

# Curriculum Vitae

Yi Wang, Ph.D.  
Professor and Department Chair  
member of the graduate teaching faculty

Auburn University at Montgomery  
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<https://public.tableau.com/app/profile/yi.wang3152>

March 24, 2022

## Education

 West Virginia University, Morgantown, WV USA

Ph.D. in Mathematics, August 2003

Doctoral Dissertation: *Fast Wavelet Collocation Methods for Second Kind Integral Equations on Polygons*

 Southwest Jiaotong University, Chengdu, China

Ph.D. in Mechanical Engineering, July 1997

Doctoral Dissertation: *On the Reliability and Maintainability of Railway Locomotives*

 Southwest Jiaotong University, Chengdu, China

B.S. in Mechanical Engineering, July 1991

Thesis: *Tunneling Shield Design*

## Certifications

 Financial Engineering and Risk Management Specialization

Columbia University in the City of New York

[See credential](#)

 Pricing Options with Mathematical Models

Caltech

[See credential](#)

 Time Series and Survival Analysis

IBM

[See credential](#)

 Data Science Professional Certificate

HarvardX - An Online Learning Initiative by Harvard University through edX

[See credential](#)

 Deep Learning Professional Certificate

IBM through edX

[See credential](#)

 Machine Learning

Stanford Online through Coursera

[See credential](#)

## Skill Sets

Languages: Python, R, Matlab, C/C++, LaTeX, Markdown, Maple, Mathematica

Deep Learning/Machine Learning: PyTorch, TensorFlow, Keras, Scikit-Learn, Caret

Data Science: R Packages, SQL, Tableau, Spreadsheet

## Employment

 Auburn University at Montgomery

- Chair, Department of Mathematics  
Jan. 01, 2020–Present
- Chair, Department of Mathematics and Computer Science  
Jan. 01, 2017–Dec. 31, 2019
- Professor (tenured)  
Department of Mathematics and Computer Science  
August 2015–Present
- Associate Professor (tenured)  
Department of Mathematics and Computer Science  
August 2010–July 2015
- Assistant Professor (tenure-track)  
Department of Mathematics  
August 2006–July 2010

 Visiting Professor

Air Force Research Laboratory (AFRL/RI), Rome, NY

May 2014–August 2014

 Assistant Professor (tenure-track)

Department of Computer Science, Mathematics and Physics, Fairmont State University

August 2003–June 2006

 Research Assistant/Teaching Assistant


Department of Mathematics, West Virginia University

August 2001–July 2003

 Research Assistant/Teaching Assistant

Department of Mathematics, North Dakota State University

August 1999–July 2001

 Lecturer (equivalent to Assistant Professor)

Institute of Mechanical Engineering, Southwest Jiaotong University

July 1997–July 1999

## Leadership Experiences

- Chair, Department of Mathematics, Auburn University at Montgomery (Jan. 01, 2020–Present)
- Chair, Department of Mathematics and Computer Science, Auburn University at Montgomery (Jan. 01, 2017–Dec. 31, 2019)
- Chair, third-year review committee of tenure-track faculty, Spring 2020.
- Chair, Department admin associate search, Fall 2019, Spring 2018.
- Director of Pre-Engineering Program, Aug. 2010–Dec. 31, 2016.

Brought in the ASPE scholarship to our Pre-engineering students by partnering with the ASPE Montgomery Chapter of professional engineers.

Noticeably, I created an advising sheet for our Pre-engineering students that included 13 engineering programs of AU. This advising sheet became the official advising sheet at AUM and made it very easy to understand what courses were needed for each engineering major. This advising sheet is still currently being used as the main advising sheet.

- Chair/Coordinator, ASPE scholarship committee, Fall 2016, Fall 2015, Fall 2014, Spring 2013, Spring 2012, Spring 2011.
- President (2010), Vice President (2007), Advisor to the President (2011, 2015, 2016), Central Alabama Association for Chinese.  
As the President of the Association, appointed the Association's Presidential Committee; innovated fund-raising strategies for the Association; Organized four large association's annual events involving 100 to 300 people in each event.
- Chair, Computer science assistant professor position search committee, Fall 2014–Spring 2015.
- Chair (2007–2008, 2012–2015), Core member (2007–2015) of the leadership committee, Frazer United Method Church Chinese Ministry.
- Chair, Calculus text book selection committee, Spring 2011.
- Chair, mathematics visiting professor search committee, May 2008.

## Honors

- 2017 AUM Warhawk Spirit Award, Auburn University at Montgomery.
- Recipient (limited to one faculty member of the School), 2013–2014 Research Award of School of Sciences, Auburn University at Montgomery.
- Endowed Doctoral Teaching Fellowship, West Virginia University, 2002–2003.
- HongYu Education Scholarship, Southwest Jiaotong University, 1993.
- Outstanding Graduation Diploma, Southwest Jiaotong University, 1991.
- Outstanding College Graduate of Sichuan Province, awarded jointly by the Sichuan Education Bureau, the Sichuan Public Relations Bureau, and the Sichuan Youth League, 1991.

