE)

Worked directly with the Associate Dean and the Dean of the College on faculty development and FYE programs, including kick off events, common reading selection and implementation, etc.

HONORS

- Senate Teaching Award, Loyola University New Orleans, August 2004.
- Mathematics Teacher of Distinction 2003-2004, Greater New Orleans Teachers or Mathematics (G.N.O.T.M.).
- Recipient of the Order of St. Louis in recognition to leadership and dedicated service to the Church, her Parish, and throughout the Archdiocese of New Orleans, April 1997.
- Member of the Alpha Sigma Nu Boston Chapter of the Jesuit Honor Society.
- Member of the Omicron of Massachusetts Chapter of Phi Beta Kappa.
- Member of the Massachusetts Zeta Chapter of Pi Mu Epsilon, the National Mathematics Honors Society.

PUBLICATIONS IN PEER REVIEWED JOURNALS

Spence, T.G. and **M. E. Calzada**. "How many calories: An applied project," to appear in *Mathematics and Computers in Education*.

Calzada, M. E. and S. M. Scariano. "The Synthetic t and EWMA t charts," to appear in *Quality Technology and Quantitative Management*.

Spence, T. G., **Calzada, M. E.**, Gardner, H.M., Leefe, E., Fontenot, H. B., L. Gilevicius, L., Hartsock, R. W., Boyson, T. K., and C. C. Harb, C. C. "Real-time FPGA data collection of pulsed-laser cavity ringdown signals," *Optics Express*, 20:8, pp. 8804–8814 (2012).

Harb, C. C., Boyson, T. K., Kallapur, A. G., Petersen, I. R., **Calzada, M. E.**, Spence. T.

G., Kirkbride, K.P., Moore, D. S. “Pulsed quantum cascade laser-based CRDS substance detection: real-time detection of TNT,” *Optics Express* 20 (2012): pp. 15489-15502.

M. E. Calzada and S. M. Scariano A synthetic control chart for the coefficient of variation, *Journal of Statistical Computation and Simulation*, DOI:10.1080/00949655.2011.639772 (2011).

Boyson, Toby K., Spence, Thomas G., **Calzada, M. E.**, and Harb, Charles C. “Frequency domain analysis for laser-locked cavity ringdown spectroscopy,” *Optics Express*, 19:9, 8092–8101 (2011).

Calzada, M. E. and Gardner, H. “Confidence Intervals for the Mean: To Bootstrap or not to Bootstrap,” *Mathematics and Computer Education*, 45:1, 25-38 (2011).

Scariano, S. M. and **Calzada, M. E.** “The Generalized Synthetic Chart,” *Sequential Analysis*, 28:1, 54-68 (2009).

Calzada, M. E. and Scariano, S. M. “Joint Monitoring of the Mean and Variance of Combined Control Charts with Estimated Parameters,” *Communications in Statistics – Simulation and Computation*, 36:5, 1115-1134 (2007).

Scariano, S. M. and **Calzada, M. E.** “Statistical Thinking with Trend Charts,” *Mathematics Teacher*, 100: 8, 534-541 (2007).

Calzada, M. E. and Scariano, S. M. “A Natural Bridge from Algebra and Geometry to Trigonometry,” *Mathematics Teacher*, 99: 6, 450-458 (2006).

Scariano, S. M. and **Calzada, M. E.** “Three Perspectives on Teaching Least Squares,” *Mathematics and Computer Education*, 38:3, 255-264 (2004).

Calzada, M. E. and Scariano, S. M. “Average Run Length Computations for the Three-Way Chart,” *Communications in Statistics Simulation and Computation*, 33:2, 505-524 (2004).

Calzada, M. E., Scariano, S. M. and G. Chen “Computing Average Run Lengths for the MaxEWMA Chart,” *Communications in Statistics Simulation and Computation* 33:2, 489-503 (2004).

Calzada, M. E. and Scariano, S. M. “Contrasting Total Least Squares with Ordinary Least Squares Part II: Examples and Comparisons,” *Mathematics and Computer Education*, 37: 2, 159-174 (2003).

Scariano, S. M. and **Calzada, M. E.** “A Note on the Lower-Sided Synthetic Chart for Exponentials *Quality Engineering* 15: 4, 677-680 (2003).

