Kun Gou

Address:	Department of Mathematical, Physical, and Engineering Sciences
	Texas A&M University-San Antonio
	One University Way, San Antonio, TX 78224
Email:	kgou@tamusa.edu
Phone:	210-784-2293
Web:	https://kungou.wordpress.com

EMPLOYMENT

9/2021 - present **Associate Professor**
Department of Mathematical, Physical, and Engineering Sciences
Texas A&M University-San Antonio, San Antonio, Texas

9/2017 - 8/2021 **Assistant Professor**
Department of Mathematical, Physical, and Engineering Sciences
Texas A&M University-San Antonio, San Antonio, Texas

9/2015 - 8/2017 **Assistant Professor**
Department of Mathematics
Texas A&M University-Kingsville, Kingsville, Texas

1/2013 - 8/2015 **Visiting Instructor & Research Associate**
Department of Mathematics
Department of Mechanical Engineering
Michigan State University, East Lansing, Michigan

EDUCATION

9/2006 - 12/2012 **Ph.D.**, Mathematics
Texas A&M University, College Station, Texas
Thesis adviser: Prof. Jay R. Walton

9/2003 - 6/2006 **M.S.**, Applied Mathematics
Shandong University, Jinan, China

9/1999 - 6/2003 **B.S.**, Mathematics
Shandong University, Jinan, China

RESEARCH INTERESTS

- **Mathematical Biology, Biomedicine, Mathematical Modeling:** setup and numerical implementation of mathematical physiological models that study biological soft tissues
- **Computational Mathematics, Numerical Analysis, PDE**: finite element formulation and computation for the modeling, mathematical and numerical analysis for PDE arising from the modeling
- **Nonlinear Continuum Mechanics, Fluid Mechanics**: theoretical study of hyperelastic models and solid-fluid interaction, application of nonlinear continuum mechanics to fracture mechanics

MEDIA REPORTS/AWARDS

Media reports:
- Research highlight with video incorporation at the Institute of Cyber-enabled Research at Michigan State University: Swelling of the Human Airway. (Search with the title on the web: http://icer.msu.edu)

- Media report of research work on the 2013-2014 Annual Report of Carnegie-Mellon university-Qatar
  `https://issuu.com/carnegiemellonqatar/docs/10-30-15-cmuq_ar_2013-14`

Awards:
- PI: Burak Aksoylu, Co-PI: **Kun Gou**. Math Post Doctoral Fellow support (Project title: Local-to-Nonlocal Coupling Methods in Computational Mechanics), College of Arts and Sciences, Texas A&M University-San Antonio, 9/1/2021-8/31/2022 ($45,000)

- PI: **Kun Gou**, Walter Den. Modeling and Simulation of Charged Particles Separation by Electrophoresis and Electrosorption in Aqueous Solutions. College of Arts and Sciences Faculty Scholarly/Creative Grant, Texas A&M University-San Antonio. 1/2021 - 8/2021 ($10,000)

- PI: **Kun Gou**. Structural Modeling for Swelling Soft Tissues with Fibers. Summer Faculty Fellowship Program 2020, College of Arts and Sciences, Texas A&M University-San Antonio. May - August 2020 ($3000)

- PI: **Kun Gou**. Mathematical Modeling of Pregnant Cervix Insufficiency (Part II). University Research Council Grants, Texas A&M University-San Antonio, 1/1/2020-12/30/2020 ($9940)

- PI: **Kun Gou**. Radius Change Analysis for Human Tubular Organs under Volume Expansion. Summer Faculty Fellowship Program 2019, College of Arts and Sciences, Texas A&M University-San Antonio. May - August 2019 ($3000)

- PI: **Kun Gou**. Computational Modeling of Intimal Thickening in Arteries. Faculty Research Grant Program 2019, College of Arts and Sciences, Texas A&M University-San Antonio. May - August 2019 ($3000)

- Travel support from the TAMUSA Provost Office, 2019 NIH Regional Seminar on Program Funding and Grants Administration, Phoenix, AZ, November 2019

- PI: **Kun Gou**. Mathematical Modeling of Pregnant Cervix Insufficiency. University Research Council Grants, Texas A&M University-San Antonio, 2018-2019 ($2,000)