### Current Research Interests

- Machine learning and optimization with applications

### Publications

- *Manuscripts published*

- [1] X. Wu, P. Guo, Y. Wang, and Y.K. Wang. Decomposition approaches for parallel machine scheduling of step-deteriorating jobs to minimize total tardiness and energy consumption. *Complex & Intelligent Systems*, pages 1–25, 2021. <https://doi.org/10.1007/s40747-021-00601-9>.
- [2] J. Liu, Y. Wang and H. Zhao. Calculating orthologous protein-coding sequence set probability using the poisson process. *Journal of Computational Biology*, 28(10):961–974, 2021.
- [3] Peng Guo, Xun He, Yulin Luan, and Yi Wang. Logic-based benders decomposition for gantry crane scheduling with transferring position constraints in a rail-road container terminal. *Engineering Optimization*, 53:86–106, 2021.
- [4] L. Zhu; Q. Zhang, Ning Cai, and Y. Wang. On the end-of-life states-oriented multi-objective disassembly line balancing problem. *Journal of Intelligent Manufacturing*, 31:1403–1428, 2020. DOI: 10.1007/s10845-019-01519-3.
- [5] Z. Zhang, L. Mao, Y. Wang, L. Zhu, and B. Zou. An improved scatter search algorithm for the corridor allocation problem considering corridor width. *Soft Computing*, 24:461–481, 2020. DOI: 10.1007/s00500-019-03925-4.
- [6] P. Guo, L. Wang, C. Xue and Y. Wang. Dispatching rules for scheduling twin automated gantry cranes in an automated rail-road container terminal. *Arabian Journal for Science and Engineering*, 45:2205–2217, 2020. DOI: 10.1007/s13369-019-04176-z.

- [7] L. Zhu, Z. Zhang and Y. Wang. A Pareto firefly algorithm for multi-objective disassembly line balancing problems with hazard evaluation. *International Journal of Production Research*, 56(24):7354–7374, 2018.
- [8] P. Guo, W. Cheng, Y. Wang, and N. Boysen. Gantry crane scheduling in inter-modal rail-road container terminals. *International Journal of Production Research*, 56(16):5419–5436, 2018.
- [9] M. Zhang, W. Cheng, and Y. Wang. Multiple-fault classification for hot mix asphalt production by machine learning. *Journal of Construction Engineering and Management*, 144(5):04018024, 2018.
- [10] Z. Zhang, K. Wang, L. Zhu, and Y. Wang. A Pareto improved artificial fish swarm algorithm for solving a multi-objective fuzzy disassembly line balancing problem. *Expert Systems and Applications*, 86:165–176, 2017.
- [11] P. Guo, W. Chen, and Y. Wang. Scheduling step-deteriorating jobs to minimize the total weighted tardiness on a single machine. *International Journal of Systems Sciences: Operations & Logistics*, 4(2):92–107, 2017.
- [12] P. Guo, W. Cheng, and Y. Wang. Hybrid evolutionary algorithm with extreme machine learning fitness function evaluation for two-stage capacitated facility location problem. *Expert Systems and Applications*, 71:57–68, 2017.
- [13] B.W. Suter and Y. Wang. Sparse representation of non-stationary signals using non-linear Fourier atoms. *Advances in Data Science and Adaptive Analysis*, 08(02):1650007(1–19), 2016.
- [14] P. Guo, W. Chen, and Y. Wang. Parallel machine scheduling with step-deteriorating jobs and setup times by a hybrid discrete cuckoo search algorithm. *Engineering Optimization*, 47:1564–1585, 2015.
- [15] Y. Wang. On a class of generalized sampling functions. *Analysis in Theory and Applications*, 30(1):82–89, 2014.
- [16] Q. Chen, L. Li, and Y. Wang. Amplitudes of mono-components and representation by generalized sampling functions. *Signal Processing*, 94:255–263, 2014.
- [17] P. Guo, W. Chen, and Y. Wang. A general variable neighborhood search for single-machine total tardiness scheduling problems with step-deteriorating jobs. *J. Industrial and Management Optimization*, 10(4):1071–1090, 2014.
- [18] P. Guo, W. Chen, and Y. Wang. A modified generalized extremal optimization algorithm for the quay crane scheduling problem with interference constraints. *Engineering Optimization*, 46:1411–1429, 2014.
- [19] Y. Li, Q. Chen, T. Qian, and Y. Wang. Sampling error analysis and some properties of non-bandlimited signals that are reconstructed by generalized sinc functions. *Applicable Analysis*, 94:305–315, 2014.
- [20] C.A. Micchelli, J. Wang, and Y. Wang. On an asymptotic analysis of polynomial approximation to halfband filters. *Advances in Computational Mathematics*, 38:601–622, 2013.