Calzada, M. E. and Scariano, S. M. "The Robustness of the MaxEWMA Chart to Non-Normality," *Communications in Statistics Simulation and Computation* 32:2, 573-590 (2003).

Calzada, M. E. and Scariano, S. M. "Reconciling the Integral Equation and Markov Chain Approaches for Computing EWMA Average Run Lengths," *Communications in Statistics Simulation and Computation* 32:2, 591-604 (2003).

Calzada, M. E. and Scariano, S. M. "The Robustness of the Synthetic Control Chart to Non-Normality," *Communications in Statistics Simulation and Computation* 30:2, 311-326 (2001).

Calzada, M. E. and Scariano, S. M. "Simpson's Paradox and Matrix Determinants," *Mathematics and Computer Education* 34 237-244 (2000).

Calzada, M. E. and Scariano, S. M. "What is Normal, Anyway?," *Mathematics Teacher* 92:8, 682-689 (1999).

Calzada, M. E. "Numerical Study of Flame Propagation in Boundary Layers," *South West Journal of Pure and Applied Mathematics*, Internet: <http://rattler.cameron.edu/swjpam.html>, 1:1, 1-7 (1997).

Calzada, M. E. and Song, Y. "Application of a Flame Dictionary Method in Turbulent Premixed Flame Modeling," *Applied Mathematics Letters*, 10:2, 111-115 (1997).

Calzada, M. E. and Scariano, S. M. "Beyond Basic Statistics with the Graphing Calculator Part II: Comparing Distributions," *Mathematics and Computer Education*, 30:2, 23-32 (1996).

Calzada, M. E. and Scariano, S. M. "Beyond Basic Statistics with the Graphing Calculator Part I: Assessing Goodness-of-Fit," *Mathematics and Computer Education*, 30:1, 154-157 (1996).

Song, Y. and **Calzada, M. E.** "A Dictionary Random Choice Method with Applications in Turbulent Combustion," *Journal of Computational and Applied Mathematics* 58, 27-42 (1995).

Scariano, S. M. and **Calzada, M. E.** "The Role of the Graphing Calculator in the Basic Skills Mathematics Curriculum," *Mathematics and Computer Education*, 28:1, 60-69 (1994).

Calzada, M. E. "El Caos Matemático y sus Presentaciones Biológicas," *Revista Médico-Científica*, 81, 59-66 (1993).

Calzada, M. E. and Song, Y. "A Numerical Algorithm for Flame Advection and Propagation," *Mathematics and Computers in Simulations* 35, 79-92 (1993).

PUBLICATIONS IN FULLY REFEERED CONFERENCE PROCEEDINGS

Calzada, M. E. and Scariano, S. M. "A Linear Collocation Method for EWMA Quality Control Charts," *Proceedings of the 2005 International Conference on Scientific Computing*, (2005). Hamid R. Arabnia and George A. Gravvanis Editors. 89-95.

PUBLICATIONS IN CONFERENCE PROCEEDINGS

"A Natural Bridge from Algebra and Geometry to Trigonometry," with S. M. Scariano, *Proceedings of the 2006 Hawaii International Conference on Statistics, Mathematics, and Related Fields*, 2006

"Visual EDF Software to Check the Normality Assumption," with S. M. Scariano, the Electronic Proceedings of the 15th International Conference on Technology in Collegiate Mathematics, <http://archives.math.utk.edu/ICTCM/EP-15.html>, 2002.

"Technological Tools for Contrasting the Ordinary and Total Least Squares Methods," with S. M. Scariano, *Proceedings of the Fifteenth Annual International Conference on Technology in Collegiate Mathematics* (2002).

"Beyond Basic Statistics with the Graphing Calculator," with S. Scariano, *Proceedings of the Eight Annual International Conference in Technology in Collegiate Mathematics*, ©1997.

"An Extra Laboratory Hour for Calculus I and II: Experiences and Results," *Proceedings of the Eighth Annual International Conference on Technology in Collegiate Mathematics*, ©1997.

"Graphing Calculators, Computers, and Software to Support Systemic Changes in the Mathematics Curriculum," with A. Lopez and S. Scariano, *Proceedings of the Seventh Annual International Conference on Technology in Collegiate Mathematics*, ©1996.

"A Numerical Method for Turbulent Combustion," with Y. Song, *Proceedings of the Second International Conference on Fluid Mechanics*, Peking University Press, Beijing, P.R. China, July, 1993.

