CURRICULUM VITAE

Eleftherios Gkioulekas

School of Mathematical and Statistical Sciences
The University of Texas Rio Grande Valley
1201 West University Drive, Edinburg, TX 78539-2999

E-mail: drlf@hushmail.com
Web site: https://faculty.utrgv.edu/eleftherios.gkioulekas/index.html

---

Degrees

B.Sc. (Applied Mathematics), California Institute of Technology, June 1997
M.Sc. (Applied Mathematics), University of Washington, September 2000
Ph.D. (Applied Mathematics), University of Washington, June 2006

Academic appointments

09/1996-07/2006: **Research Assistant**, Applied Mathematics, University of Washington
09/2006-07/2008: **Visiting Assistant Professor**, Mathematics, University of Central Florida
09/2008-08/2014: **Assistant Professor**, Mathematics, University of Texas-Pan American
09/2014-08/2015: **Associate Professor**, Mathematics, University of Texas-Pan American
09/2015-08/2020: **Associate Professor**, Mathematics, University of Texas Rio Grande Valley
09/2020-present: **Professor**, Mathematics, University of Texas Rio Grande Valley

Administrative appointments

01/2018-present: **Undergraduate Program Coordinator**, Mathematics, University of Texas Rio Grande Valley

Honors and Awards

Admitted to Physics 11 Research Tutorial, California Institute of Technology, 1993
Summer Undergraduate Research Fellowship, California Institute of Technology, 1994
Summer Undergraduate Research Fellowship, California Institute of Technology, 1995
Caltech Alumni Association Scholarship, California Institute of Technology, 1995
Center for Quantitative Sciences Teaching Assistantship, University of Washington, 2003
Visitor, Center for Nonlinear Studies, Los Alamos National Laboratory, January 2006
ASP Postdoctoral Fellowship, National Center for Atmospheric Research, 2006 (declined)
Boeing Award for Excellence in Research, University of Washington, 2006
Awarded Tenure, The University of Texas–Pan American, 2014
Awarded Tenure, The University of Texas Rio Grande Valley, 2015
Undergraduate Coordinator Award, College of Sciences, University of Texas Rio Grande Valley, 2020

Certifications

Certificate of Completion, "Applying the QM Rubric", Quality Matters, 05/2020-present
Basic Course – Human Subjects Research, CITI Program, 11/2021
Basic Course – Responsible Conduct of Research, CITI Program, 11/2021

Research and Scholarship

Research Experience and Accomplishments

(1) Spearheaded a fiercely independent and vigorous research program in applied mathematics and mathematics education, under a heavy teaching load, with specializations in two and three dimensional Navier-Stokes turbulence, Martin-Siggia-Rose theory, statistical mechanics, quasi-geostrophic models, and curriculum innovations.

(2) Produced a total of **27 research publications**, with **20 single-author research publications**, and **12 open educational resources**.
(3) Invited to write **4 in-depth book reviews** of books on turbulence research by SIAM Review, which is one of the best research journals in Applied Mathematics in the world.
(4) Presented my research in a total of **74 presentations** at the state, national, and international levels, including invited seminars and colloquia in various Universities and National Laboratories (LANL and NCAR) in the United States.
(5) Published many single-author research papers at very high quality refereed research journals such as Journal of Fluid Mechanics, Physical Review E, Physica D, which are among the best and top quality journals in the world. I have also published in highly reputable journals, including: Discrete and Continuous Dynamical Systems - Series B, Journal of Low Temperature Physics, International Journal of Mathematical Education in Science and Technology, International Journal of Theoretical Physics, SIAM Review.
(6) Google Scholar reports **246 citations** of my research publications, as of November 3, 2021. My research papers have been cited in numerous refereed research journals including: Atmosphere-ocean, Analysis and Simulation of Fluid Dynamics, Astrophysical Journal, Building and Environment, Classical and Quantum Gravity, Computers & Fluids, Discrete and Continuous Dynamical Systems B, Environmental Fluid Mechanics, Fluid Dynamics Research, Geophysical Research Letters, International Journal of Simulation and Process Modelling, International Journal of Theoretical Physics, Journal of Applied Meteorology and Climatology, Journal of the Atmospheric Sciences, Journal of Computational and Applied Mathematics, Journal of Dynamics and Differential Equations, Journal of Fluid Mechanics, Journal of Mathematical Physics, IEEE Transactions on Communications, International Journal of Mathematical Education in Science and Technology, Journal of Physical Oceanography, Journal of Physics A, Journal of Statistical Mechanics, Journal of Low Temperature Physics, Mathematical Gazette, Meteorologische Zeitschrift, Nuovo Cimento-Societa Italiana di Fisica Sezione C, Physica D, Physics Letters A, Physics of Fluids, Physics of Plasmas, Physics Reports, Physical Review D, Physical Review E, Physical Review Letters, Revista do Instituto GeoGebra de Sao Paulo, Systems Engineering and Artificial Intelligence, Theoretical and Computational Fluid Dynamics, Turkish Journal of Computer and Mathematics Education, Ukrainian Journal of Physics.

Research Publications

(1) E. Gkioulekas and J. Solomon: "Walsh-Fourier analysis of protein sequence property profiles", Technical Report CCB-95-03, Beckman Institute, California Institute of Technology, (1995) doi:10.13140/RG.2.1.1059.5368
(2) E. Gkioulekas: "Proposal for a reinforcement model of learning that incorporates beliefs and signaling", unpublished senior thesis, California Institute of Technology, (1996) 29pp. (Advisor: Colin Camerer)
(3) E. Gkioulekas and K.K. Tung: "On the double cascades of energy and enstrophy in two dimensional turbulence. Part 1. Theoretical formulation", *Discrete and Continuous Dynamical Systems - Series B* **5** (2005), 79-102
(4) E. Gkioulekas and K.K. Tung: "On the double cascades of energy and enstrophy in two dimensional turbulence. Part 2. Approach to the KLB limit and interpretation of experimental evidence", *Discrete and Continuous Dynamical Systems - Series B* **5** (2005), 103-124.
(5) E. Gkioulekas and K.K. Tung: "On the double cascades of energy and enstrophy in QG turbulence", The 15th Conference on Atmospheric and Oceanic Fluid Dynamics of the American Meteorological Society, Cambridge Massachussets, (2005), *Extended abstract* **P2.18**
(6) E. Gkioulekas: "A theoretical study of the cascades of 3D, 2D, and QG turbulence", ProQuest LLC, University of Washington–Ph.D. thesis (2006), 154 pp. ISBN: 978-0542-76946-7 (Advisor: Ka-Kit Tung)
(7) E. Gkioulekas and K.K. Tung: "Recent developments in understanding two-dimensional turbulence and the Nastrom-Gage spectrum", *Journal of Low Temperature Physics* **145** (2006), 25-57
(8) E. Gkioulekas and K.K. Tung: "Is the subdominant part of the energy spectrum due to downscale energy cascade hidden in quasi-geostrophic turbulence?", *Discrete and Continuous Dynamical Systems - Series B* **7** (2007), 293-314
(9) E. Gkioulekas and K.K. Tung: "A new proof on net upscale energy cascade in 2D and QG turbulence", *Journal of Fluid Mechanics* **576** (2007), 173-189.
(10) E. Gkioulekas: "On the elimination of the sweeping interactions from theories of hydrodynamic turbulence.", *Physica D* **226** (2007), 151-172
(11) E. Gkioulekas: "Review of 'Large-Eddy simulations of turbulence' by M. Lesieur, O. Métais, and P. Comte", *SIAM Review* **49** (2007), 340-342
(12) E. Gkioulekas: "Winterberg's conjectured breaking of the superluminal quantum correlations over large distances", *International Journal of Theoretical Physics* **47** (2008), 1195-1205

(13) E. Gkioulekas: "Locality and stability of the cascades of two-dimensional turbulence", *Physical Review E* **78** (2008), 066302, 23 pp.
(14) E. Gkioulekas: "Dissipation scales and anomalous sinks in two-dimensional turbulence", *Physical Review E* **82** (2010), 046304, 21 pp.
(15) E. Gkioulekas: "The effect of asymmetric large-scale dissipation on energy and potential enstrophy injection in two-layer quasi-geostrophic turbulence", *Journal of Fluid Mechanics* **694** (2012), 493-523
(16) E. Gkioulekas: "Review of 'Turbulence and Shell Models' by Peter D. Ditlevsen", *SIAM Review* **54** (2012), 396-399
(17) E. Gkioulekas: "On equivalent characterizations of convexity of functions", *International Journal of Mathematical Education in Science and Technology* **44** (2013), 410-417
(18) E. Gkioulekas: "Zero-bounded limits as a special case of the squeeze theorem for evaluating single-variable and multivariable limits", *International Journal of Mathematical Education in Science and Technology* **44** (2013), 595-609
(19) E. Gkioulekas: "Review of 'Turbulence, coherent structures, dynamical systems and symmetry', by P. Holmes, J.L. Lumley, G. Berkooz, and C.W. Rowley", *SIAM Review* **55** (2013), 579-581
(20) E. Gkioulekas: "Generalized local test for local extrema in single-variable functions", *International Journal of Mathematical Education in Science and Technology* **45** (2014), 118-131
(21) E. Gkioulekas: "Energy and potential enstrophy flux constraints in quasi-geostrophic models", *Physica D* **284** (2014), 27-41
(22) E. Gkioulekas: "Review of 'Mathematics of two-dimensional turbulence' by S.Kuksin and A. Shirikyan", *SIAM Review* **56** (2014), 561-565
(23) E. Gkioulekas: "Multilocality and fusion rules on the generalized structure functions in two-dimensional and three-dimensional Navier-Stokes turbulence", *Physical Review E* **94** (2016), 033105, 25 pp.
(24) E. Gkioulekas: "On the denesting of nested square roots", *International Journal of Mathematical Education in Science and Technology* **48** (2017), 942-953
(25) E. Gkioulekas: "Using restrictions to accept or reject solutions of radical equations", *International Journal of Mathematical Education in Science and Technology* **49** (2018), 1278-1292
(26) E. Gkioulekas: "The role of the asymmetric Ekman dissipation term on the energetics of the two-layer quasi-geostrophic model", *Physica D* **403** (2020), 132372, 17 pp.
(27) E. Gkioulekas: "Solving parametric radical equations with depth 2 rigorously using the restriction set method", *International Journal of Mathematical Education in Science and Technology* **51** (2020), 1255-1277