- [21] J. Liu and Y. Wang. On Crevecoeur's bathtub-shaped failure rate model. *Computational Statistics and Data Analysis*, 57:645–660, 2013.
- [22] Q. Chen, T. Qian, G. Ren, and Y. Wang. B-splines of Blaschke product type. *Comput. Math. Appl.*, 62:3669–3681, 2011.
- [23] Q. Chen, C.A. Micchelli, and Y. Wang. Functions with spline spectra and their applications. *Int. J. Wavelets Multiresolut. Inf. Process.*, 8(2):197–223, 2010.
- [24] N. Saito and Y. Wang. Polynomial-Fourier transform with minimum mean square error for noisy data. *J. Computational and Applied Mathematics*, 234:1586–1610, 2010.
- [25] J. Zhao, N. Saito, and Y. Wang. PHLST5: A practical and improved version of polyharmonic local sine transform. *J. Math. Imaging Vis.*, 30:23–41, 2008.
- [26] Q. Chen, Y.B. Wang, and Y. Wang. A sampling theorem for non-bandlimited signals using generalized sinc functions. *Comput. Math. Appl.*, 56:1650–1661, 2008.
- [27] J. You, Q. Chen, and Y. Wang. Univariate 3-channel wavelet filter banks from centrally symmetric matrices. *Int. J. Math. Stat.*, 1:6–15, 2007.
- [28] Y. Wang. Multilevel iterated collocation methods for integral equations of the second kind. In *Wavelets and Splines: Modern Methods of Mathematics*, pages 484–495. Nashboro Press, Brentwood, TN, 2006.
- [29] Y. Wang and Y. Xu. A fast wavelet collocation method for integral equations on polygons. *J. Integral Equations Appl.*, 17(3):277–330, 2005.
- [30] W. Fang, Y. Wang, and Y. Xu. An implementation of fast wavelet Galerkin methods for integral equations of the second kind. *J. Sci. Comput.*, 20(2):277–302, 2004.
- [31] W. Cheng, Y. Wang, and G. Jing. Failure analysis of railway forklifts and their current reliability levels. *Journal of Southwest Jiaotong University*, 7(2):190–196, 1999.
- [32] L. Zeng and Y. Wang. A research on the overhaul cycle and unserviceable condition of the machineries in a warehouse. *Logistics Technology*, 5:11–14, 1998.
- [33] W. Chen, Y. Wang, J. Wang, and Z. Zhang. Failure analysis and reliability study on railway forklifts. In *Proceedings of the 2nd International Conference on Material Handling and the 15th International Conference on Automation in Warehousing*, pages 527–529. China Machine Press, 1997.
- [34] Y. Wang, Z. Zhang, S. Wang, and S. Liu. Reliability indices and assessment for locomotives. *J. Chinese Railway Society*, 18(4):35–41, 1996.
- [35] Y. Wang, H. Hung, and Z. Zhang. Study of optimum scheduled shopping policies for engineering system. In *Proceedings of the Third International Conference on Reliability Maintainability and Safety*, volume 1, pages 269–274, Guangzhou, China, 1996. Publishing House of Electronics Industry.
- [36] Y. Wang, S. Wang, and Z. Zhang. Research on the transmission process of discrete states of a complex system in a continuous period. In *Collections of Theses for the*

*100th Anniversary of Southwest Jiaotong University*, pages 112–117. Publishing House of Southwest Jiatotong University, 1996.

- [37] Y. Wang. Research on the redundant optimization technique and its application. In *Proceedings of the 4th Annual Symposium of the Sichuan Association of Material Handlings Engineering*, pages 67–69. Published by the Sichuan Association of Material Handlings, 1994.
- [38] Y. Wang and C. Wei. Maintenance equipment for high speed railway. *Foreign Engineering Machinery*, 19(2):22–26, 1993.

- *Manuscripts accepted for publication*

- [1]

- *Manuscripts submitted*

- [1] J. Xiong, P. Guo, and Y. Wang. Cloud-edge cooperation scheduling based on deep reinforcement learning in group distributed manufacturing systems. *submitted to Journal of Manufacturing Systems*, pages 1–19, 2021.
  - [2] P. Guo, K. Wen, and Y. Wang. Optimization of multi-commodity inventory allocation and demand fulfillment for a fast fashion retailer. *submitted to Engineering Optimization*, pages 1–47, 2021.
  - [3] K. Lei, P. Guo, Y. Wang, X. Wu, and W.C. Zhao. Solve routing problems with a residual edge-graph attention neural network. *submitted to Neurocomputing*, pages 1–29, 2020. Under review.

- *Manuscripts in progress*

## Funded Grants

1. *AUM Lecturer Program grant* (multiple years), 2015, 2013, 2012, 2011, 2010, 2009, 2007, 2006.
2. PI, *Visiting Faculty Research Program Extension Grant*, US Air Force Research Lab (AFRL/RI), Rome, NY, Sep. 1–Dec. 31, 2014.
3. Dean’s travel grant, 2012.
4. *Faculty Research Conference Fund* (multiple years), awarded by AUM Research Council, 2012, 2010.
5. *Faculty Start-up Grant*, School of Sciences, Auburn University Montgomery, 2006–2007.



6. PI: *A NHPP software reliability model with a time-dependent failure rate*, NASA West Virginia Space Grant Consortium research enhancement grant, 2005–2006.
7. PI: *On the complexity and efficiency of a parallel computing algorithm for solving integral equations*, WV NASA EPSCoR seed grant, 2005–2006.
8. PI: *Research proposal preparation mini grant*, WV EPSCoR, 2005.
9. Member: *Development of a M.S. program in bioinformatics*, Joint project of Institute for Scientific Research, Fairmont State University and California University of Pennsylvania, supported by the Benedum Foundation, 2005.
10. Co-PI: West Virginia Cluster Computing Grid (WVCCG), NSF major research instrumentation grant, CNS-0320888, 2005–2006.
11. Faculty Fellow, 2004 WV-INBRE summer research fellowship, supported by grant RR16477 from the National Center for Research Resources of NIH awarded to the West Virginia IDeA Network of Biomedical Research Excellence.
12. PI: *Fast multiscale parallel computing solvers for second kind integral equations*, NASA West Virginia Space Grant Consortium mini grant, 2003–2004.