- PI: **Kun Gou**, Co-PI: John Romo, Qi Han, Robert Page, George Shelton, Casey Andrews. High School Applied Science Modeling Contest. University Strategic Plan award, Texas A&M University-San Antonio, 2018 ($9,900)

- PI: **Kun Gou**. Mathematical Modeling of Tracheal Angioedema. Summer Faculty Fellowship Program, College of Arts and Sciences, Texas A&M University-San Antonio, 2018 ($3,000)

- PI: **Kun Gou**. Heart Tissue Parameter Identification Using MRE Imaging Inversion. Research Development Support, Texas A&M University-Kingsville, Summer 2016 ($2900)

- PI: **Kun Gou**. Physiological Modeling of Human Tissue Swelling. Spring Research Support, College of Arts and Sciences, Texas A&M University-Kingsville, Spring 2016 ($3000)

- SIAM travel grant for attending the SIAM Conference on the Life Sciences, August 2012

- Semester Fee Scholarship for teaching development training, Texas A&M University, Spring 2012

- International Education Fee Scholarship, Texas A&M University, Fall 2009

- IMA travel grant for attending the Summer School on Inverse Problems, University of Delaware, Newark, Delaware, June 2009

- IMA travel grant for attending the Workshop on Modeling, University of Minnesota, Minnesota, August 2007

PUBLICATIONS

Published or under review
- **Kun Gou**, Seungik Baek, Marvin M. F. Lutnesky, Hai-Chao Han. Growth-profile configuration for specific deformations of tubular organs: A study of growth-induced thinning and dilation of the human cervix. PLoS ONE. 16(8): e0255895

- Joseph Sutlive, Haning Xiu, Yunfeng Chen, **Kun Gou**, Fengzhu Xiong, Ming Guo, Zi Chen. Generation, transmission, and regulation of mechanical forces in embryonic morphogenesis. Soft Matter, under review

- Pak-Wing Fok, **Kun Gou**. Finite element simulation of intimal thickening in 2D multi-layered arterial cross sections by morphoelasticity. Computer Methods in Applied Mechanics and Engineering. 2020, 363: 112860

- **Kun Gou**, Heiko Topol, Hasan Demirkoparan, Thomas J. Pence. Stress-swelling finite element modeling of cervical response with homeostatic collagen fiber distributions. Journal of Biomechanical Engineering. 2020, 142: 081002

- **Kun Gou**, Mallikarjuna Muddamallappa. An analytic study on nonlinear radius change for hyperelastic tubular organs under volume expansion. Acta Mechanica. 2020, 231: 1503-1517

- Seungik Baek, Chun Liu, **Kun Gou**, Jungsil Kim, Hamidreza Gharahi, Christina Chan. Utilization of the theory of small on large deformation for studying mechanosensitive cellular behaviors. Journal of Elasticity. 2019, 136: 137-157

- Heiko Topol, **Kun Gou**, Hasan Demirkoparan, Thomas J. Pence. Hyperelastic modeling of the combined effects of tissue swelling and deformation-related collagen renewal in fibrous soft tissue. Biomechanics and Modeling in Mechanobiology. 2018, 17: 1543-1567

- **Kun Gou**, Pak-Wing Fok, Yibin Fu. Nonlinear tubular organ modeling and analysis for tracheal angioedema by swelling-morphoelasticity. Journal of Engineering Mathematics. 2018, 112: 95-117

- **Kun Gou**, Thomas J. Pence. Computational modeling of tracheal angioedema due to swelling of the submucous tissue layer. International Journal for Numerical Methods of Biomedical Engineering. 2017, 33: e2861

- Yue Liang, He Yang, **Kun Gou**. Existence of mild solutions for fractional nonlocal evolution equations with delay in partially ordered Banach spaces. Journal of Advances in Difference Equations. 2017, 11

- **Kun Gou**, Thomas J. Pence. Hyperelastic modeling of swelling in fibrous soft tissue with application to tracheal angioedema. Journal of Mathematical Biology. 2016, 72: 499-526

- **Kun Gou**, Mallikarjuna Muddamallappa, Kumbakonam Rajagopal, Jay Walton. Modeling fracture in the context of a strain-limiting theory of elasticity: a single plane-strain crack. International Journal of Engineering Science. 2015, 88: 73-82

- **Kun Gou**, Zi Chen. Inverse Sturm-Liouville problem and its biomedical application (review article). JSM Mathematics and Statistics. 2015, 2: 1-9. (invited publication in the inaugural issue of the journal)

- Thomas J. Pence, **Kun Gou**. On compressible versions of the incompressible neo-Hookean material. Mathematics and Mechanics of Solids. 2015, 20: 157-182.