ABSTRACT PUBLICATIONS IN CONFERENCE PROCEEDINGS

"Preliminary Report on the Power of the Bootstrap Ratio Test for Normality," with H. Gardner (student), *Abstracts of Papers Presented to the American Mathematical Society*, Vol 32, No. 1, Issue 163, p 240. 2011.

"Comparing Control Charts with Estimated Parameters," with S. Scariano, *Abstracts of Papers Presented to the American Mathematical Society*, Vol. 28, No.1, Issue 147, pp. 175-176. 2007.

“On the Robustness of the Synthetic Control Chart,” with S. Scariano, *Abstracts of Papers Presented to the American Mathematical Society*, Vol. 22, No.1, Issue 123. 2001.

“Numerical Simulation of Flame Advection and Propagation in Boundary Layers,” with Y. Song, *Proceedings of the Sixth International Conference on Numerical Combustion*, March of 1996.

“Calculus I and II with an Extra Laboratory Hour,” *Abstracts of Papers Presented to the American Mathematical Society*, Vol.17, No.1, Issue 103, ©1996.

“A Combustion Model for Incompressible Flows,” *Proceedings Fourth International Conference on Numerical Combustion*, St. Petersburg, Florida, December 1991.

FUNDED GRANTS

Title: "24/7 Computer Mathematics Labs for All Students"
Lead P.I.: Dr. Maria Calzada **Date:** 2011
Agency: Louisiana Board of Regents
Amount: Over \$46,000

Title: "One Year Immersion in the Loyola Chemistry Department"
Lead P.I.: Dr. Maria Calzada **Date:** 2008
Agency: National Science Foundation
Amount: Over \$99,000

Title: "Mathematics Education Reform Efforts for the New Millennium"
Lead P.I.: Dr. Stephen M. Scariano **Date:** 2005
Agency: Louisiana Board of Regents
Amount: Over \$35,000

Title: Marquette Fellowship
Lead P.I.: Dr. Maria Calzada **Date:** 2005
Agency: Provost and President, Loyola University New Orleans
Amount: \$7,500

Title: “Program for Instructional Effectiveness Support (PIES)”
Lead P.I.: Dr. Maria Calzada **Date:** 2003
Agency: Arts and Sciences, Loyola University New Orleans
Amount: Over \$2,700

Title: "A Rolling Plan for Continuous Mathematics Education Reform"
Lead P.I.: Dr. Stephen M. Scariano **Date:** 2002
Agency: Louisiana Board of Regents
Amount: Over \$37,000

Title: "Mathematical Software for Optimizing a Control Chart."
Lead P.I.: Dr. Maria Calzada **Date:** 2002
Agency: Loyola Grants and Leaves Committee
Amount: \$1,100

Title: "Standards-based Teacher Development in Mathematics"
Position: Project Faculty
Lead P.I.: Dr. Antonio Lopez **Date:** 1999
Agency: Urban Systemic Initiatives at Orleans Parish
Amount: Over \$29,000

Title: "Technology for Enhancing Mathematics Education Reform"
Lead P.I.: Dr. Stephen Scariano **Date:** 1999
Agency: Louisiana Board of Regents
Amount: Over \$30,000

Title: Supporting Standards-based Mathematics Education Reform
Lead P.I.: Dr. Antonio Lopez **Date:** 1998
Agency: Louisiana Board of Regents
Amount: Over \$30,000 for computing equipment

Title: Project M.E.E.T. (Mathematics Enhances Elementary Teaching)
Lead P.I.: Dr. Maria Calzada **Date:** 1998
Agency: Urban Systemic Initiatives at Orleans Parish
Amount: Over \$15,000 for summer institutes

Title: FORTRAN Compiler to Support Computational Research
Lead P.I.: Dr. Maria Calzada **Date:** 1995
Agency: Loyola Grants and Leaves Committee
Amount: Over \$800 to obtain a Power Macintosh FORTRAN Compiler

Title: "Supercomputing Experiences in Undergraduate Education at Loyola University."
Lead P.I.: Dr. Maria Calzada **Date:** 1994
Agency: San Diego Supercomputer Center
Amount: 3 hours of Cray C19 time

Title: "Graphing Calculators, Computers, and Software to Support Systemic Changes in the Mathematics Curriculum."
Lead P.I.: Dr. Stephen M. Scariano **Date:** 1993
Agency: Louisiana Education Quality Support Fund
Amount: \$38,630

WORKSHOPS, SEMINARS, AND CONFERENCES

2012 Association of Jesuit Colleges and Universities (AJCU) Deans Conference, held at Boston College in October of 2012.

The Joint Mathematics Meetings annual conference held at the New Orleans Marriot and Sheraton hotels in January of 2011.