Scholarship of Teaching and Learning – Open Educational Resources

Wrote multiple detailed online lecture notes containing theory, fully-solved examples, and exercises for a wide variety of courses:

(1) E. Gkioulekas: "Lecture Notes on Mathematics for Electrical Engineers", *Online Lecture Notes on Mathematics*, Edinburg, University of Texas Pan American (2009), 302 pp.
(2) E. Gkioulekas: "Lecture Notes on College Algebra", *Online Lecture Notes on Mathematics*, Edinburg, University of Texas Pan American (2009), 298 pp.
(3) E. Gkioulekas: "Lecture Notes on Introduction to Mathematics Proof", *Online Lecture Notes on Mathematics*, Edinburg, University of Texas Pan American (2009), 197 pp.
(4) E. Gkioulekas: "Lecture Notes on Calculus 1", *Online Lecture Notes on Mathematics*, Edinburg, University of Texas Pan American (2009), 364 pp.
(5) E. Gkioulekas: "Lecture Notes on Precalculus", *Online Lecture Notes on Mathematics*, Edinburg, University of Texas Pan American (2010), 196 pp.
(6) E. Gkioulekas: "Lecture Notes on Mathematical Modeling", *Online Lecture Notes on Mathematics*, Edinburg, University of Texas Pan American (2010), 206 pp.
(7) E. Gkioulekas: "Lecture Notes on Calculus 3", *Online Lecture Notes on Mathematics*, Edinburg, University of Texas Pan American (2011), 368 pp.
(8) E. Gkioulekas: "Lecture Notes on Linear Algebra", *Online Lecture Notes on Mathematics*, Edinburg, University of Texas Pan American (2012), 232 pp.
(9) E. Gkioulekas: "Lecture Notes on Calculus 2", *Online Lecture Notes on Mathematics*, Edinburg, University of Texas Pan American (2013), 321 pp.
(10) E. Gkioulekas: "Lecture Notes on Differential Equations", *Online Lecture Notes on Mathematics*, Edinburg, University of Texas Pan American (2014), 259 pp.

(11) E. Gkioulekas: "Lecture Notes on Discrete Structures", *Online Lecture Notes on Mathematics*, Edinburg, University of Texas Rio Grande Valley (2015), 237 pp.
(12) E. Gkioulekas: "Lecture Notes on Real Analysis 1", *Online Lecture Notes on Mathematics*, Edinburg, University of Texas Rio Grande Valley (2020), 296 pp.

In the citations above, the year indicated is the year of first preparation.
My Online Lecture Notes are actively maintained and updated and are made available to all students and faculty of the world via my faculty web page at:
https://faculty.utrgv.edu/eleftherios.gkioulekas/Teaching/notes.html.

Letters to the Editor

(1) E. Gkioulekas: "In support of Dr. Abigail Thompson, academic freedom, and viewpoint diversity", Letter to the Editor, In: "Responses to A Word from Abigail Thompson" (online only), *Notices of the American Mathematical Society* **67 (1)** (2020), 24

Funded Grants

(1) E. Gkioulekas: "Travel grant to visit the Los Alamos National Laboratory", Los Alamos National Laboratory, Center of Nonlinear Studies, 2006 ($866; Funded)
(2) E. Gkioulekas: "Travel grant to attend the Topics in Rotating Stratified Turbulence Workshop", National Center of Atmospheric Research, Geophysical Turbulence Program, 2010 ($973; Funded)
(3) E. Gkioulekas: "Proposal to attend the 'Do-It-Yourself (DIY) Modeling' workshop", Faculty Development Grant Program, University of Texas – Pan American, 2012 ($1,305, Funded)
(4) E. Gkioulekas: "Travel grant to attend the International Conference on the Theory, Methods, and Applications of Nonlinear Equations", Faculty Travel Support Program, University of Texas – Pan American, 2012 ($300, Funded)
(5) E. Gkioulekas: "Travel grant to attend the 2017 AMS/MAA Joint Mathematics Meetings", Faculty Travel Support Program, University of Texas Rio Grande Valley, 2017 ($600, Funded)
(6) E. Gkioulekas: "Travel grant to attend the 2018 AMS Fall Southeastern Sectional Meeting", Faculty Travel Support Program, University of Texas Rio Grande Valley, 2018 ($425, Funded)

Professional Presentations

(1) The 5th AIMS Conference on Dynamical Systems and Differential Equations, "On the robustness of the cascades of two dimensional turbulence", (Pomona, CA; June, 2004)
(2) The 15th AMS Conference on Atmospheric and Oceanic Fluid Dynamics, "On the double cascades of energy and enstrophy in qg turbulence", (Cambridge, MA; June, 2005)
(3) Warwick Turbulence Symposium: Universal features in turbulence: from quantum to cosmological scales, University of Warwick, Mathematics Institute, "The Nastrom-Gage energy spectrum of the atmosphere", (Coventry, United Kingdom; December, 2005)
(4) Colloquium, Los Alamos National Laboratory, Center for Nonlinear Studies, "The Nastrom-Gage energy spectrum of the atmosphere", (Los Alamos, NM; January, 2006)
(5) Colloquium, Southern Methodist University, Department of Mathematics, "The Nastrom-Gage energy spectrum of the atmosphere", (Dallas, TX; March 2006)
(6) Colloquium, University of Rhode Island, Department of Mathematics, "The Nastrom-Gage energy spectrum of the atmosphere", (Kingston, RI; April 2006)
(7) Colloquium, University of Central Florida, Department of Mathematics, "The Nastrom-Gage energy spectrum of the atmosphere", (Orlando, FL; April 2006)
(8) Colloquium, National Center for Atmospheric Research, Geophysical Turbulence Program, "The Nastrom-Gage energy spectrum of the atmosphere", (Boulder, CO; April 2006)
(9) Colloquium, University of Washington, Department of Applied Mathematics, "The Nastrom-Gage energy spectrum of the atmosphere", (Seattle, WA; June 2006)
(10) Warwick Turbulence Symposium: Non-equilibrium statistical mechanics and turbulence, University of Warwick, Mathematics Institute, "On the elimination of the sweeping interactions from theories of hydrodynamic turbulence", (Coventry, United Kingdom; July, 2006)
(11) Colloquium, University of Central Florida, Department of Mathematics, "On the elimination of the sweeping interactions from theories of hydrodynamic turbulence", (Orlando, FL; October 2006)

(12) 2007 AMS Fall Western Section Meeting, University of New Mexico, Department of Mathematics and Statistics, "Current status of two dimensional turbulence", (Albuquerque, NM; October 2007)
(13) Colloquium, University of Missouri Kansas-City, Department of Mathematics, "Locality and stability of the cascades of two-dimensional turbulence", (Kansas-City, MO; February 2008)
(14) Colloquium, University of Central Florida, Department of Mathematics, "Locality and stability of the cascades of two-dimensional turbulence", (Orlando, FL; February 2008)
(15) Colloquium, University of Texas Pan-American, Department of Mathematics, "Locality and stability of the cascades of two-dimensional turbulence", (Edinburg, TX; March 2008)
(16) 32nd SIAM Southeastern-Atlantic Section Conference, University of Central Florida, Department of Mathematics, "Locality and stability of the cascades of two-dimensional turbulence", (Orlando, FL; March 2008)
(17) Seminar, University of Texas Pan-American, Department of Mathematics, "The Nastrom-Gage energy spectrum of the atmosphere", (Edinburg, TX; November 2008)
(18) 32nd Annual Texas Partial Differential Equations Conference, Texas State University, Department of Mathematics, "Towards a theory of the cascades of 2D Navier-Stokes turbulence", (San Marcos, TX; March 2009)
(19) 15th American Conference on Applied Mathematics, University of Houston Downtown, Department of Mathematics, "Dissipation range and anomalous sinks in steady two-dimensional turbulence", (Houston, TX; May 2009)
(20) Seminar, University of Texas Pan-American, Department of Mathematics, "The Nastrom-Gage energy spectrum of the atmosphere", (Edinburg, TX; September 2009)
(21) 2009 AMS Fall Central Section Meeting, Baylor University, Department of Mathematics, "Dissipation range and anomalous sinks in steady two-dimensional turbulence", (Waco, TX; October 2009)
(22) 33rd Annual Texas Partial Differential Equations Conference, University of Texas at Austin, Department of Mathematics, "Can the two-layer QG model explain the Nastrom-Gage energy spectrum of the atmosphere?", (Austin, TX; April 2010)
(23) NSF/CBMS Regional Conference in the Mathematical Sciences, "Can the two-layer QG model explain the Nastrom-Gage energy spectrum of the atmosphere?", (Edinburg, TX; May 2010)
(24) 1st International Conference on Integrable Systems and Nonlinear Waves, "Can the two-layer QG model explain the Nastrom-Gage energy spectrum of the atmosphere?", (South Padre Island, TX; June 2010)
(25) 2010 NCAR Geophysical Turbulence Program Workshop, National Center for Atmospheric Research, Geophysical Turbulence Program, "Locality, stability, and anomalous sinks in steady two-dimensional turbulence", (Boulder, CO; August 2010)
(26) Colloquium, National Center for Atmospheric Research, Geophysical Turbulence Program, "The effect of asymmetric Ekman damping on energy and enstrophy injection in two-layer quasi-geostrophic turbulence", (Boulder, CO; August 2010)
(27) Colloquium, University of Houston – Downtown, Department of Mathematics, "The effect of asymmetric large-scale dissipation on energy and enstrophy injection in two-layer quasi-geostrophic turbulence", (Houston, TX; October 2010)
(28) 34th Annual Texas Differential Equations Conference, University of Texas Pan-American, Department of Mathematics, "The effect of asymmetric large-scale dissipation on energy and potential enstrophy injection in two-layer quasi-geostrophic turbulence", (Edinburg, TX; March 2011)
(29) 1st Caltech–Ph 11 Alumni Reunion and Conference, California Institute of Technology, Division of Physics, Mathematics and Astronomy, "Locality, stability, and anomalous sinks in steady two-dimensional turbulence", (Pasadena, CA; August 2011)
(30) 35th Annual Texas Partial Differential Equations Conference, Texas A&M University-College Station, Department of Mathematics, "Energy and Potential Enstrophy Flux Constraints in the two-layer Geostrophic Model", (College Station, TX; March 2012)
(31) 20th Meeting of the South Texas Mathematics Consortium, Texas A&M University-Corpus Christi, Department of Mathematics & Statistics, "Zero-bounded limits as a special case of the squeeze theorem for single-variable and multivariable limits", (Corpus Cristi, TX; March 2012)
(32) Conference on Innovative Classroom Practices in STEM Education, University of Texas Pan-American, Department of Mathematics, "Zero-bounded limits as a special case of the squeeze theorem for single-variable and multivariable limits", (Edinburg, TX; April 2012)
(33) 2012 Spring Workshop on Integrable Systems and Solitons, University of Texas Pan-American, Department of Mathematics, "Energy and Potential Enstrophy Flux Constraints in the two-layer Geostrophic Model", (Edinburg, TX; April 2012)