- **Kun Gou**, Jay Walton. Reconstruction of nonuniform residual stress for soft hyperelastic tissue via inverse spectral techniques. International Journal of Engineering Science. 2014, 82: 46-73

- **Kun Gou**, Sunnie Joshi, Jay Walton. Recovery of material parameters of soft hyperelastic tissue by an inverse spectral technique. International Journal of Engineering Science. 2012, 56: 1-16

- **Kun Gou**, Bo Sun. Numerical solution of the Goursat problem on a triangular domain with mixed boundary conditions. Applied Mathematics and Computation. 2011, 217: 8765-8777

- **Kun Gou**, Mingyu Xu. Some adoption ways of creatures in liquid environment (review paper in Chinese). International Journal of Biomedical Engineering. 2006, 29: 76-80

Conference/workshop proceedings:
- **Kun Gou**. Mathematical modeling of tracheal luminal size change under angioedema-caused stiffness alteration. Proceedings of the Biology and Medicine Through Mathematics Conference, Richmond, Virginia, May 30 - June 1, 2018

- **Kun Gou**, Ping Yang, Rongdong Wang. A comparative modeling of tracheal angioedema. Proceedings of the 5th International Conference on Computational and Mathematical Biomedical Engineering, Pittsburgh, PA, April 10-12, 2017

- **Kun Gou**, Thomas J. Pence. Hyperelastic based modeling of tracheal angioedema. Proceedings of the 17th U.S. National Congress on Theoretical & Applied Mechanics, East Lansing, Michigan, June 15-20, 2014

- Haseena Ahmed, Prince Chidyagwai, **Kun Gou**, Yun Liu, Timur Milgrom, Vincent Quenneville-Bélair. Mathematical modeling in industry: associating earth-orbiting objects detected by astronomical telescopes. Report of workshop project at the Institute for Mathematics and its Applications (IMA), University of Minnesota, Summer 2007

Software package/numerical code:
- **Kun Gou**. Numerical code: calculating eigenvalues and eigenfunctions of Sturm Liouville Problems with mixed boundary conditions on finite domain. Code in Matlab.

- Seungik Baek, **Kun Gou**. Software package: finite element application for hyperelastic soft tissues under swelling and fiber reinforcement. Code in Matlab.

ORGANIZING EXPERIENCES

- Conference organizer (with Dr. Qi Han), The 5th Coastal Bend Mathematics and Statistics Symposium, Texas A&M University-San Antonio, April 10, 2021

- Minisymposium organizer, *Advanced applications of continuum mechanics in engineering and biological sciences*, The 2nd Annual Meeting of SIAM Texas-Louisiana Section. Southern Methodist University, Dallas, TX, November 1-3, 2019

- Member of the conference organization committee, The 1st Annual Meeting of SIAM Texas-Louisiana Section. Louisiana State University, Baton Rouge, LA, October 5-7, 2018

- Minisymposium organizer (with Dr. Md Rafiul Islam and Dr. Tamer Oraby), *Nonlinear modeling of disease dynamics*, The 1st Annual Meeting of SIAM Texas-Louisiana Section. Louisiana State University, Baton Rouge, LA, October 5-7, 2018

- Conference organizer, The 2nd Coastal Bend Mathematics and Statistics Symposium, Texas A&M University-Kingsville, April 1, 2017

- Minisymposium organizer (with Dr. Simona Hodis), *Biomedical modeling and computation for complex interface problems*, 5th International Conference on Computational and Mathematical Biomedical Engineering, University of Pittsburgh, Pittsburgh, PA, April 2017

- Seminar organizer, Mathematics Seminars, Texas A&M University-Kingsville, TX, January 2016 - August 2017