The Louisiana/Mississippi Section Meeting of the Mathematical Association of America, Hammond, Louisiana, Spring 2010.

The Greater New Orleans Teachers of Mathematics annual conference held in New Orleans in January of 2009.

21th International Conference on Technology in Collegiate Mathematics (ICTCM), New Orleans, 2009.

The Greater New Orleans Teachers of Mathematics annual conference held in New Orleans in January of 2009.

American Chemical Society 236th National Fall Meeting, Philadelphia, Pennsylvania, August 2008.

Pittcon Conference and Expo 2008, New Orleans, Louisiana, March 2008.

The Vocation of the Teacher in the Ignatian Tradition, Centre Sevres, Paris, June 11-15, 2006.

The 2005 International Conference on Scientific Computing, Las Vegas, Nevada, June 20-23, 2005.

Leadership in Building an Interdisciplinary Learning Environment, PKAL Leadership Initiative Seminar, United States Military Academy, West Point, March 4-6, 2005.

17th International Conference on Technology in Collegiate Mathematics (ICTCM), New Orleans, Fall 2004.

Keeping the Touch in Technology 2004, THE (Teaching in Higher Education) Forum, Louisiana State University, April 18-20, 2004.

College of Arts and Sciences Program for Instructional Effectiveness Support (PIES) summer seminars, June 2004.

Linking Insights about How People Learn to Curricular Reform, Project Kaleidoscope Assembly, Richmond Virginia, October 30 - November 1, 2003.

College of Arts and Sciences **Program for Instructional Effectiveness Support (PIES)** summer seminars, June 2003.

The Fifteenth **International Conference on Technology in Collegiate Mathematics**, Orlando, Florida, November of 2002.

The 2001 National Conference of the **Society for the Advancement of Chicanos and Native Americans in Science**, Phoenix, Arizona, September of 2001

The Joint Mathematics Meetings annual conference held at the New Orleans Marriot and Sheraton hotels in January of 2001.

Short Course in Mathematical Biology held during the Joint Mathematics Meetings January 8 and 9 of 2001.

Loyola-LaCEPT Mini-Conference for Education, Math & Sciences held on December 13, 2000.

An Intensive Short Course in Computational Fluid Mechanics: **Introduction to Boundary Element Method**, sponsored by Tulane University's Departments of Mathematics and Biomedical Engineering, October 25-27 of 2000.

The Greater New Orleans Teachers of Mathematics annual conference held at Loyola University in March of 1999.

Building Partnerships for Change. National Science Foundation Fall Principal Investigator/Project Director Meeting for the Systemic Initiatives Programs in the U.S. Maryland, October, 1998.

The Mathematical Association of America regional conference held at the New Orleans Embassy Suites in March of 1998.

The Greater New Orleans Teachers of Mathematics annual conference held at the Benjamin Franklin High School in January of 1998.

The Greater New Orleans Teachers of Mathematics Fall conference held at the Benjamin Franklin High School October of 1996.

The Greater New Orleans Teachers of Mathematics annual conference held at the Superdome in the Spring of 1996.

The Joint Mathematics Meetings held in Orlando, Florida, in January of 1996.

The Eighth Annual International Conference on Technology in Collegiate Mathematics held in Houston, Texas, in November of 1995.

North Carolina School of Mathematics and Science Workshop held at the NCSMS in Durham, North Carolina, February 2-5, 1995.

The Greater New Orleans Teachers of Mathematics conference held at the Quality Hotel of Metairie, in the Spring of 1995.

Calculus Reform Workshop, sponsored by the National Science foundation, held in Starkville, Mississippi, in May of 1994.

The Greater New Orleans Teachers of Mathematics conference held at the Howard Johnsons of Metairie, in the Spring of 1994.