(34) 9th AIMS Conference on Dynamical Systems, Differential Equations and Applications, "Energy and Potential Enstrophy Flux Constraints in the two-layer Geostrophic Model", (Orlando FL; July 2012)
(35) Colloquium, Texas A&M University – Kingsville, Department of Mathematics, "Energy and Potential Enstrophy Flux Constraints in the two-layer Geostrophic Model", (Kingsville, TX; September 2012)
(36) International Conference on the Theory, Methods, and Applications of Nonlinear Equations, Texas A&M University – Kingsville, Department of Mathematics, "Energy and Potential Enstrophy Flux Constraints in the two-layer Geostrophic Model", (Kingsville, TX; December 2012)
(37) 36th Annual Texas Partial Differential Equations Conference, University of Texas at El Paso, Department of Mathematical Sciences, "Energy and Potential Enstrophy Flux Constraints in Quasi-Geostrophic Models", (El Paso, TX; March 2013)
(38) Seminar, University of Texas – Brownsville, Department of Mathematics, "On the elimination of the sweeping interactions from theories of hydrodynamic turbulence", (Brownsville, TX; April 2013)
(39) 21th Meeting of the South Texas Mathematics Consortium, University of Texas at San Antonio, Department of Mathematics, "Generalized local test for local extrema in single variable functions", (San Antonio, TX; April 2013)
(40) 37th Annual Texas Partial Differential Equations Conference, University of North Texas, Department of Mathematics, "Energy and Potential Enstrophy Flux Constraints in Quasi-Geostrophic Models", (Denton, TX; March 2014)
(41) Seminar, University of Texas Pan-American, Department of Mathematics, "Energy and potential enstrophy flux constraints in quasi-geostrophic models", (Edinburg, TX; April 2014)
(42) 2014 Spring Sectional AMS Meeting, Texas Tech University, Department of Mathematics, "Energy and potential enstrophy flux constraints in quasi-geostrophic models", (Lubbock, TX; April 2014)
(43) 2015 AMS/MAA Joint Mathematics Meetings, "Revisiting the dissipation scales of the energy cascade of 3D turbulence as anomalous scaling functions", (San Antonio, TX; January 2015)
(44) 38th Annual Texas Partial Differential Equations Conference, University of Houston, Department of Mathematics, "Revisiting the dissipation scales of the energy cascade of 3D turbulence as anomalous scaling functions", (Houston TX; March 2015)
(45) 4th Annual Statistics Day, Texas A&M University – Kingsville, Department of Mathematics, "Random field theory in classical dynamical systems", (Kingsville TX; April 2015)
(46) 1st Teaching Development or Teaching-Related Research Workshop, University of Texas Rio Grande Valley, School of Mathematical and Statistical Sciences, "Using Online Lecture Notes in Teaching", (Edinburg, TX; April 2016)
(47) 39th Annual Texas Partial Differential Equations Conference, Texas State University, Department of Mathematics, "Multilocality and fusion rules on the generalized structure functions in two-dimensional and three-dimensional Navier-Stokes turbulence", (San Marcos, TX; April 2016)
(48) Seminar, University of Texas Rio Grande Valley, School of Mathematical and Statistical Sciences, "Multilocality and fusion rules on the generalized structure functions in two-dimensional and three-dimensional Navier-Stokes turbulence",(Edinburg, TX; April 2016)
(49) The 11th AIMS Conference on Dynamical Systems, Differential Equations and Applications, "Energy and potential enstrophy flux constraints in quasi-geostrophic models", (Orlando, FL; July 2016)
(50) The 11th AIMS Conference on Dynamical Systems, Differential Equations and Applications, "Multilocality and fusion rules on the generalized structure functions in two-dimensional and three-dimensional Navier-Stokes turbulence", (Orlando, FL; July 2016)
(51) 2017 AMS/MAA Joint Mathematics Meetings, "Multi-locality and fusion rules on the generalized structure functions in two-dimensional and three-dimensional Navier-Stokes turbulence", (Atlanta, GA; January 2017)
(52) 2017 AMS/MAA Joint Mathematics Meetings, "On the denesting of nested square roots", (Atlanta, GA; January 2017)
(53) 40th Annual Texas Differential Equations Conference, Texas A&M University-College Station, Department of Mathematics, "Revisiting the dissipation scales of the energy cascade of 3D turbulence as anomalous scaling functions", (College Station, TX; March 2017)
(54) 97th Annual Meeting of the Texas Section of the MAA, Texas A&M University-Commerce, Department of Mathematics, "On the denesting of nested square roots", (Commerce, TX; March 2017)
(55) 2nd Teaching Development or Teaching-Related Research Workshop, University of Texas Rio Grande Valley, School of Mathematical and Statistical Sciences, "On the denesting of nested square roots", (Edinburg, TX; April 2017)

(56) 2017 AMS Fall Central Sectional Meeting, University of North Texas, Department of Mathematics, "Energy and potential enstrophy flux constraints in quasi-geostrophic models", (Denton TX; September 2017)
(57) 3rd Coastal Bend Mathematics and Statistics Conference, Texas A&M University-Corpus Christi, Department of Mathematics & Statistics, "Random field theory in classical dynamical systems", (Corpus Cristi TX; March 2018)
(58) 3rd Teaching Development or Teaching-Related Research Workshop, University of Texas Rio Grande Valley, School of Mathematical and Statistical Sciences, "Generalized local test for local extrema in single-variable functions", (Edinburg TX; April 2018)
(59) 2018 AMS Fall Southeastern Sectional Meeting, University of Arkansas, Department of Mathematical Sciences, "The role of the asymmetric Ekman dissipation term on the energetics of the two-layer quasi-geostrophic model", (Fayetteville, AR; November 2018)
(60) Japan Society for Promotion of Science (JSPS) US AA Seminar "Recent Development in continuous and discrete integrable systems", University of Texas Rio Grande Valley, School of Mathematical and Statistical Sciences, "The role of the asymmetric Ekman dissipation term on the energetics of the two-layer quasi-geostrophic model", (Edinburg TX; November 2018)
(61) 4th Coastal Bend Mathematics and Statistics Conference, University of Texas Rio Grande Valley, School of Mathematical and Statistical Sciences, "Multilocality and fusion rules on the generalized structure functions in two-dimensional and three-dimensional Navier-Stokes turbulence", (Edinburg TX; March 2019)
(62) 42nd Texas Differential Equations Conference, Texas A&M University-Corpus Christi, Department of Mathematics and Statistics, "The role of the asymmetric Ekman dissipation term on the energetics of the two-layer quasi-geostrophic model", (Corpus Cristi TX; March 2019)
(63) 8th Annual Statistics Day, Texas A&M University – Kingsville, Department of Mathematics, "Multilocality and fusion rules on the generalized structure functions in two-dimensional and three-dimensional Navier-Stokes turbulence", (Kingsville TX; April 2019)
(64) Student Success Academy, Department of Health and Biomedical Sciences, University of Texas Rio Grande Valley, "Mathematics support and advising for Health & Biomedical Sciences majors", (Brownsville TX; August 2019)
(65) Seminar, Southwest Research Institute, "Multilocality and fusion rules on the generalized structure functions in two-dimensional and three-dimensional Navier-Stokes turbulence", (San Antonio TX; October 2019)
(66) 2019 Workshop on Nonlinear Partial Differential Equations (PDEs) with Interdisciplinary Applications, University of Texas Rio Grande Valley, School of Mathematical and Statistical Sciences, "Revisiting the dissipation length scales of 3D turbulence as anomalous scaling functions", (Edinburg TX; November 2019)
(67) 43rd Texas Differential Equations Conference, University of Texas Austin, Department of Mathematics, "The effect of the asymmetric Ekman term on the phenomenology of the two-layer quasigeostrophic model", (Austin TX; March 2020)
(68) 2020 AMS Fall Eastern Sectional Meeting, hosted online by the American Mathematical Society, "The effect of the asymmetric Ekman term on the phenomenology of the two-layer quasigeostrophic model", (Online Conference; October 2020)
(69) 10th BUAP-UAM-I-UTRGV Joint International Seminar, Benemerita Universidad Autonoma de Puebla, "The effect of the asymmetric Ekman term on the phenomenology of the two-layer quasigeostrophic model", (Online Conference; December 2020)
(70) The 5th SMSS Teaching-Related Research Workshop, University of Texas Rio Grande Valley, School of Mathematical and Statistical Sciences, "Using restrictions to accept or reject solutions of radical equations", (Online Conference; March 2021)
(71) The 5th Coastal Bend Mathematics and Statistics Conference, Texas A&M University-San Antonio, "Using restrictions to accept or reject solutions of radical equations", (Online Conference; April 2021)
(72) 44th SIAM Southeastern Atlantic Section Conference, Department of Mathematics and Statistics, Auburn University, "The effect of the asymmetric Ekman term on the phenomenology of the two-layer quasigeostrophic model", (Auburn AL and Online; September 2021)
(73) 2021 AMS Fall Western Sectional Meeting, hosted online by the American Mathematical Society, "The effect of the asymmetric Ekman term on the phenomenology of the two-layer quasigeostrophic model", (Online Conference; October 2021)
(74) 4th Annual Meeting of the SIAM Texas-Louisiana Section, University of Texas Rio Grande Valley, School of Mathematical and Statistical Sciences, "Frequentist and Bayesian analysis methods for case series data for the early outpatient treatment of COVID-19", (South Padre Island TX; November 2021)

(75) Invited Guest Lecture to Nurs 4201, University of Texas Rio Grande Valley, "A Mathematical Perspective: Data for the early outpatient treatment of COVID-19", (Edinburg TX; November 2021)

Online Research Presentations

The following research presentations have been made available via my Rumble channel.