- Minisymposium organizer (with Dr. Xiaoming Zheng), *Mathematical modeling of biological growth and deformation*, 2016 SIAM Conference on the Life Sciences, Boston, MA, July 2016

- Coastal Bend Mathematics and Statistics Symposium (organized with Dr. Devanayagam Palaniappan), Texas A&M University-Corpus Christie, March 26, 2016

- Minisymposium organizer (with Dr. Zi Chen), *Physiological modeling of soft tissues via approaches of bio-mechanics*, 2014 SIAM Conference on the Life Sciences, Charlotte, North Carolina, August 2014

REVIEWING EXPERIENCES

- Editorial board

    - American Journal of Biomedical Science & Research, 12/2018 - present

    - JSM Mathematics and Statistics, 2014 - 2017

- Journals referred:
  Mathematical Reviews/MathSciNet, International Journal for Numerical Methods in Biomedical Engineering, Journal of Applied Fluid Mechanics, Inverse Problems in Science and Engineering, Journal of Applied Mechanical Engineering, Journal of Elasticity,

Proceedings A of the Royal Society of London, IMA Journal of Applied Mathematics, Neural Computing and Applications, Results in Physics, Journal of Biomechanical Engineering, Journal of Mechanics of Materials and Structures

- Conference and other reviews:
  The 5th International Conference on Computational and Mathematical Biomedical Engineering, The 2016 SIAM Conference on Life Science (Poster review), The 4th International Conference on Biomedical Engineering and Biotechnology, NSF proposal review

SELECTED TALKS
Invited talks:

- *Human cervix deformation under swelling and growth*, 2021 International Symposium on Biomedical Engineering and Computational Biology (online), Nanchang Hangkong University, China, August 13-15, 2021 (web: https://www.becbinfo.com/#/)

- *Modeling of deformations for tubular organs under volume variation by biomechanics*, Biophysics and Mechanobiology Seminar Series, Brigham and Women's Hospital and Harvard Medical School, March 5th, 2021

- *Hyperelastic deformation for damaged insufficient cervix in pregnancy*, 1st International Conference on Structural Damage Modelling and Assessment (online virtual conference, http://www.sdmaconf.org/). August 4-5, 2020

- *Computational modeling of arterial intimal thickening by morphoelasticity*, The 2nd Annual Meeting of SIAM Texas-Louisiana Section. Southern Methodist University, Dallas, TX, November 1-3, 2019

- *Epidermal wound healing dynamics*, 14th User Training Workshop Developing Multi-Scale, Virtual Tissue Simulations with CompuCell3D. Indiana University, Bloomington, IN, August 11-17, 2019

- *Computational modeling of pregnant cervix*, 15th U.S. National Congress for Computational Mechanics. Austin, TX, Jul 28 - Aug 1, 2019

- *Nonlinear tubular organ deformation analysis for airway swelling*, The 1st Annual Meeting of SIAM Texas-Louisiana Section. Louisiana State University, Baton Rouge, LA, October 5-7, 2018

- *Modeling human airway swelling by the deep power of fundamental mathematics*, Colloquium of Mathematics, The University of Texas-Rio Grande Valley, August 2018

- *Mathematical modeling of human trachea angioedema and its numerical computation*, Applied Math Seminar, China University of Petroleum, Qingdao, Shandong, China, July 2017

- *Mathematical modeling of swelling-caused trachea narrowness and deformation*, Applied Math Seminar, University of Delaware, September 2016

- *Mathematical modeling of human pregnant cervix*, SIAM Conference on the Life Sciences, Boston, MA, July 2016

- *Arterial wall parameter identification using inverse spectral techniques*, Applied Math Seminar, The University of Texas-Rio Grande Valley, March 29, 2016

- *Algorithms for numerical solution of the Goursat problem on a triangular domain with mixed boundary conditions*, Coastal Bend Mathematics and Statistics Symposium, Texas A&M University-Corpus Christie, March 26, 2016

- *Modeling of human airway swelling by biomechanics.* Analysis & Applied Mathematics Seminars, Department of Mathematics, Central Michigan University, Mount Pleasant, Michigan, January 30, 2015

- *Bio-mechanical modeling of tracheal angioedema by nonlinear finite elasticity.* SIAM Conference on the Life Science, Charlotte, North Carolina, August 4-7, 2014