#### Invited Colloquium/Seminar Talks

1. **Southwest University of Finance and Economy**, Chengdu, China, December 21, 2017.
2. **Auburn University**, Applied Mathematics Seminar, Auburn, USA, Jan. 27, 2017.
3. **Three Gorges University**, Yichang, China, Jan. 04, 2015.
4. **Georgetown University**, Georgetown, USA, September 06, 2013.
5. **Changsha University of Science and Technology**, Changsha, China, June 21, 2013.
6. First High School of QiongLai, Sichuan, China, October 09, 2011. (**Invited Plenary Speaker**).
7. **Southwest University of Finance and Economy**, Chengdu, China, December 17, 2010.
8. **Southwest Jiaotong University**, Chengdu, China, December 20, 2010.
9. **University of Macau**, December 23, 2008.
10. **Georgetown University**, September 12, 2008.
11. Department of Mathematics, **Southwest Jiaotong University**, May 19, 2008.

12. Institute of Advanced Manufacturing Technology, **Southwest Jiaotong University**, May 5, 2008.
13. **Auburn University**, October 06, 2006.
14. **Auburn University at Montgomery**, February 03, 2006.
15. **Southwest Jiaotong University**, December 22, 2005.
16. **University of Toledo**, June 9, 2005.
17. School of Computational Science & Information Technology, **Florida State University**, January 31, 2003.

### Conference Presentations

1. 2021 International Symposium on Application and Practice of Intelligence & Optimization, Chengdu, China, July 28, 2021. (**Invited 1-hour plenary speaker**, remote presentation).
2. One Day Workshop on High Dimensional Data Fitting and Approximation Theory, University of Central Florida, March 30, 2017. (**invited 1-hour speaker**).
3. 2017 Annual Research Symposium, Alabama State University, March 16, 2017. (**invited**).
4. 2016 Workshop on Computational Mathematics, ZhuHai, China, Dec. 16–18, 2016. (**invited**).
5. Poster presentation, Auburn University This Is Research Faculty Symposium, September 16, 2016.
6. Poster presentation, Command, Control, Communications, Cyber & Intelligence (C4I) Technology Review Days, Armed Forces Communications and Electronics Association, Utica, NY, June 10 & 11, 2014.
7. The 21th International Conference on Finite or Infinite Dimensional Complex Analysis and Applications, Nanjing University, Nanjing, China, June 15–June 19, 2013 (**invited**).
8. The 20th International Conference on Finite or Infinite Dimensional Complex Analysis and Applications, Hanoi University of Science and Technology, Hanoi, Vietnam, July 29–August 3, 2012 (**invited**).
9. 24th mini-conference on Harmonic Analysis and Related Areas, Auburn University, November 19–20, 2010.
10. 18th International Conference on Finite or Infinite Dimensional Complex Analysis and Applications, Macau, August 13–17, 2010 (**invited**).

11. International Conference on Mathematical Methods for Imaging, Sun Yat-Sen University, Guangzhou, China, August 4–6 2010 (**invited**).
12. The second international conference on the advances of Hilbert-Huang transform and its applications, Sun Yat-Sen University, Guangzhou, China, December 15–17 2008 (**invited**).
13. 32nd SIAM Southeastern-Atlantic Section Conference (SIAM-SEAS 2008), Special session on Wavelets and Sampling, University of Central Florida, Orlando, March 14-15 2008 (**invited**).
14. 2007 Fall Southeastern Meeting, Special Session on Splines and Wavelets with Applications, Murfreesboro, TN, November 3-4, 2007. Abs. No.: 1033-42-245.
15. The International Conference on the Interactions Between Wavelets and Splines, May 17, 2005.
16. Joint Mathematics Meeting, Atlanta, GA, January 8, 2005. Abs. No.: 1003-X1-1179.
17. Session I on Applied Mathematics, Joint Mathematics Meeting, Atlanta, GA, January 6, 2005. Abs. No.: 1003-68-1335.
18. 2004 WV-BRIN/INBRE Summer Research Symposium, at Robert C. Byrd Health Sciences Center, West Virginia University, August 5, 2004.
19. Special Session on Other Multiscale Methods and Their Applications at the Regional AMS Meeting, Athens, OH, March 26–27, 2004 (**invited**). Abstract No: 995-45-196.

### Invited Academic Visiting

- Visiting Professor, School of Mechanical Engineering, **Southwest Jiaotong University**, Chengdu, China. Jul. 07–Jul. 21, 2018, Dec. 11–Dec. 23, 2017; Jul. 31–Aug. 13, 2016; Aug. 1–Aug. 14, 2015; Dec. 16, 2014–Jan. 08, 2015; May 13–May 18, 2013.
- Visiting Professor, Guangdong Province Key Laboratory of Computational Science, **Sun Yat-Sen University**, Guangzhou, China, August 24–October 19, 2011.
- Visiting Professor, Department of Mathematics, **City University of Hong Kong**, Hong Kong, China, January 2–January 10, 2011; July 29–August 1, 2010.
- Visiting Professor, Department of Mathematics, **University of Macau**, Macau, China, December 18–25, 2008.
- Visiting Scholar, Morningside Center of Mathematics, **Chinese Academy of Sciences**, Beijing, China, June 2001–August 2001.