(1) "Using restrictions to accept or reject solutions of radical equations", (March 8, 2021; 38 min)
https://rumble.com/vegiy3-using-restrictions-to-accept-or-reject-solutions-of-radical-equations.html
(2) "The effect of the asymmetric Ekman term on the phenomenology of the two-layer quasigeostrophic model", (March 29, 2021, 26 min)
https://rumble.com/vf57yv-the-effect-of-the-asymmetric-ekman-term-on-the-phenomenology-of-the-two-lay.html
(3) "On the Zelenko protocol: The road not taken", (April 8, 2021; 2 hour 5 min)
https://rumble.com/vfhht5-on-the-zelenko-protocol-the-road-not-taken.html
(4) "Dr. Zelenko's early treatment for SARS-CoV-2 should have been adopted on April 2020", (April 26, 2021; 24 min)
https://rumble.com/vg440j-dr.-zelenkos-early-treatment-for-sars-cov-2-should-have-been-adopted-on-apr.html
(5) "Update concerning Dr. Didier Raoult's latest paper", (July 7, 2021; 14 min)
https://rumble.com/vjjtr3-update-concerning-dr.-didier-raoults-latest-paper.html

Media Appearances

(1) E. Gkioulekas, Interview with Dr. Peter A. McCullough, America Out Loud Talk Radio: The McCullough Report, 09/07/2021

Teaching

Teaching Experiance

Taught a wide variety of graduate and undergraduate courses in both pure and applied mathematics at various Universities in the United States:

- **University of Washington:**
  ▷ *Undergraduate level:* Introduction to Differential Equations
- **University of Central Florida:**
  ▷ *Undergraduate level:* Finite Math, Calculus 1, Concepts of Calculus, Applied Calculus I.
  ▷ *Graduate level:* Applied Numerical Mathematics
- **University of Texas–Pan American:**
  ▷ *Undergraduate level:* College Algebra, Business Calculus, Precalculus, Calculus 1, Calculus 2, Calculus 3, Math for Electrical Engineers, Intro Mathematics Proof, Applied Linear Algebra, Discrete Structures, Differential Equations.
  ▷ *Graduate level:* Mathematical Modeling
- **University of Texas Rio Grande Valley**
  ▷ *Undergraduate level:* Calculus I, Calculus II, Calculus III, Intro Mathematics Proof, Math for EE & CE, Differential Equations, Linear Algebra, Real Analysis I

Asynchronous online course shells

I have developed asynchronous online teaching course shells for the following courses:

Math 3341: Differential Equations, Fall 2020
Math 3350: Introduction to Mathematics Proof, Spring 2021
Math 2346: Math for Electrical and Computer Engineering, Spring 2021
Math 2414: Calculus 2, under development

Teaching Pedagogy

(1) Authored more than **2800 pages** of online lecture notes for various undergraduate and graduate courses that are made freely available to the general public via my faculty web page. The notes are a self-contained resource suitable not only for classroom use but also independent study and include: (a) a concise but thorough and mathematically precise exposition of the theory; (b) **detailed solved examples** written down

in the precise step-by-step style that students need to use in their own work, aiming to teach students *how to write* mathematics; (c) **hundreds of supplementary homework questions** that range in difficulty from routine to very challenging; (d) advanced material, that I may not be able to cover in class, to provide the opportunity to all students to learn above and beyond predominant expectations.

(2) These Online Lecture Notes are freely published online because every student from around the world deserves an equal opportunity to learn from what I have to offer in terms of mastering Mathematics. They were developed to support my interest in curriculum redesign and to help all students, regardless of socioeconomic status, learn mathematics well and at an advanced level.

(3) My Online Lecture Notes have been used as the **primary textbook reference** in **7 courses** (Math for Electrical Engineers; Intro to Math Proof; Applied Linear Algebra; Differential Equations; Discrete Structures; Real Analysis I; Mathematical Modelling) at UTPA and UTRGV.

(4) The Online Lecture Notes have already been praised by many students, colleagues, as well as at the national and international level. I have received positive feedback from colleagues and received many emails from all around the world, including Africa, Australia, and the Middle East, from faculty and students who have found my online lecture notes useful.

(5) As a result of my strong dedication, teaching philosophy, online lecture notes, high academic standards, and commitment to conveying a deep understanding of mathematics to students, I have received many positive remarks from many students praising my knowledge of the subject matter, patience, punctuality, passion, clarity of explanation, good sense of humor, thoroughness and attention to detail, historical references, and the availability of online lecture notes. Some former students visit me during office hours to ask me questions about other courses they take.

(6) To help students succeed in advanced mathematics courses, I systematically weave in basic concepts of mathematical logic and proof writing within the context of the simpler material of elementary courses. This allows students to be gently acclimated towards the abstract reasoning required in more advanced courses.

(7) Published refereed research papers on mathematics education journals on curriculum innovations that I have introduced on some of my courses.

(8) Served as instructor of record for many elementary courses taught by graduate teaching assistants. I advised and assisted our graduate teaching assistants with their assigned duties.

Use of Technology in Teaching

(1) A public course website has been created for every course I taught where the course syllabus, online lecture notes, homework assignments, and detailed examination solutions are posted.

(2) I encourage students to use Maxima, a freely-available open source computer algebra software, which runs both on computers as well as on Android phones, to check their work, thereby becoming self-sufficient. I have written a short wxMaxima tutorial that I distribute to students via the course website hosted on my faculty website.

Faculty Development Workshops

(1) Seminar, "Skill and understanding in Calculus: rivals or partners?", D.H. Hallet, Department of Mathematics, University of Texas Pan-American (Edinburg TX; September 2011)

(2) Seminar, "Thoughts on what to teach and how not to teach it", Edward Burger, Department of Mathematics, University of Texas Pan-American (Edinburg TX; January 2012)

(3) Seminar, "Peer Review of Teaching: Overview and Emerging Issues", Kristin Croyle, Office of Vice Provost for Faculty Affairs, University of Texas Pan-American (Edinburg TX; January 2012)

(4) Seminar, "Peer Review of Teaching: A Conversation About Practices", Jonikka Charlton and Linda Matthews, Office of Vice Provost for Faculty Affairs, University of Texas Pan-American (Edinburg TX; March 2012)

(5) Webinar, "Academically Adrift: findings and lessons for improvement", Richard Arum and Josipa Roksa, Office of Vice Provost for Faculty Affairs, University of Texas Pan-American (Edinburg TX; March 2013)

(6) Seminar, "ALEKS training", McGrew-Hill representative, School of Mathematical and Statistical Sciences, University of Texas Rio Grande Valley (Edinburg TX; June 2016)

(7) Seminar, "Wacom/Tablet, Tegrity and OneNote Based Lecture Capture and Delivery to Enhance Teaching", Fitranullah Khan, Center of Teaching Excellence, University of Texas Rio Grande Valley (Edinburg TX; December 2017)

(8) Seminar, "Creating a Strong Teaching Philosophy", Javier Cavazos, Center of Teaching Excellence, University of Texas Rio Grande Valley (Edinburg TX; December 2017)

(9) Retreat, "Student Success Team Retreat", Kristin Croyle, Office of the Vice President for Student Success, University of Texas Rio Grande Valley (Edinburg TX; May 2018)
(10) Workshop, "Helping Students Engage in Reflection", Marcela Hebbard, CTE Just-In-Time Mini-Conference, Center of Teaching Excellence, University of Texas Rio Grande Valley (Edinburg TX; August 2018)
(11) Workshop, "Helping Students Engage with their Communities", Erika Perez, CTE Just-In-Time Mini-Conference, Center of Teaching Excellence, University of Texas Rio Grande Valley (Edinburg TX; August 2018)
(12) Workshop, "Developing Strong Learning Outcomes", Javier Cavazos, CTE Just-In-Time Mini-Conference, Center of Teaching Excellence, University of Texas Rio Grande Valley (Edinburg TX; August 2018)
(13) Workshop, "Using Engaging First-Day Class Activities", Claudia Vela, CTE Just-In-Time Mini-Conference, Center of Teaching Excellence, University of Texas Rio Grande Valley (Edinburg TX; August 2018)
(14) Workshop, "Blackboard Basics", Jessica Sanchez, Center for Online Learning and Teaching Technology, University of Texas Rio Grande Valley (Edinburg TX; April 2020)
(15) Workshop, "Blackboard Intermediate", Josefina Stoleson, Center for Online Learning and Teaching Technology, University of Texas Rio Grande Valley (Edinburg TX; April 2020)
(16) Workshop, "Blackboard Advanced (Grade Center)", Eric Silva, Center for Online Learning and Teaching Technology, University of Texas Rio Grande Valley (Edinburg TX; April 2020)
(17) Workshop, "Online Course Design", Edith De Leon, Center for Online Learning and Teaching Technology, University of Texas Rio Grande Valley (Edinburg TX; April 2020)
(18) Workshop, "Online Course Delivery", Veronica Rodriguez, Center for Online Learning and Teaching Technology, University of Texas Rio Grande Valley (Edinburg TX; April 2020)
(19) Certificate of Completion, "Applying the QM Rubric", Quality Matters (online course; May 2020)
(20) Online Course, "Online Course Blueprinting", Francisco Garcia, Center for Online Learning and Teaching Technology, University of Texas Rio Grande Valley (Edinburg TX; June 2020)
(21) Seminar, "OER Adaptation & Open Pedagogy", Gabrielle Hernandez, Center for Online Learning and Teaching Technology, University of Texas Rio Grande Valley (Edinburg TX; March 2021)