- *Hyperelastic based modeling of tracheal angioedema.* 17th U.S. National Congress on Theoretical & Applied Mechanics, East Lansing, Michigan, June 15-20, 2014

- *Physiological modeling of tracheal angioedema by nonlinear continuum mechanics.* MSU Applied Math and PDE Seminar, Department of Mathematics, Michigan State University, April 2014

- *Recovery of soft tissue material parameters from natural frequencies obtained by in-vivo spectral techniques.* Mechanical Engineering Seminar, Michigan State University, January 2013

- *Parameter identification for atherosclerotic plaques from its material spectrum gained by intravascular ultrasound imaging.* SIAM Conference on the Life Sciences, San Diego, California, August 2012

- *An in-vivo spectral technique for estimation of residual stress of arterial wall by a novel application of intravascular ultrasound technology.* Colloquium in the Department of Mathematics, Worcester Polytechnic Institute, Worcester, Massachusetts, January 5, 2012

- *Recovery of residual stress of arterial wall by approach of inverse Sturm-Liouville problem.* Colloquium in the Department of Mathematics, Prairie View A&M University, Prairie View, Texas, October 7, 2011

- *Application of inverse Sturm-Liouville problem on bio-mechanics and a novel approach for calculation of its solution.* Workshop on Inverse Problems, Texas A&M University, October 1, 2011

Contributed talks and posters:
- *Computational modeling of thickening of arterial intimal tissue*, The 43rd Texas Differential Equations Conference, The University of Texas at Austin, Austin, Texas, March 7-8, 2020

- *Pregnant cervix deformation under fiber remodeling and fluid accumulation*, The 42nd Texas Differential Equations Conference, Texas A&M University-Corpus Christi, Corpus Christi, TX, March 30-31, 2019

- *Human cervix deformation analysis during pregnancy*, The 4th Coastal Bend Mathematics and Statistics Conference, The University of Texas Rio Grande Valley, Edinburg, TX, March 23, 2019

- *Modeling tracheal angioedema for modified tissue stiffness*, 2018 SIAM Annual Meeting, Portland, Oregon, July 9-13, 2018

- *Mathematical modeling of tracheal luminal size change under angioedema-caused stiffness alteration*, Biology and Medicine Through Mathematics Conference, Richmond, Virginia, May 30 - June 1, 2018

- *Solution approximation for inverse Sturm Liouville Problem*, 15th International Conference in Approximation Theory, San Antonio, TX, May 2016

- *Analysis of several compressible versions of the incompressible neo-Hookean material*, 2015 Joint Mathematics Meeting, San Antonio, Texas, January 10-13, 2015

- *Mathematical modeling of tracheal angioedema.* Applied Mathematics Conference (Dedicated to Prof. Meir Shillor on his 65th birthday), Oakland University, Michigan, September 13, 2014

- *Algorithms for numerical solution of the Goursat problem on a triangular domain with mixed boundary conditions.* Great Lakes SIAM 2013 Conference, Mount Pleasant, Michigan, April 20, 2013

- *Estimating the stiffness of healthy arteries via multi-dimensional secant method.* 2012 Joint Mathematics Meetings, Boston, Massachusetts, January 4-7, 2012

- *Inverse spectral problem for partially known potential: the numerical solution for the related hyperbolic equation.* Poster in the Applied Inverse Problems Conference, College Station, Texas, May 23-27, 2011

TEACHING EXPERIENCES

Texas A&M University-San Antonio, Texas   9/2017 - present
College Algebra, Precalculus, Calculus I, Differential Equation, Biostatistics, Math for Business and Social Sciences, Introductory Statistics, Mathematical Biology

Texas A&M University-Kingsville, Texas   9/2015 - 8/2017

Calculus I, Business Mathematics I&II, Analytic Geometry/Precalculus, Differential Equation, Linear Algebra and Matrix Theory, Advanced Mathematics for Physics and Engineering (for PhD candidates of engineering)

Michigan State University, East Lansing, Michigan   1/2013 - 8/2015
Calculus I, Multi-variable Calculus (for students of Advanced Placement), Dynamics (class of Mechanical Engineering)