### Academic Visitors Hosted

- Jingwen Dong, School of Electrical Engineering, Southwest Jiaotong University, China, Mar. 1, 2016–Feb. 28, 2017 (supported by China Scholarship Council).
- Weisheng An, School of Mechanical Engineering, Southwest Jiaotong University, China, Mar. 1, 2016–Feb. 28, 2017 (supported by China Scholarship Council).
- Jim Coykendall, Department of Mathematics, Clemson University, Sept. 22–24, 2016.
- Qiyu Sun, Department of Mathematics, University of Central Florida, Oct. 01–Oct. 03, 2015.
- Fang Liu, School of Mechanical Engineering, Southwest Jiaotong University, China, Aug. 1, 2014–Jul. 31, 2015 (supported by China Scholarship Council).
- Yuejie Chi, Department of Electrical Engineering, Ohio State University, Mar. 19–Mar. 21, 2015.
- Charles A. Micchelli, Department of Mathematics and Statistics, SUNY Albany, April 26–28, 2007; Nov. 6–10, 2008; Nov. 21–24, 2008 (funded by the visitor); Oct. 15–17, 2009 (funded by the visitor); Nov. 19–22, 2009; Feb. 21–25, 2013; Sept. 04–Sept. 08, 2014.
- Lixin Shen, Department of Mathematics, Syracuse University, Feb. 27–Mar. 1, 2014.
- Der-chen Chang, Department of Mathematics, Georgetown University, Mar. 7–9, 2008, Mar. 4–6, 2011, Aug. 23–25, 2013.
- JianZhong Wang, Department of Mathematics, Sam Houston State University, Oct. 11–14, 2012.
- Yuesheng Xu, Department of Mathematics, Syracuse University, Oct. 19–22, 2006; Feb. 16–19, 2011.
- Tao Qian, Department of Mathematics, University of Macau, Nov. 14–17, 2009.
- Naoki Saito, Department of Mathematics, University of California, Davis, Feb. 14–16, 2008.

### Professional Services

- Editorial board reviewer editor, *Frontiers in Mathematics of Computation and Data Science* (since Dec. 2015)
- Editorial board member, *Frontiers In Science, Technology, Engineering And Mathematics* (since Dec. 2017)
- Advising committee member, Annual Research Frontier Symposium 2021, 2020, 2019, Alabama State University.
- Reviewer for AMS Mathematical Reviews (MathSciNet®) (ongoing).

- External reviewer for an institutional grant proposal, 2015
- Invited member of the Ph.D. thesis oral defense committee, Institute of Mechanical Engineering, Southwest Jiaotong University, China, May 17, 2013.
- Ph.D. Advisory Committee: served as a committee member of the Ph.D. candidate Xingwang Chen, Department of Mathematics, Old Dominion University, VA, USA (2011).
- Invited Referee for Journals
  1. Frontiers in Science, Technology, Engineering and Mathematics
  2. Computers and Industrial Engineering
  3. Frontiers in Applied Mathematics and Statistics: section Mathematics of Computation and Data Science
  4. Soft Computing
  5. The Journal of Analysis
  6. Expert Systems with Applications
  7. European Journal of Operational Research
  8. Neural Computing and Applications
  9. Hacettepe Journal of Mathematics and Statistics
  10. Journal of Computational and Applied Mathematics
  11. Computational Statistics and Data Analysis
  12. Analysis in Theory and Applications
  13. Engineering Optimization
  14. Journal of Industrial and Management Optimization
  15. Applied Mathematics and Computation
  16. Reliability Engineering & System Safety
  17. International Journal of Advanced Manufacturing Technology
  18. Circuits, Systems & Signal Processing
  19. Journal of Integral Equations and Applications
  20. Applicable Analysis
  21. Integrated Computer-Aided Engineering
  22. Advances in Computational Mathematics
  23. Communications in Pure and Applied Analysis
  24. Computers & Mathematics with Applications
  25. International Journal: Mathematical Manuscript
  26. Discrete Signal Processing

## 27. Applications and Applied Mathematics: An International Journal

- Academic Conference Services

- member, Southeast Regional Algebra Conference organizing committee, Spring 2018
- Session Chair, The 21th International Conference on Finite or Infinite Dimensional Complex Analysis and Applications, Nanjing University, Nanjing, China, June 15–June19, 2013
- Judge, Undergraduate Research Symposium, School of Sciences, Auburn University Montgomery, April 3, 2009; April 12, 2013.
- Session Chair, AMS Session I on Applied Mathematics, 2005 Atlanta Joint Mathematics Meeting, January 6, 2005.

**Teaching Experience**

- *while at Auburn University Montgomery*, Professor (Aug. 2015–Present), Associate Professor (Aug. 2010–Jul. 2015) and Assistant Professor (Aug. 2006–Jul. 2010), courses taught from August 2006:

*Mathematics Courses:*

- Numerical Analysis, Complex Analysis, Real Analysis I, Real Analysis II, Differential Equations, Linear Algebra, Multivariable Calculus, Calculus I, Calculus II, Introduction to Higher Mathematics (Writing Intensive);
- Elementary Statistics, Contemporary Mathematics (online), Finite Mathematics (both traditional and on-line), Elementary Algebra, Intermediate Algebra, Precalculus Algebra and Trigonometry, Trigonometry, Precalculus Algebra.