Directed Student Learning – Graduate and Senior Thesis or Project

(1) Undergraduate Capstone/Senior Project. Imelda Salinas: "Numerical study of elastic collision with two bodies and a reflective surface", University of Texas Pan-American, Spring 2012
(2) Undergraduate Capstone/Senior Project. Emilia Turner: "Theory and analysis of elastic collision with two bodies and a reflective surface", University of Texas Pan-American, Spring 2012
(3) Master's Thesis Committee Member. Timothy Ray: "Convolution backprojection for SAR Image projection", University of Texas Pan-American, Summer 2012
(4) Master's Thesis Committee Member. Andrew Alaniz: "On cubic multisections of Eisenstein series", University of Texas Pan-American, Summer 2013
(5) Master's Thesis Committee Member. Yufeng Cao: "Synthetic Aperture Radar with Compressed Sensing", University of Texas Pan-American, Summer 2013
(6) Master's Thesis Committee Member. Juan C. Morales: "Studies of a mathematical model for generating rhythmic behaviour with a simple brain", University of Texas Pan-American, Summer 2014
(7) Master's Thesis Committee Member. Daqi Xin: "The generation model of internal waves in a forced rotation-modified ocean", University of Texas Pan-American, Summer 2014
(8) Master's Project Committee Chair. Angela Pedraza, "Languages and Grammars", University of Texas Rio Grande Valley, Summer II 2018 – Spring 2019.
(9) Undergraduate Capstone/Senior Project. Marcos Saucedo, "Least Squares Approach and Error Propagation", University of Texas Rio Grande Valley, Fall 2018
(10) Undergraduate Capstone/Senior Project. Ivette Martinez, "Radical equations and their solutions", University of Texas Rio Grande Valley, Spring 2019

Directed Student Learning – Other Supervised Student Projects

(1) Graduate Project. Delvi Medina: "Predator-prey population growth model", University of Texas Pan-American, Spring 2010
(2) Graduate Project. Eremer Santos: "Van der Pol oscillator", University of Texas Pan-American, Spring 2010
(3) Graduate Project. Geraldo Alvarez: "Equivalent circuit and pendulum analog", University of Texas Pan-American, Spring 2010
(4) Graduate Project. Guillermo Garza: "Synthetic aperture radar: System models. algorithms, and data collection", University of Texas Pan-American, Spring 2010

(5) Graduate Project. Homer Colunga: "Tacoma narrows suspension bridge investigation", University of Texas Pan-American, Spring 2010
(6) Graduate Project. Manuel Lara: "Fractional Calculus and its application to heat transfer: In particular, its relation to heat flux", University of Texas Pan-American, Spring 2010
(7) Graduate Project. Nora Bonilla: "The effects of Newton's laws of motion in co-ed softball: Altered or doctored bat", University of Texas Pan-American, Spring 2010
(8) Graduate Project. J.X. Lopez: "The Korteweg–deVries equation: a dynamical systems approach", University of Texas Pan-American, Spring 2010
(9) Graduate Project. Wei Yiu: "The dynamics of a nonlocal system on the center-unstable manifold", University of Texas Pan-American, Spring 2010
(10) Graduate Project. Alfonso Bernal: "A continued study on bifurcations of 1 and 2 dimensional systems", University of Texas Pan-American, Spring 2012
(11) Graduate Project. Xiaoqian Gong: "The stability of the solutions to the un-damped oscillation equation", University of Texas Pan-American, Spring 2012
(12) Graduate Project. Yinping Jiao: "Qualitative solution of the Lotka-Volterra equations", University of Texas Pan-American, Spring 2012
(13) Graduate Project. Yufeng Cao: "Wave model for radar imaging", University of Texas Pan-American, Spring 2012
(14) Undergraduate Project. Keanu Ruiz: "Hamiltonian Cycle", University of Texas Rio Grande Valley, Spring 2018
(15) Undergraduate Project. Ken Evasco: "Kruskal's Algorithm", University of Texas Rio Grande Valley, Spring 2018
(16) Undergraduate Project. Marco Errequin: "Examples of two similar matrices with the same eigenvalues using the same characteristic polynomial", University of Texas Rio Grande Valley, Spring 2018
(17) Undergraduate Project. Marco Perez: "Demonstration and Mathematical Application of the Wheatstone Bridge", University of Texas Rio Grande Valley, Spring 2018
(18) Undergraduate Project. Melanie Suarez: "Hungarian Maximum Matching Algorithm", University of Texas Rio Grande Valley, Spring 2018
(19) Undergraduate Project. Miguel Rodriguez: "Probability of singularity for a 2x2 matrix", University of Texas Rio Grande Valley, Spring 2018
(20) Undergraduate Project. Ramiro Hernandez: "Encipher and decipher messages", University of Texas Rio Grande Valley, Spring 2018
(21) Undergraduate Project. Ruby Robles: "Basic introduction on logic circuits", University of Texas Rio Grande Valley, Spring 2018
(22) Undergraduate Project. William Olmeda: "Analyzing stocks with eigenvalues", University of Texas Rio Grande Valley, Spring 2018
(23) Undergraduate Project. Edgar Martinez, "Connected graphs and vertex distance", University of Texas Rio Grande Valley, Fall 2018
(24) Undergraduate Project. Gilberto Rios Andrade, "Cryptography for beginners", University of Texas Rio Grande Valley, Fall 2018
(25) Undergraduate Project. Mario Velasquez, "The determinant chance of being zero", University of Texas Rio Grande Valley, Fall 2018
(26) Undergraduate Project. Norma Uribe, "Basics on logic circuits", University of Texas Rio Grande Valley, Fall 2018
(27) Undergraduate Project. Jose Gonzalez, "Computational analysis of graphs in C++ to conclude characteristic of tree", University of Texas Rio Grande Valley, Spring 2019
(28) Undergraduate Project. Jose Esteban Carillo, "Use of eigenvalues in image compression using singular value decomposition", University of Texas Rio Grande Valley, Spring 2019
(29) Undergraduate Project. Julio Hernandez, "Simple understandings in graph theory and everyday life", University of Texas Rio Grande Valley, Spring 2019
(30) Undergraduate Project. Kassandra Parra, "Calculating eigenvalues with MATLAB programming", University of Texas Rio Grande Valley, Spring 2019
(31) Undergraduate Project. Raul Chavez, "Hill cipher: using matrix encryption without technology", University of Texas Rio Grande Valley, Spring 2019
(32) Undergraduate Project. Jose Arizpe, "Logic behind a slot machine", University of Texas Rio Grande Valley, Spring 2019

(33) Undergraduate Project. Naian Hernandez, "Leslie matrix: an application to rat population", University of Texas Rio Grande Valley, Spring 2019
(34) Undergraduate Project. Olga Hernandez, "Linear algebra and the Laplace equation", University of Texas Rio Grande Valley, Spring 2019
(35) Undergraduate Project. Luis Tamborell, "A mathematical explanation of neural networks", University of Texas Rio Grande Valley, Spring 2019
(36) Undergraduate Project. Brandi Reger, "A comparison of classification algorithms for geochemical data", University of Texas Rio Grande Valley, Spring 2019
(37) Undergraduate Project. Osmar Javier Lara, "Application of linear algebra in a Google search", University of Texas Rio Grande Valley, Spring 2019
(38) Undergraduate Project. Jose Abrego, "Probability of randomly generated matrix having an inverse affected by the number range used to generate", University of Texas Rio Grande Valley, Spring 2019
(39) Undergraduate Project. Sandra Martinez Rodriguez, "Introduction of Linear Algebra in the Economy: A historical approach", University of Texas Rio Grande Valley, Fall 2019
(40) Undergraduate Project. Efraim Salinas, "The determinant chance of being zero", University of Texas Rio Grande Valley, Fall 2019
(41) Undergraduate Project. Pedro Valdez, "Probability of matrix product symmetry", University of Texas Rio Grande Valley, Fall 2019
(42) Undergraduate Project. Jose Carlos Rodriguez, "Google's ranking tool: Understanding the algorithm behind it", University of Texas Rio Grande Valley, Fall 2019
(43) Undergraduate Project. Jeremy Domingo, "Matrix Calculator in Java", University of Texas Rio Grande Valley, Fall 2019
(44) Undergraduate Project. Ivan Moreno, "The odds of symmetric matrices after multiplication", University of Texas Rio Grande Valley, Fall 2019
(45) Undergraduate Project. Kristen Hallas, "What are the 'real' odds? Expectation vs. Reality", University of Texas Rio Grande Valley, Fall 2019
(46) Undergraduate Project. Carlo Ramirez, "The path leading to graph theory", University of Texas Rio Grande Valley, Fall 2019
(47) Undergraduate Project. Daniel Flores, "Hessenberg matrix analysis", University of Texas Rio Grande Valley, Fall 2019
(48) Undergraduate Project. Yizzel Jimenez, "Vandermonde matrix", University of Texas Rio Grande Valley, Fall 2019
(49) Undergraduate Project. Brandon Mireles-Soto, "Fast numerical algorithms techniques used in real-life applications", University of Texas Rio Grande Valley, Fall 2020
(50) Undergraduate Project. Jose Huacuja, "Computational implementations and applications of graph theory", University of Texas Rio Grande Valley, Fall 2020
(51) Undergraduate Project. Marco Rangel, "Just how fast can the shortest path be? Dijkstra's algorithm", University of Texas Rio Grande Valley, Spring 2021
(52) Undergraduate Project. Stephany Lopez, "Implementation of graph theory in modern software engineering applications", University of Texas Rio Grande Valley, Spring 2021
(53) Undergraduate Project. Juan De Leon, "Application of Mathematics in daily life", University of Texas Rio Grande Valley, Spring 2021