Texas A&M University, College Station, Texas   9/2006 - 12/2012
Methods of Applied Mathematics II (graduate course), Business Mathematics II, Mathematical Concepts-Calculus, Numerical Analysis (graduate recitation)

EDUCATION GRANTS

- University Strategic Plan award, Title: High School Applied Science Modeling Contest, Texas A&M University-San Antonio, 2018 ($9,900). Activity conducted in fall 2018
- Teaching Conference Fellowship, 14th Annual Wakonse South Conference on College Teaching. Burnet, Texas, April 2011 ($500). (Reflections and open discussions on teaching experiences)

TEACHING RELATED SERVICES

- College Algebra (MATH 1314) Planning Group (curriculum review, final exam, recitation etc.), Mathematics Program, Texas A&M University-San Antonio, Summer 2021
- The course Mathematical Biology MATH 3372 approved as an experiential learning course (community projects as part of the course teaching), Mays Center for Experiential Learning and Community Engagement, Texas A&M University-San Antonio, Spring 2021
- Panel discussion member, panel discussion about student option for choosing Credit/Non-Credit for a course in the COVID-19 pandemic season. Texas A&M University-San Antonio, April 14, 2020
- Leader of Mathematical Biology Minor, Program of Mathematics, Texas A&M University-San Antonio, January 2019 - present
- Invited talk in a Jaguar course. Title: Why Mathematical Biology? Texas A&M University-San Antonio, October 2019
- Member of QUBES (a nation-wide community of math and biology educators who share resources and methods for preparing students to use quantitative approaches to tackle real, complex, biological problems), June 2018 - present
- Invited talk in a Jaguar III course about career development. Title: My Life-The Past and Now. Texas A&M University-San Antonio, Summer 2018
- A leading role in designing of the Mathematical Biology Minor, Mathematics Program, Department of science and Mathematics, Texas A&M University-San Antonio, Fall 2017
- Designer of three Math courses: MATH 3321 Applied Partial Differential Equations; MATH 3372 Mathematical Biology; MATH 3373 Mathematical Physiology. Department of science and Mathematics, Texas A&M University-San Antonio, Fall 2017
- Designer of Mathematical Biology Minor (with Dr. Simona Hodis), Department of Mathematics, Texas A&M University-Kingsville, Fall 2016
- Course redesign for Calculus I to incorporate undergraduate research in teaching, Department of Mathematics, Texas A&M University-Kingsville, Fall 2016
- Member of Undergraduate Student Committee, Department of Mathematics, Texas A&M University-Kingsville, Fall 2015 - Spring 2017

MENTORING EXPERIENCES

- **Undergraduate advising:**
  - Research advising: Victoria Lucero. Project Title: Fractal geometry and its applications. Department of Mathematical, Physical, and Engineering Sciences, Texas A&M University-San Antonio, June 2020 - present
    * Talk: Biological branching patterns explained by fractal geometry theory. Student Research Symposium, Texas A&M University-San Antonio, April 16th, 2021
    * Talk: Application of fractals in branching patterns in nature. The 12th Annual Undergraduate Research Conference at the Interface of Biology and Mathematics, National Institute for Biological and Mathematical Synthesis (NIMBioS), University of Tennessee, Knoxville, TN, October 31 - November 1, 2020 (Online conference; Talk slides at https://prezi.com/view/o9DMGpmeJLJG7OBUn3s0/)
  - Research advising: Tiffany Tooke. Project Title: Mathematical analysis for population dynamics and physiology. Department of Science and Mathematics, Texas A&M University-San Antonio, February 2019 - December 2019
    * Obtained a Minor of Mathematical Biology (under my mentoring), Texas A&M University-San Antonio, December 2019
    * Poster: Tiffany Tooke, Kun Gou (mentor). Mathematical models for competitive and symbiotic relationships in populations, The 2nd Annual Meeting of SIAM Texas-Louisiana Section, Southern Methodist University, Dallas, TX, November 1-3, 2019 (Travel support from the conference)
    * Talk: Tiffany Tooke, Kun Gou (mentor). Population dynamics for one and multiple Species, 4th Coastal Bend Mathematics&Statistics Conference, The University of Texas-Rio Grande Valley, Edinburg, TX, March 23rd, 2019 (Travel support from Program of Mathematics, TAMUSA)
  - Research advising: Emilio Barrientes, Project Title: Mathematics of Public Voting. Department of Mathematics, Texas A&M University-Kingsville, Fall 2015
  - General advising: Nobili R Flores, Gabriel A Hernandeze, Department of Mathematics, Texas A&M University-Kingsville, Fall 2015 - Spring 2017
- **Professional consultant** for Maha Shrestha (Master student, Mathematics, Texas A&M University-Corpus Christie) to provide research advisory assistance for her master thesis, Texas A&M University-Kingsville, 2015-2017
- **Visiting scholar:** Ping Yang (Assistant Professor, PhD, Shenyang Agricultural University, China), Department of Mathematics, Texas A&M University-Kingsville, 2016 - 2017