*Engineering Courses:*

- Introduction to Scientific Programming (Matlab), Introduction to Engineering.

- *while at Fairmont State University*, Assistant Professor, courses taught in 2003–2006:

- Numerical Analysis, Differential Equations, Modern Geometry;
- Calculus I, Applied Calculus I, Applied Calculus II;
- College Algebra, Trigonometry and Elementary Functions, Applied Technology Mathematics.

- *while at West Virginia University*, TA, course taught in 2001–2003:

- Calculus I (instructor of record).

- *while at North Dakota State University*, TA, courses taught in 1999–2001:

- Calculus I, Calculus II (both are recitation classes).

- *while at Southwest Jiaotong University*, Lecturer, courses taught in 1997–1999:
  - Major English Reading, Graduation Design Projects of Mechanical Engineering.

### **Students Advising**

- Director of Pre-Engineering Program, Aug. 2010–Dec. 31, 2016.
- Advisor of Pre-Engineering Program, Jan. 2008–Dec. 2016.
- Advisor of Association of Chinese Students at AUM, 2009–2010.
- Advisor for mathematics majors, 2004–2006.

### **Directed Undergraduate Research Projects**

- A NHPP software reliability model with a time-dependent failure rate, NASA West Virginia Space Grant Consortium research enhancement grant, 2005–2006 (partially supported two students, John Boker and Sudha Parajulee).
- An adaptive multiscale quadrature algorithm for one dimensional integration, supported (\$1,500) by Undergraduate Research Program, Fairmont State University, 2005–2006 (one student John Boker).
- mentored a student Nirab K. Manandhar to do research on 4 projects related to quadrature, adaptive quadrature and multilevel quadrature methods supported by my NASA WVSGC grant, 2003–2004.

### **Committee Services**

*while at Auburn University Montgomery*

1. (College level) Member, Dean’s search of College of Sciences, Fall, 2020, Fall 2018.
2. (Institutional level) Member, AUM QEP steering committee, AUM, July 2017–Present.
3. Chair, third-year review committee of tenure-track faculty, Spring 2020.
4. Member, QEP Director search committee, Spring 2020; Spring 2018–Summer 2018.
5. Member, CS lecturer’s position search committee, Spring 2020; Spring 2019.
6. Chair, Department admin associate search, Fall 2019, Spring 2018.
7. (College level) Member, faculty scholarship committee, College of Arts and Sciences, 2015–2018.
8. Member, Mathematics lecturer’s position search committee, Spring 2019, Fall 2017–Spring 2018.

9. Member, search committee for the Director of Cyber Security, Spring 2019, Fall 2018, Spring 2018.
10. Member, S-K Mathematics Day organizing committee, Fall 2018, Fall 2017.
11. Presentations on Sonia Kovalevsky Day: *Finite Vs. Infinite* (Oct. 19, 2018); *Mathematics and Your Pictures—Digital Image Processing* (Feb. 26, 2011; Feb. 27, 2010; Feb. 28, 2009; Feb. 23 2008; Feb. 24, 2007); *Investment and Kelly's Criterion* (Sept. 26, 2015; Nov. 16, 2013).
12. Member, Statistics faculty search committee, Fall 2018.
13. Member, Math Lab coordinator search committee, Spring 2018–Summer 2018.
14. Member, computer science assistant professor position search committee, Fall 2018, Spring 2018, Fall 2016–Spring 2017, Fall 2015–Spring 2016, Fall 2013–spring 2014.
15. Member, computer science master degree program committee, Department of Mathematics and Computer Science, Auburn University Montgomery, Spring 2017.
16. Member, master degree program committee, Department of Mathematics and Computer Science, Auburn University Montgomery, Spring 2018, Fall 2016–Spring 2017, Fall 2010–Spring 2011, Spring 2009, 2006–2007.
17. Member, computer science catalogue course review committee, Department of Mathematics and Computer Science, Auburn University Montgomery, Spring 2017.
18. *Chair*, computer science assistant professor position search committee, Fall 2014–Spring 2015.
19. (Institutional level) Member, Graduate Council of Auburn University Montgomery, June 2012–June 2015.
20. *Chair/Coordinator*, ASPE scholarship committee, Fall 2016, Fall 2015, Fall 2014, Spring 2013, Spring 2012, Spring 2011.
21. Member, exceptional student committee, AUM, Oct., 2014; June 2014.
22. Member, southern region algebra conference 2014 (SRAC14) local organizing committee, April 2014.
23. Technology/Equipment coordination on Sonia Kovalevsky Day: Nov. 16, 2013; Feb. 26, 2011; Feb. 27, 2010; Feb. 28, 2009; Feb. 23, 2008.
24. Member, finite math assessment committee, 2013.
25. Member, pre-calculus and trigonometry assessment committee, 2013.
26. Member, mathematics scholarship committee, Department of Mathematics, Auburn University Montgomery, Spring 2012, Spring 2011, Spring 2010, Spring 2009.