Peer Observations of my Teaching

02/2011: Math 1460.01 (Calculus 1), by Dr. William Heller
09/2011: Math 1340.12 (College Algebra), by Dr. Arunava Mukherjea
03/2012: Math 1460.01 (Calculus 1), by Dr. Zhijun Qiao
11/2012: Math 3345 (Applied Linear Algebra), by Dr. George Yanev
02/2013: Math 2346.01 (Math for Electrical and Computer Engineering), by Dr. Lokenath Debnath
04/2013: Math 3328 (Introduction to Mathematics Proof), by Dr. Andras Balogh
05/2013: Math 3328 (Introduction to Mathematics Proof), by Dr. William Heller
05/2013: Math 3328 (Introduction to Mathematics Proof), by Dr. Monty Taylor
04/2016: Math 2413.08 (Calculus 1), by Dr. Dambaru Bhatta
02/2017: Math 2415.02 (Calculus 3), by Dr. Elena Poletaeva
09/2017: Math 2414.01 (Calculus 1), by Dr. Anahit Galstyan
11/2019: Math 2346.01: Math for EE and CE, by Dr. Jasang Yoon

Courses taught at the California Institute of Technology

CS 1: Introduction to programming in C: Fundamentals, Autumn 1995, Teaching Assistant
CS 2: Introduction to programming in C: Data structures, Winter 1995, Teaching Assistant
CS 3: Introduction to programming in C: Parallel programming, Spring 1995, Teaching Assistant

Courses taught at the University of Washington

Math 126: Calculus III, Autumn 1998, Teaching Assistant
Math 125: Calculus II, Winter 1999, Teaching Assistant
Math 125: Calculus II, Spring 1999, Teaching Assistant
Math 464: Numerical Analysis I, Autumn 1999, Teaching Assistant
Math 381: Discrete Mathematical Modeling, Winter 2000, Teaching Assistant
Math Study Center, Spring 2000, Tutor
Amath 352: Applied linear algebra and numerical analysis, Summer 2000, Teaching Assistant
Amath 441: Introduction to Fluid Dynamics, Autumn 2000, Teaching Assistant
Math 381: Discrete Mathematical Modeling, Winter 2001, Teaching Assistant
Math 124: Calculus I, Winter 2002, Teaching Assistant
Amath 352: Applied linear algebra and numerical analysis, Summer 2002, Teaching Assistant
Math 125: Calculus II, Autumn 2002, Teaching Assistant
Math Study Center, Winter 2003, Tutor
Math Study Center, Spring 2003, Tutor
Amath 351: Introduction to Differential Equations, Summer 2003, Instructor
QSci 291: Analysis for Biologists I, Autumn 2003, Teaching Assistant

Courses taught at the University of Central Florida

Mac 2311H: Calculus with Analytic Geometry I, Fall 2006, Instructor
Mac 2253: Applied Calculus I, Fall 2006, Instructor
Mac 2233: Concepts of Calculus, Spring 2007, Instructor
Map 5385: Applied Numerical Mathematics, Spring 2007, Instructor
Mgf 1106: Finite Math, Summer 2007, Instructor
Mac 2311: Calculus 1, Fall 2007, Instructor
Mac 2233: Concepts of Calculus, Fall 2007, Instructor
Mac 2311: Calculus 1, Spring 2008, Instructor
Mgf 1106: Finite Math, Summer 2008, Instructor

Courses taught at the University of Texas-Pan American

Math 1342.02: Business Calculus, Fall 2008, Instructor
Math 1342.03: Business Calculus, Fall 2008, Instructor
Math 1340.22: College Algebra, Spring 2009, Instructor
Math 2346.01: Math for Electrical Engineers, Spring 2009, Instructor
Math 3328.01: Intro Mathematics Proof, Summer 2009, Instructor
Math 1460.02: Calculus 1, Fall 2009, Instructor
Math 1460.04: Calculus 1, Fall 2009, Instructor
Math 1450.07: Precalculus with Trig, Spring 2010, Instructor
Math 6387.01: Mathematical Modeling, Spring 2010, Instructor
Math 3328.01: Intro Mathematics Proof, Summer 2010, Instructor
Math 1460.02: Calculus 1, Fall 2010, Instructor
Math 1460.04: Calculus 1, Fall 2010, Instructor
Math 1460.02: Calculus 1, Spring 2011, Instructor
Math 1340.13: College Algebra, Spring 2011, Instructor
Math 1340.14: College Algebra, Spring 2011, Instructor
Math 1340.09: College Algebra, Summer 2011, Instructor
Math 3328.01: Intro Mathematics Proof, Summer 2011, Instructor
Math 1340.09: College Algebra, Fall 2011, Instructor
Math 1340.12: College Algebra, Fall 2011, Instructor

Math 2401.02: Calculus 3, Fall 2011, Instructor
Math 1460.02: Calculus 1, Spring 2012, Instructor
Math 6387.01: Mathematical Modeling, Spring 2012, Instructor
Math 1460.01: Calculus 1, Summer 2012, Instructor
Math 6387.01: Mathematical Modeling, Summer 2012, Instructor
Math 2346.01: Math for Electrical and Computer Engineering, Fall 2012, Instructor
Math 3345.01: Applied Linear Algebra, Fall 2012, Instructor
Math 3345.02: Applied Linear Algebra, Fall 2012, Instructor
Math 2346.01: Math for Electrical and Computer Engineering, Spring 2013, Instructor
Math 3328.01: Intro Mathematics Proof, Spring 2013, Instructor
Math 3328.02: Intro Mathematics Proof, Spring 2013, Instructor
Math 1460.01: Calculus 1, Summer 2013, Instructor
Math 6387.01: Mathematical Modeling, Summer 2013, Instructor
Math 4399.01: Special Topics in Math, Summer 2013, Instructor
Math 1470.01: Calculus 2, Fall 2013, Instructor
Math 1470.03: Calculus 2, Fall 2013, Instructor
Math 2346.01: Math for Electrical and Computer Engineering, Spring 2014, Instructor
Math 2346.02: Math for Electrical and Computer Engineering, Spring 2014, Instructor
Math 3349.03: Differential Equations, Spring 2014, Instructor
Math 1460.01: Calculus 1, Summer 2014, Instructor
Math 3349.01: Differential Equations, Summer 2014, Instructor
Math 1450.01: Precalculus with Trig, Fall 2014, Instructor
Math 1450.03: Precalculus with Trig, Fall 2014, Instructor
Math 2346.01: Math for Electrical and Computer Engineering, Spring 2015, Instructor
Math 2346.02: Math for Electrical and Computer Engineering, Spring 2015, Instructor
Math 3373.01: Discrete Structures, Spring 2015, Instructor
Math 1470.02: Calculus 2, Summer 2015, Instructor
Math 3349.01: Differential Equations, Summer 2015, Instructor

Courses taught at University of Texas Rio Grande Valley

Math 2346.01: Math for EE & CE, Fall 2015, Instructor
Math 2346.02: Math for EE & CE, Fall 2015, Instructor
Math 2415.03: Calculus 3, Fall 2015, Instructor
Math 2413.08: Calculus 1, Spring 2016, Instructor
Math 2415.02: Calculus 3, Spring 2016, Instructor
Math 3341.01: Differential Equations, Summer II 2016
Math 2415-01: Calculus 3, Summer II 2016, Instructor (ITV course)
Math 2415-02: Calculus 3, Summer II 2016, Instructor (ITV course)
Math 2346.01: Math for EE & CE, Fall 2016, Instructor
Math 2346.02: Math for EE & CE, Fall 2016, Instructor
Math 2414.01: Calculus 2, Fall 2016, Instructor
Math 2415.02, Calculus 3. Spring 2017, Instructor
Math 2415.05: Calculus 3, Spring 2017, Instructor
Math 2413.05: Calculus 1, Summer I 2017, Instructor
Math 2413.03: Calculus 1, Summer II 2017, Instructor
Math 2415.01I: Calculus 3, Summer II 2017, Instructor (ITV course)
Math 2415.02I: Calculus 3, Summer II 2017, Instructor (ITV course)
Math 2414.01: Calculus 2, Fall 2017, Instructor
Math 2415.01: Calculus 3, Fall 2017, Instructor
Math 2415.03: Calculus 3, Fall 2017, Instructor
Math 2346.01: Math for Electrical and Computer Engineering, Spring 2018, Instructor
Math 2415.01: Calculus 3, Summer I 2018, Instructor
Math 2413.01I: Calculus 1, Summer II 2018, Instructor (ITV course)
Math 2413.04I: Calculus 1, Summer II 2018, Instructor (ITV course)
Math 2414.04I: Calculus 2, Summer II 2018, Instructor (ITV course)
Math 2414.05I: Calculus 2, Summer II 2018, Instructor (ITV course)