TEACHING PROFESSIONAL DEVELOPMENT

- Attending a seminar entitled "Designing Better Courses: Blending the Best of Pre- and Post-Pandemic Pedagogy" by Robert D. Austin, Professor of Information Systems at Ivey Business School and an affiliated faculty member at Harvard Medical School, July 21, 2021
- Modeling Practice in Calculus-Professional Development Workshop (online), STEM Transformation Institute, Florida International University, July 10&17, 2020
- Class (with various active learning strategies) observed by a researcher in the Active Learning Project, Center of Engineering Education, The University of Texas at Austin, October 15, 2019
- Active Learning Strategies Workshop, Center of Engineering Education, The University of Texas at Austin, May 2019
- Grandparents University class assistant for a session called "Experience in Cardiovascular Mechanics Research". Michigan State University, June 25, 2014. (Grandparents University is a program for alumni and their grandchildren (ages 8-12) for a three-day educational experience at MSU)

- Invited talk for UBM (Undergraduate Program in Biological and Mathematical Sciences). Title: a novel application of inverse problem on arterial wall biomechanics. Department of Computer and Mathematical Sciences, University of Houston-Downtown, Houston, Texas, July 31, 2012

- Selected for training in Teaching Professional Development Program for STEM (Science, Technology, Engineering and Math). Texas A&M University, Spring 2012. (The only one selected from Department of Mathematics. The program included one-semester interactive lectures for topics about teaching professional development)

- Fellow, Graduate Teaching Academy (GTA), Texas A&M University, elected in April 2011. (Elected after one year attendance in seminars and workshops offered by professors with excellence in teaching and completion of teaching-related assignments)

OTHER SERVICES

- Hiring committee member for hiring a Math Post Doctoral Fellow, Department of Mathematical, Physical and Engineering Sciences, Texas A&M University-San Antonio, Fall 2021

- Interviewed by student journalist Sebastian Cervantes for the campus media Mesquite about Asian discrimination in the U.S; A report is entitled "Asian Student Association relaunches to address racial discrimination" at
  https://mesquite-news.com/
  asian-student-association-relaunches-to-address-racial-discrimination/
  Texas A&M University-San Antonio, April, 2021

- Talk to high school students for math learning. (1) Talk title: Math Exploration and High School Math Learning, Foothills School, Boise, Idaho, January 27, 2021; (2) Talk title: Math World Exploration, Enyang High School, Bazhong, China, March 11th, 2021

- Member of the MPES Spousal Hire Application Review Committee, Department of Mathematical, Physical and Engineering Sciences, Texas A&M University-San Antonio, Spring 2021

- Honor Program Representative, Department of Mathematical, Physical and Engineering Sciences, Texas A&M University-San Antonio, December 2020 - present

- Committee member, Faculty Evaluation Committee, Department of Mathematical, Physical and Engineering Sciences, Texas A&M University-San Antonio, Spring 2021 - present

- Volunteer, Adopt-A-Family program (provide necessities to San Antonio families with extremely limited financial resources and help give families hope for the holidays), Fall 2020

- Member, Search Committee for hiring an assistant professor, Biology Program, Department of Life Sciences, Texas A&M University-San Antonio, Fall 2020 and Spring 2021

- Member, Search Committee for hiring an associate professor, Mathematics Program, Department of Science and Mathematics, Texas A&M University-San Antonio, January - August 2020

- Volunteer for Operation Love Our Jaguars call campaign (call assigned students to learn if they had special needs due to the COVID-19 influence), Texas A&M University-San Antonio, Spring Semester, 2020