27. *Chair*, calculus text book selection committee, Spring 2011.
28. Member, mathematics assistant professor position search committee, Department of Mathematics, Auburn University Montgomery, Fall 2010-Spring 2011, 2006–2007.
29. Member, modeling and simulation certificate program committee, School of Sciences, Auburn University Montgomery, Fall 2010–Spring 2011.
30. Member, ASPE scholarship committee, Spring, 2010; Fall 2008.
31. (Institutional level) Member, University-wide Internationalization Committee, Auburn University Montgomery, September 2007–2009.
32. Member, calculus textbook committee, Department of Mathematics, Auburn University Montgomery, Spring 2009.
33. *Chair*, mathematics visiting professor search committee, May 2008.
34. Member, Chinese transcript evaluation board, Auburn University Montgomery, 2007.
35. Member, finite math textbook committee, Department of Mathematics, Auburn University Montgomery, Spring 2007.

*while at Fairmont State University*

1. (College level) Member, faculty development and travel Committee, College of Science and Technology, Fairmont State University, August 2004–May 2006.
2. (Institutional level) Member, faculty development committee, Fairmont State University, August 2005–May 2006.
3. (Institutional level) Member, committee of international education, Fairmont State University, August 2004–May 2006.
4. (Institutional level) Member, committee of institutional testing and research, Fairmont State University, August 2004–August 2005.
5. Member of the mathematics B.S. program review in Spring, 2004; Wrote a comprehensive report of the technology support and technology facilities for Mathematics program, 2004.
6. (College level) Member of the tech fee committee, College of Science and Technology, August 2003–August 2004.

**Community Outreach**

*while at Auburn University Montgomery*

- Montgomery BEST Robotics Competition Committee, since Feb. 1, 2019.

- Local organizing assistant and grader, AL State Math Count competition, March 15, 2014
- Proctor, AL MathCount local (Montgomery) competition, Feb. 06, 2015; Feb. 08, 2013.
- Proctor, AL State Mathematics Competition, Mar. 27, 2010; March 28, 2009.

*while at Fairmont State University*

1. Judge, 2006 Science fair, at Fairmont State University, March 4, 2006; March 5, 2005.
2. Faculty advisor, Major fairs, at Fairmont State University, Oct. 18, 2005; Mar. 23, 2005; Mar. 18, 2004.
3. Judge, WV Science bowls competition, at Fairmont State University, Dec. 15, 2005; Dec. 11, 2003.
4. Faculty advisor, Science and math programs exhibition at the gear-up education and career fair, Fairmont State University, May 08, 2005; February 7, 2004
5. Time Keeper, WV science bowls competition, Dec. 16, 2004.

**Other Services**

*while at Auburn University Montgomery*

- Advisors for students during summer orientations: 2007, 2008, 2009, 2010, 2011, 2012, 2015.
- Professor 'n Pajamas, Apr. 29, 2020; Dec. 04, 2019; April 24, 2019; Dec. 05, 2018; April 25, 2018; Nov. 29, 2017; Apr. 26, 2017; Nov. 30, 2016; Dec. 02, May 06, 2015; Dec. 10, 2014; Apr. 30, 2014; May 1, 2013; May 2, 2012.
- Featured professor of Math Club: Meet Your Professors, Nov. 14, 2014.

*while at Fairmont State University*

- Actively maintained the web site of Mathematics, Fairmont State University, August 2003–May 2006.

**Professional Associations**

- American Mathematical Society (AMS) (2001–2003, 2009, 2014–2015)
- Association of American University Professors (AAUP) (2010)
- Society for Industrial and Applied Mathematics (SIAM) (2003–2005)

- Mathematical Association of America (MAA) (2003–2006)
- Council on Undergraduate Research (CUR) (2004)
- New Experience in Teaching (NExT) Allegheny Mountain Section (2003–2006)

### **Training and Workshops**

1. On-line teaching re-certification training (9 credits, completed), Spring 2017.
2. Student club and organizations spring 2015 semester kick-off meeting, 12:00–1:00, Jan. 16, 2015.
3. On-line teaching re-certification training (9 credits, completed), 2014.
4. Writing Across Curriculum Training Phase II, Spring 2012.
5. Writing Across Curriculum Training Phase I, Spring 2010.
6. On-line Teaching Certificate, Sep. 2010–Feb. 2011.
7. Training for AUM club advisors, Oct. 1, 12:00–1:00, 2010.
8. BlackBoard training, Apr. 15, 2008.
9. Banner Basics for Internet Native Banner, Oct. 05, 2007.
10. Pittsburgh Supercomputing Center (PSC) Terascale Code Development Workshop (at PSC), Oct. 13–14, 2003.
11. WebCT training, Fairmont State University, August 2003.
12. Pittsburgh Supercomputing Center (PSC) Parallel Programming Techniques Workshop (at West Virginia University), May 16–17, 2002.
13. Teaching Practicum (taken as a one-credit graduate course) at West Virginia University, Fall 2002.
14. Teaching Assistant Training, Department of Mathematics, North Dakota State University, Aug. 2000; Aug. 1999.
15. New Teacher Training, Southwest Jiaotong University, Fall 1997.

### **Other Attended Conferences**

1. 2019 MAA-SE Conference 98th Annual Meeting, Cleveland, Tennessee, Mar. 08–09, 2019.
2. 2018 MAA-SE Conference 97th Annual Meeting, Clemson, South Carolina, Mar. 23–24, 2018.