Math 2346.01: Math for EE and CE, Fall 2018, Instructor
Math 2414.04: Calculus 2, Fall 2018, Instructor
Math 2318.04I: Linear Algebra, Spring 2019, Instructor (ITV course)
Math 2318.11I: Linear Algebra, Spring 2019, Instructor (ITV course)
Math 2346.01I: Math for EE and CE, Spring 2019, Instructor (ITV course)
Math 2346.11I: Math for EE and CE, Spring 2019, Instructor (ITV course)
Math 2413.02: Calculus 1, Summer I 2019, Instructor
Math 2413.02: Calculus 1, Summer II 2019, Instructor
Math 2414.04: Calculus 2, Summer II 2019, Instructor
Math 2318.01: Linear Algebra, Fall 2019, Instructor
Math 2346.01: Math for EE and CE, Fall 2019, Instructor
Math 3350.01: Intro to Math Proof, Spring 2020, Instructor (remote instruction)
Math 3372.01: Real Analysis I, Spring 2020, Instructor (remote instruction)
Math 2414.01: Calculus 2, Summer I 2020, Instructor (online synchronous)
Math 2414.04: Calculus 2, Summer II 2020, Instructor (online synchronous)
Math 3341.97L: Differential Equations, Fall 2020, Instructor (online asynchronous)
Math 2346.92L: Math for Electrical and Computer Engineering, Fall 2020 (online synchronous)
Math 2346.92L: Math for Electrical and Computer Engineering, Spring 2021 (online asynchronous)
Math 3350.90L: Intro to Math Proof, Spring 2021 (online asynchronous)
Math 2414.90L: Calculus 2, Summer I 2021
Math 2346.92L: Math for Electrical and Computer Engineering, Summer II 2021
Math 2413.91L: Calculus 1, Summer II 2021
Math 2346.02: Math for Electrical and Computer Engineering, Fall 2021
Math 3350.01: Intro to Math Proof, Fall 2021

Courses where I served as instructor of record at University of Texas Rio Grande Valley

Math 0290.57L: Intermediate Algebra, Fall 2015
Math 1350.01: Fund of Mathematics I, Summer I 2020
Math 1342.02: Elementary Statistical Methods, Summer II 2020

Service

Service to the Profession – Journals and Grants

(1) Member of the Editorial Board, SOP Transactions on Applied Mathematics, 05/2015-09/2017
(2) Technical Editor for Mathematics and Statistics, Journal of Geophysics, 05/2019-present
(3) Member of the Editorial Board in the area of Methods, Journal of Geophysics, 05/2019-present
(4) Invited to submit 83 referee reports for research papers submitted to the following national and international refereed research journals: Advances in Mechanical Engineering; AIMS Proceedings; CFD Letters; Cogent Engineering; Communications in Nonlinear Science and Numerical Simulation; Communications of the Korean Mathematical Society; Discrete and Continuous Dynamical Systems B; IEEE Transactions on Plasma Science; International Journal of Mathematical Education in Science and Technology; International Journal of Theoretical Physics; Journal of Low Temperature Physics; Journal of Mathematical Fluid Mechanics; Journal of Mathematics; Journal of Nonlinear Sciences and Applications; Journal of Physical Oceanography; Journal of the Atmospheric Sciences; Journal of Turbulence; Mathematics and Humanities Engineering; Pacific Journal of Applied Mathematics; Physics Essays; Quaestionea Mathematicae; SIAM Review; SOP Transactions on Applied Mathematics; Zeitschrift fur Naturforschung A
(5) Invited to submit 1 referee report for book proposal submitted to the following international academic publishers: Cambridge University Press.
(6) Invited to submit 1 referee report for a book chapter submitted for publication to the following international academic publishers: Bentham Science Publishers.
(7) Grant proposal Reviewer, National Science and Engineering Research Council (NSERC), Canada. (December 2013)
(8) Published 4 invited book reviews on SIAM Review, the prestigious flagship refereed research journal of the Society for Industrial and Applied Mathematics and one of the best research journals in Applied Mathematics in the world.

Service to the Profession – Research Presentations and Conferences

(1) Special Session Organizer, "Turbulence" for the 32nd SIAM Southeastern-Atlantic Section Conference, (Orlando, FL; March 2008)
(2) Special Session co-Organizer, "Recent Developments on Turbulence" for the 2009 AMS Fall Central Section Meeting, (Waco, TX; October 2009)
(3) **co-Chair**, Conference Organizing Committee, 34th Annual Texas Differential Equation Conference, (Edinburg, TX; March 2011)
(Invited 31 participants from Texas, Oklahoma, and Tennessee as well as international participants from Canada and Mexico)
(4) Organizer, *Colloquium and Distinguished Lecture Series* at the Department of Mathematics, University of Texas – Pan American (Edinburg, TX; 09/2011-09/2013)
(During a period of two years, I successfully revived the UTPA's Department's Colloquium, working with faculty to invite an array of very distinguished speakers.)
(5) Special Session co-Organizer, "Recent Developments on Turbulence" for the 9th AIMS Conference on Dynamical Systems, Differential Equations and Applications, (Orlando FL; July 2012)
(6) Session Organizer, "Mixed Applied Problems I", for the International Conference on the Theory, Methods, and Applications of Nonlinear Equations, (Kingsville, TX; September 2012)
(7) Member, Scientific Committee, 2016 International Symposium on Multidisciplinary Studies, (Belgrade, Serbia; October 2016)
(8) Moderator, undergraduate research session, 97th Annual Meeting of the Texas Section of the MAA, (Commerce, TX; March 2017)
(9) **Chair**, Conference Organizing Committee, UTRGV Symposium on Mathematics and its Applications: A meeting in honor of Professor Emeritus Lokenath Debnath, (Edinburg TX: April 2018)
(10) Special Session Organizer, "Recent Developments on Fluid Turbulence", for the 2018 AMS Fall Southeastern Sectional Meeting, (Fayetteville, AR; November 2018)
(11) Member, Conference Organizing Committee, 4th Coastal Bend Mathematics and Statistics Conference, (Edinburg, TX; March 2019)
(12) Member, Conference Organizing Committee, 2019 Workshop on Nonlinear Partial Differential Equations (PDEs) with Interdisciplinary Applications, (Edinburg, TX; November 2019)
(13) Session Chair, "Contributed Paper Session, II", for the 2020 Fall Eastern Sectional Meeting, (Online Conference; October 2020)
(14) Member, Conference Organizing Committee, 4th Annual Meeting of the SIAM Texas-Louisiana Section, (South Padre Island, TX; November 2021)
(15) Minisymposium Organizer, "Efficacy and safety statistics of COVID-19 treatment and prophylaxis protocols" for the 4th Annual Meeting of the SIAM Texas-Louisiana Section, (South Padre Island, TX; November 2021)

Service to the Community

(1) 2008-present: Webmaster, *Online Lecture Notes on Mathematics* website
http://faculty.utrgv.edu/eleftherios.gkioulekas/Teaching/notes.html
(Created a centralized website archive for all of the Online Lecture Notes that I have prepared throughout my active and productive academic career, logging all modifications and updates. This is a valuable resource, not only for our students, but for all undergraduate and graduate students around the world.)
(2) 11/17/2012: Member, MAGC Building Committee, 2012 Rio Grande Valley Council of Teachers of Mathematics Conference, hosted by the Department of Mathematics, University of Texas – Pan American
(3) 11/09/2013: Member, MAGC Building Committee, 2013 Rio Grande Valley Council of Teachers of Mathematics Conference, hosted by the Department of Mathematics, University of Texas – Pan American
(4) 2013-present: Webmaster, *Dr. David Santos memorial site*
http://faculty.utrgv.edu/eleftherios.gkioulekas/OGS/santos.html
(During AY 2013-2014 I created a website archive of 13 remarkable open source mathematics textbooks by the late Professor David Anthony Santos, a professor at the Mathematics Department of the Community College of Philadelphia, and a prolific author of very high quality mathematics textbooks that were made freely available via his now defunct faculty web page. Unfortunately, he passed away in 2011, and, so far as I know, it seems that his institution did not provide a permanent archive to his life's work. To honor and preserve his legacy, I am hosting his textbooks on my personal faculty page. During AY 2014-2015, in

response to inquiries by many colleagues that visited my website, I corrected the source code for the open source mathematics textbooks by the late Professor David Anthony Santos by tracking down missing files and correcting the LaTeX code. Now 9 of 11 textbooks, can be compiled from source using TeXLive 2014.)

(5) 11/15/2014: Member, MAGC Building Committee, 2014 Rio Grande Valley Council of Teachers of Mathematics Conference, hosted by the Department of Mathematics, University of Texas – Pan American
(6) 02/04/2017: Scientific Judge, Regional Science Bowl, hosted by UTRGV
(7) 11/04/2017: Member, MAGC Building Committee, 2017 Rio Grande Valley Council of Teachers of Mathematics Conference, hosted by the School of Mathematical and Statistical Sciences, University of Texas Rio Grande Valley.
(8) 02/17/2018: Scientific Judge, Regional Science Bowl, hosted by UTRGV

Service to the Faculty Senate

(1) Provided input to the Senate during the development of the Faculty Senate white paper on shared governance (Summer 2016)
(2) Spearheaded a substantive and extensive revision of the ADM policies on Emeritus Faculty, Annual Faculty Evaluation, Tenure and Promotion, and Post-Tenure Review. (AY 2015-2016)
(3) Revised a previously developed draft ADM policy on joint appointments. (AY 2015-2016)
(4) Wrote a new ADM draft policy on the review and adoption of College bylaws. (AY 2015-2016)
(5) Conducted a survey on the progress made by the faculty and the UTRGV administration towards the development of new UTRGV faculty evaluation criteria. (April 2017)
(6) Finalized the draft ADM policies for Annual Evaluation, Tenure and Promotion, Post-Tenure Review with extensive input from all Faculty Senators. These policies were submitted for further review to a Blue-Ribbon Committee (BRC) consisting of the Senate leadership, 4 Deans, and 2 Provost representatives. However, the Provost demanded that the BRC discard a year and a half work by the Senate and begin from the original unedited policies. (AY 2016-2017)
(7) Introduced important amendments to ADM 06-504 (Post Tenure Review) to base all consequences of the PTR only on the overall rating. (May 5, 2017)
(8) Introduced 23 amendments to ADM 06-505 (Tenure and Promotion). Most were approved by the Senate. (May 17, 2017 meeting)
(9) Prepared the following resolutions that were voted on and passed by the Faculty Senate:
▷ Resolution on the Faculty Profile Tool by Digital Measures, passed on May 17, 2017
▷ Resolution on participation of Assistant and Associate Professors in shared governance, passed on May 17, 2017
(10) The ADM 06-505 policy (Faculty Tenure and Promotion) was officially amended on 08/13/2019 to include several of my proposed amendments to a greater or lesser extent.