The Seventh Annual International Conference on Technology in Collegiate Mathematics held in Orlando, Florida, in November of 1994

The National Catholic Educational Association Convention held in New Orleans in April of 1993.

The Greater New Orleans Teachers of Mathematics conference held in the Spring of 1993.

The Louisiana Association of Computer Using Educators conference held at the Clarion Hotel in October of 1992.

The Fourth Symposium on the Frontiers of Massively Parallel Computers conference sponsored by the IEEE Computer Society and NASA, held in McLean, Virginia, in October of 1992.

The Graphing Calculator and General Education Requirements conference held at the USL campus in Lafayette in October of 1992.

Strategies, Techniques, and Tips for Teaching Precalculus Courses Using Graphing Calculators. An Addison Wesley workshop held at the USL campus in Lafayette in September of 1992.

Supercomputing and Undergraduate Education workshop held at the San Diego Supercomputer Center in July of 1992.

The Greater New Orleans Teachers of Mathematics conference held in the Spring of 1992.

OFFICES

Vice President for Colleges and Universities for the Greater New Orleans Teachers of Mathematics. From 1994-1999.

Editor of the Greater New Orleans Teachers of Mathematics Newsletter. From 1996-1999.

LOYOLA SERVICE ACTIVITIES

- Senate ad hoc committee on salary equity and compression (2008-present)
- University Rank and Tenure Committee (2004-2007) (Chair 2006-2009)
- Senate Representative for the Standing Council for Academic Planning (2006-2009)
- Common Curriculum Review Committee (2005-2009)
- SORC (Salary Oversight Review Committee) (2008- 2010)
- College Planning Team (2009-2011, then ex-officio as Science Liaison)
- Senate Representative for Mathematical Sciences (1999-2000 and 2006-2009)
- Senate Representative for University Planning Team (Spring 2006)
- Ad hoc college task force on academic advising (2005)
- University Conciliation Committee (2003-2006)
- Alternate for College Planning Team (2003-2005). Served as representative in the 2004-2005 academic year.
- Alternate for the College Rank and Tenure Committee. Served as representative in the 2004-2005 academic year.
- A&S Faculty Awards Committee Chair (2002-2005)
- Biever Guest Lecture Series Committee. (2002- 2005)
- Course Development/Faculty Development Committee (2001-2006) (Chair 2004-2006)
- Phi Beta Kappa Committee
- Ad Hoc Science Subcommittee of the Common Curriculum Committee Chair. (2001-2002)
- Participated in President's Open House by giving presentations in the springs of 1999, 2000, 2006, and 2009
- Common Curriculum Committee Representative for the Mathematics and Computer Science Department (1998-1999 academic year and Spring of 2000)
- Acting Vice-Chair of Mathematics and Computer Science (1998-1999 academic year)
- Coordinator of the Mathematics Center (1997-Summer of 1999)

OTHER SERVICE ACTIVITIES

- Program Committee of the Annual Conference of **the Greater New Orleans Teachers of Mathematics** held at Loyola University in March of 1999
- Judge for the **44th, 45th, 46th, 48th, and 50th Annual Greater New Orleans Science and Engineering Fair**, Region IX of Louisiana in March of 1999, 2000, 2001, 2003, and 2005
- Executive Committee Member for the 12th and 13th Annual **International Conference on Technology in Collegiate Mathematics** (ICTCM)
- Co-Chair of the **11 Annual International Conference on Technology in Collegiate Mathematics** (ICTCM) held in New Orleans on November of 1998
- **Quality Science and Mathematics Program (QSM) Proposal reviewer.** The QSM program was established for the purpose of providing supplies and materials to mathematics and science public school teachers

- Reception Committee for **the Regional National Council of Teachers of Mathematics Conference** held in New Orleans in January of 1997.
- Teacher Recognition Committee for the **Greater New Orleans Teachers of Mathematics** 1992-1996
- Music Minister for the **Tulane Catholic Center**

OTHER SERVICE TO THE PROFESSION

- Reviewer
 - *Journal of Statistical Computation and Simulation*
 - *International Journal of Production Economics*
 - *Mathematics and Computer Education*
 - *Malaysian Mathematical Sciences Society*
 - *Computational Statistics and Data Analysis*
 - *Communications in Statistics-Simulation and Computation*
 - *Communications in Statistics-Theory and Methods*