- Interviewed by student journalist Daisy Gonzalez Quezada for the campus media Mesquite about Asians in regards to the pandemic; An article is published with the title "Rising xenophobia during pandemic" at the web
  https://mesquite-news.com/rising-xenophobia-during-pandemic/
  Texas A&M University-San Antonio, April 22, 2020

- New Student Orientation (mingle with students in lunch time), Texas A&M University-San Antonio, July 17, 2019

- Member of the Scientific Committee, Coastal Bend Mathematics and Statistics Conference, South Texas, March 2019 - present

- University Faculty Awards Committee member, Texas A&M University-San Antonio, April 2019 - present

- Course Committee Member (Electronic Systems Engineering Technology), Texas A&M University-San Antonio, February 2019

- Judge, Alamo Regional Science and Engineering Fair (ARSEF), St. Mary's University, San Antonio, March 2019

- Judge, undergraduate modeling contest, MathWorks Math Modeling Challenge, Society of Industrial and Applied Mathematics (SIAM), Spring 2019

- Judge, undergraduate modeling contest, The Mathematical Contest in Modeling, National Consortium for Mathematics and its Application (COMAP), Spring 2019

- Member of the university HPC committee (High Performance Computing), Texas A&M University-San Antonio, fall 2018 - present

- Performance in International Fashion Show (representing China), Texas A&M University-San Antonio, November 16, 2018

- Member of Department Course Committee, Department of Science and Mathematics, Texas A&M University-San Antonio, September 2018 - May 2020

- Invited guest (by TAMUSA president Dr. Matson), Event: President's Night – Premier Evening Event with Texas A&M President Young. Aggie Park, San Antonio. September 5, 2018

- Committee Member (representing TAMUSA), San Antonio-Bexar STEM-STEAM Ecosystem workgroup (county-wide practice to provide educational experiences for students underrepresented in STEM/STEAM), San Antonio/Bexar County, August 2018 - December 2019

- Volunteer, Esperanza Hall Move In 2018 (help incoming new students move to their new dorms at TAMUSA), Texas A&M University-San Antonio, August 2018

- Organizer, a Math Table in the STEM Fair, John Jay Science and Engineering Academy (a senior high school), San Antonio, May 2018 (use math games to inspire students' critical thinking)

- Member (twice), Mathematics Lecture Search Committee, Mathematics Program, Department of Science and Mathematics, Texas A&M University-San Antonio, Spring 2018

- Leader and coordinator for math tutors, Harlandale High School Tutoring Collaboration Program, Department of Science and Mathematics, Texas A&M University-San Antonio, January 2018 - May 2019

- Member, Health Professions Advisory Committee, Texas A&M University-San Antonio, Fall 2017 - present

- Organizer, Mathematics Seminar, Department of Mathematics, Texas A&M University-Kingsville, January 2016 - July 2017

- Adviser, Chinese Students and Scholars Association, Texas A&M University-Kingsville, January 2016 - July 2017

- Reviewer, Hugh Porter Scholarship, Department of Mathematics, Texas A&M University-Kingsville, Spring 2016 (reviewing scholarship applications)

- Volunteer, activity for College Night Out (a funny party for students and faculty), College of Arts and Sciences, Texas A&M University-Kingsville, Fall 2015

- Panelist, GREAT seminar, Department of Mathematics, Texas A&M University, November 14, 2012. (Panel discussion about special issues that international students may face in the classroom including "breaking" the language and cultural barrier)

- Volunteer, Graduate Teaching Academy, Texas A&M University, September 2011 - May 2012. (Involve students and professors in College of Science into seminars and workshops in GTA)

- Panelist, First Year Graduate Student Seminar, Department of Mathematics, Texas A&M University, February 22, 2012. (Invited by Associate Head for Graduate Studies for a panel discussion about choosing a research topic and an adviser)

- President, Chinese Newcomer Club, Texas A&M University, August 2008 - December 2011. (Organization goal: help Chinese students adapt to their new lives at Texas A&M University and make a network for them)

PROFESSIONAL MEMBERSHIPS

- Society for Industrial and Applied Mathematics (SIAM)
- U. S. Association for Computational Mechanics