Service-related Leadership to the Department

(1) Chaired the Colloquium and Distinguished Lecture Series Committee, and have successfully revived the UTPA's Department's Colloquium, inviting an array of very distinguished speakers. (AY 2011-2012 and AY 2012-2013)
(2) Prepared the comprehensive Annual Report for the UTPA Department of Mathematics detailing departmental accomplishments during AY 2012-2013 and AY 2013-2014.
(3) Led a two-year committee effort to develop the Founding Annual Evaluation Criteria document for the UTRGV School of Mathematical and Statistical Sciences, and negotiated its final approval with the School Director, Dean, and Provost. (AY 2015-2016 and AY 2016-2017)
(4) Created and maintained the founding UTRGV website for the School of Mathematical and Statistical Sciences. (AY 2015-2016)
(5) Developed software, written in Gnu Awk, that automatically generates detailed student credit hour (SCH) reports, currently used by the School to monitor enrollment trends.
(6) Experience with chairing the Annual Evaluation Committee, Tenure and Promotion Committee, Post Tenure Review Committee, Lecturer Hiring Committee, and the Lecturer Promotion and Reappointment Committee.
(7) Since Spring 2018, I have served as the Undergraduate Program Coordinator for the School of Mathematical and Statistical Sciences, in support of our BS in Mathematics and our BIS in Middle School Mathematics with UTeach Certification undergraduate degree programs.

(8) Since Fall 2017, I have been leading the ongoing development of the Founding Bylaws of the School of Mathematical and Statistical Sciences. The bylaws have been approved by the faculty during Spring 2020 and are pending approval by the Dean.
(9) Leading an effort to revise the Annual Evaluation Criteria document for the UTRGV School of Mathematical and Statistical Sciences, starting during Fall 2020, to align them with the new variable workload policy. A revision has been approved by faculty vote and is pending approval or negotiation by the administration.

University Service

08/2001-07/2003: Graduate Student Senator, UW
09/2009-09/2011: Faculty Advisor, Chess Club, UTPA
09/2009-09/2012: Student Financial Aid Advisory Committee, UTPA
09/2009-12/2009: Member, Committee to Revise HOP 6.4.3 Academic Titles, UTPA
09/2011-08/2014: Graduate Council, UTPA
09/2012-08/2013: SIAM Student Chapter Faculty Advisor, UTPA
02/2014-08/2015: Academic Integrity Council, UTPA
10/2015-08/2021: Faculty Senator, UTRGV

College-level Service

05/12/2012: Class Marshal for College of Science and Mathematics, Spring 2012 Commencement
08/17/2013: Class Marshal for College of Science and Mathematics, Summer 2013 Commencement
09/2015-08/2016: Member, College Assessment Council, UTRGV
09/2015-08/2016: Member, College Annual Evaluation Committee, UTRGV
08/2016-12/2016: Member, Faculty Ad Hoc Feedback Committee, UTRGV
05/2018-present: Member, Student Success Council, UTRGV
09/2020-present: Member, College Tenure and Promotion Committee, UTRGV

Departmental Service

01/2007-05/2007: Member, Calculus Textbook Review Committee, UCF
01/2008-05/2008: Member, "Explorations in mathematics" Textbook Review, UCF
09/2008-08/2012: Member, Precalculus Textbook Committee, UTPA
09/2008-08/2012: Member, Calculus Textbook Committee, UTPA
09/2010-08/2011: Member, Mathematics Technology Committee, UTPA
09/2011-08/2013: Chair, Colloquium and Distinguished Lecture Series Committee, UTPA
08/2013-09/2013: Acting Chair, Colloquium and Distinguished Lecture Series Committee, UTPA
09/2011-08/2012: Chair, Mathematics Technology Committee, UTPA
03/2012-08/2013: Member, Graduate Program Assessment Committee, UTPA
03/2012-08/2013: Member, Graduate Curriculum Committee, UTPA
09/2012-09/2014: Member, Annual Evaluation Committee, UTPA
09/2012-12/2012: Member, Undergraduate Curriculum and Recruitment Committee, UTPA
01/2013-08/2013: Member, Undergraduate Curriculum & Retention Committee, UTPA
09/2013-08/2015: Chair, Annual Report Committee, UTPA
09/2013-12/2013: Chair, Calculus II Committee, UTPA
09/2013-08/2015: Web Guru, UTPA
01/2014-08/2014: Member, Annual Faculty Evaluation Process and Guidelines Review Committee, UTPA
09/2014-12/2014: Member, Pre-Calculus Committee, UTPA
09/2014-08/2015: Chair, Annual Evaluation Committee, UTPA
01/2015-08/2015: Chair, Post Tenure Review Committee, UTPA
04/2015-08/2015: Chair, Lecturer Hiring Committee, UTRGV
09/2015-present: Web Guru, UTRGV
09/2015-08/2016: Chair, Annual Evaluation Committee, UTRGV
11/2015-08/2017: Chair, UTRGV Annual Faculty Evaluation Guidelines Committee, UTRGV
09/2015-12/2015: Member, College Algebra Committee, UTRGV
01/2016-09/2016: Member, Calculus 1 Committee, UTRGV
09/2016-08/2017: Chair, Lecturer Promotion and Reappointment Committee, UTRGV
09/2016-08/2019: Member, Tenure and Promotion Committee, UTRGV

09/2017-08/2018: Chair, Annual Evaluation Committee, UTRGV
09/2017-08/2018: Member, Lecturer Promotion and Reappointment Committee, UTRGV
09/2017-present: Member, Undergraduate Curriculum Committee, UTRGV
09/2017-08/2020: Chair, Bylaws Committee, UTRGV
09/2018-08/2020: Member, Annual Evaluation Committee, UTRGV
09/2019-12/2019: Chair, Tenure and Promotion Committee, UTRGV
01/2020-present: Member, Tenure and Promotion Committee, UTRGV
09/2020-present: Member, Full Professor Promotion Committee, UTRGV
09/2020-present: Member, Lecturer Promotion and Reappointment Committee, UTRGV
09/2020-present: Chair, Annual Evaluation Document Revision Committee, UTRGV

Miscalleneous

Languages

Greek (Native proficiency)
English (Full professional proficiency)
Ancient Greek (Limited working proficiency)

Internet Presense

UTRGV Faculty Website: https://faculty.utrgv.edu/eleftherios.gkioulekas/
UTRGV Faculty Profile: https://webapps.utrgv.edu/aa/dm/index.cfm?action=profile&user=eleftherios.gkioulekas
ORCHID: http://orcid.org/0000-0002-5437-2534
Google Scholar: http://scholar.google.com/citations?user=jSJG7RoAAAAJ&hl=en
ResearchGate: https://www.researchgate.net/profile/Eleftherios_Gkioulekas/
LinkedIn: http://www.linkedin.com/pub/eleftherios-gkioulekas/14/200/579

Computer Knowledge

Languages: C, C++, Fortran, Tcl/Tk, Emacs Lisp, Perl, Bash, Awk, HTML
Operating systems: GNU/Linux, Windows XP, Windows 8.1, iOS, Android
Free Software: LaTeX, Octave, Autoconf, Automake, Libtool, Swig
Non-free Software: Matlab, Mathematica, Microsoft Word

Computer Skills

Parallel computing in MPI
Graphical user interfaces development
Integration of C code with scripting languages
Visualisation

Selected software engineering accomplishments

(1) Wrote the first detailed tutorial manual, titled "Developing software with GNU" for GNU Autoconf and GNU Automake.
(2) Developed Autotools, a collection of utilities that supplement GNU Autoconf and GNU Automake in many ways, automating routine tasks needed to roll out directory trees for new software projects.
(3) Developed PARG, a C library that provides support for automated GNITS-compliant options parsing for command-line programs.
(4) Developed a C software library, Mathutil, providing infrastructure for developing mathematical software. The library provides advanced exception handling, smart arrays, support for variadic functions, and binary file input/output.
(5) Authored a 56 pp. manual for Mathutil.
(6) Developed a LaTeX template for the UTPA Mathematics Department Annual Faculty Evaluation Report, automating the calculation of student evaluation data.

Downloads available from
https://faculty.utrgv.edu/eleftherios.gkioulekas/software.html.

Academic Genealogy

Ka Kit Tung, Ph.D. Harvard University 1977
Richard Siegmund Lindzen, Ph.D. Harvard University 1965
Richard Mead Goody, Ph.D. University of Cambridge 1949
Gordon Brims Black McIvor Sutherland, Ph.D. University of Cambridge 1934
Thomas Martin Lowry, D. Sc. Imperial College London 1899
Henry Edward Armstrong, Dr. phil. Universitat Leipzig 1870
A.W. Hermann Kolbe, Dr. phil. Philipps-Universitat Marburg 1843
Robert Wilhelm Eberhard Bunsen, Philosophiae Dr. Georg-August-Universitat Gttingen 1830
Friedrich Stromeyer, Philosophiae Dr. Georg-August-Universitat Gttingen 1800
Johann Friedrich Gmelin, M.D. Eberhard-Karls-Universitat Tubingen 1768
Phillip Friedrich Gmelin, M.D. Eberhard-Karls-Universitat Tubingen 1742
Burchard David Mauchart, Medicinae Dr. Eberhard-Karls-Universitat Tubingen 1722
Elias Rudolph Camerarius, Jr., Medicinae Dr. Eberhard-Karls-Universitat Tubingen 1691
Elias Rudolph Camerarius, Sr., Medicinae Dr. Eberhard-Karls-Universitat Tbingen 1663
Georg Balthasar Metzger, Magister Artium Friedrich-Schiller-Universitat Jena 1646
Gottfried Mobius, Medicinae Dr. Friedrich-Schiller-Universitat Jena 1640