3. College Readiness and Retention through Accurate Math Placement, Charlotte, North Carolina, Feb. 15–16, 2018.
4. Annual Symposium on Industrial Engineering of Sichuan Association of Mechanical Engineering, Panzihua, China, Dec. 15–17 2017.
5. Bridging the gap, moving research to practice: Complex networks & information (CNI), Air Force Research Laboratory, Information Directorate, Rome, NY, 16–17 July 2014.
6. 2011 Symposium on Computational Mathematics for Doctoral Students, Sun Yat-Sen University, China, Sep. 1–3, 2011.
7. Robert C. Thompson Matrix Meeting 2007, Auburn University, March 24, 2007.
8. 33rd Annual Mathematics & Statistics Conference: Mathematics & Biology, Miami University, Oxford, OH, September 30–October 1, 2005.
9. 32nd Annual Pi Mu Epsilon Student Conference, Miami University, Oxford, OH, September 30–Oct. 1, 2005.
10. 32nd Mathematics and Statistics Conference, Miami University, Oxford, OH, October 1-2, 2004.
11. Allegheny Mountain Section of MAA fall workshop for NExT Fellows, at University of Pittsburgh, 704 Thackeray Hall, Sept. 25, 2004.
12. Systems Biology Initiative Retreat at Stonewall Jackson Resort, WV, Aug. 11, 2004
13. SIAM Conference on Parallel Processing for Scientific Computing, San Francisco, California, February 24–28, 2004.
14. Regional Pi Mu Epsilon Conference, at Youngstown State University, February 21, 2004
15. 31st Annual Conference “Discrete Mathematics and its Applications”, Miami University, OH, Oct. 3–4, 2003.
16. 2003 Joint Mathematics Meetings, Baltimore, MD, Jan. 15–18, 2003.

## **Recent Collaborators**

Hanlin Chen	Chinese Academy of Sciences, China
Qihui Chen	Guangdong University of Foreign Studies, China
Charles A. Micchelli	State University of New York, Albany, USA
Luoqing Li	Hubei University, China
Peng Guo	Southwest Jiaotong University, China
Junfeng Liu	American College of Radiology, USA
Tao Qian	University of Macau, Macau
Guangbin Ren	University of Science and Technology of China, China
Naoki Saito	University of California, Davis, USA
Jianzhong Wang	Sam Houston State University, USA
Qingsong Zou	Sun Yat-sen University, China

### Unfunded Proposals

- *Time-frequency representation of nonlinear and non-stationary signals*. Role: PI. Submitted to Simons Foundation Mathematics Collaboration Grant, Jan. 31, 2015.
- *Sparse representation of non-stationary signals*. Role: PI. Submitted to Simons Foundation Mathematics Collaboration Grant, Jan. 31, 2014.
- *New theories and methods in signal processing*. Role: PI. Submitted to Simons Foundation Mathematics Collaboration Grant, Jan. 31, 2013.
- *New Directions in Statistical Applications to DNA Sequence Evolution*. Role: Co-PI. Submitted to National Institute of Health, Feb. 16, 2011.
- On Several Applied Mathematics Projects, submitted to Ida Belle Young Research Award, Auburn University Montgomery, Sep. 2009.
- RUI-A Fast Collocation Method for an Inverse Boundary Value Problem and its Parallel Computing, submitted to NSF/DMS, (Proposal No: 0608997), Nov. 2005.
- An Adaptive Multiscale Quadrature Algorithm for One Dimensional Integration and its Application to a NHPP Software Reliability Model with a Bathtub-like Failure Rate, submitted to NASA IV&V Facility at Fairmont, WV, April 7, 2005.
- An Adaptive Multiscale Quadrature Algorithm for One Dimensional Integration, submitted to NASA IV&V Facility at Fairmont, WV, Feb. 27, 2005.
- Applied for the National Fellow of Project NExT (New Experience in Teaching), April, 2004.
- Adaptive Multiscale 1-D Integration, submitted to Council on Undergraduate Research (CUR) 2004 Summer Fellowships.
- New course development: Numerical Methods and Scientific Computing, not submitted, 2003.

## Research Projects in China by 1999

1. PI: *Research on the Integrated Reliability of System of Human-Machine-Environment for Locomotives*, supported by the Exclusive Fund for Discipline Development of “211 Engineering” of Southwest Jiaotong University, China, September 1997–July 1999.
2. PI: *Research on the Reliability and Conditions of Grade Changeover, Retirement and Condemnation for Warehouse Equipment*, supported by the Institute of Construction Engineering, General Logistics Department of People’s Liberation Army (PLA), China, September 1997–May 1998.
3. Key Researcher: *Research on the Reliability of Electric Locomotives*, supported by the Science and Technology Developing Grant of the Railway Ministry, China, January 1994– December 1996.
4. Key Researcher: *Research on the Reliability Design for Internal Combustion Locomotives*, supported by Ziyang National Factory of Internal Combustion Locomotives, China, September 1994–December 1996.
5. Research Assistant: *Design of the Telescopic Arm of Large Track-Replacement Truck*, supported by the Railway Ministry, China, 1991.
6. Research Assistant: *Design of the Track-Localizer of Large Track-Replacement Truck*, supported by the Railway Ministry, China, December 1992–May 1993.