Yanjun Yan

Associate Professor
School of Engineering + Technology
College of Engineering and Technology
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Research Interests

Engineering Education, Statistical Signal Processing, Optimization Altogrithms, Artificial Intelligence

Education

Ph.D.	Electrical Engineering	Syracuse University
M.S.	Applied Statistics	Syracuse University
M.S.	Electrical Engineering	Harbin Institute of Technology, China
B.S.	Electrical Engineering	Harbin Institute of Technology, China

Academic Experiences

2019-present	Tenured	Western Carolina University	Associate Professor
2013-2019	Tenure-track	Western Carolina University	Assistant Professor
2009-2010	Full-time	Syracuse University	Research Scientist

Non-Academic Work Experience

2010-2013	Full-time	ARCON Corp.	Senior Engineer

Current Professional Society Membership

IEEE	Senior Member
ASEE (also in divisions of ID, ETD, WIE, FYP, CED, ECSJ)	Member

Selected Publications

2023   Andy Ritenour and **Yanjun Yan**. "Use of Individual Lab Kits to Enhance Hands-on Learning in Electronic Circuits Courses," Proceedings of the 130th ASEE (American Society of Engineering Education) Annual Conference and Exposition (ASEE2023), Baltimore, USA, June 25-28, 2023.

2023   Basel Alsayyed Ahmad and **Yanjun Yan**. "All-encompassing Skill Portal for Skills Management and Development," Proceedings of the 130th ASEE (American Society of Engineering Education) Annual Conference and Exposition (ASEE2023), Baltimore, USA, June 25-28, 2023.

2023   **Yanjun Yan**. "Create Multi-Part Problems with Random Parameterization On Blackboard and Canvas On Par with "Mastering" and "Connect"," Proceedings of the 130th ASEE (American Society of Engineering Education) Annual Conference and Exposition (ASEE2023), Baltimore, USA, June 25-28, 2023.

2023   Vladislav Slavov and **Yanjun Yan**. "Study on AI in Education Policies," Proceedings of INTED (International Academy of Technology, Education and Development), Valencia, Spain, Mar 2023.

2022   **Yanjun Yan**. "Co-offering An Engineering Course and A Non-engineering Course During the Same Faculty-Led Trip to Promote Interdisciplinary Collaboration," *Peer-reviewed long abstracts for the 25th Annual Colloquium on International Engineering Education (ACIEE 2022): Connecting Engineering with the Humanities*, virtual, November 2-3, 2022.

2022   **Yanjun Yan**, Ivo Rumenov Draganov, Hugh Jack, Tasho Tashev, and Mary Anna LaFratta. "A Project-Based Learning (PBL) Course Offered in Bulgaria in a Fulbright U.S. Scholar Project During the Pandemic," *Proceedings of the 129th ASEE (American Society of Engineering Education) Annual Conference and Exposition (ASEE2022)*, Minneapolis, USA, June 26-29, 2022.

2022   **Yanjun Yan**, Ivo Rumenov Draganov, and Tasho Tashev. "A Case Study of Student-Centered Project Design and Execution," *Proceedings of the XIX-th International Conference "Challenges in Higher Education and Research in the 21st Century,"* virtual, Bulgaria, May 30 - June 1, 2022.

2022   Nelson A. Granda-Marulanda, **Yanjun Yan**, and Hugh Jack. "Using a Faculty-Led Course Experience to Increase Global Sustainability Competencies On-Campus," *Proceedings of the IISE Annual Conference & Expo 2022*, Seattle, USA, May 21-24, 2022.

s2021   Paul Yanik, Chip Ferguson, Sudhir Kaul, and **Yanjun Yan**. "Enhancement of Engineering Student Engagement," *Journal of Engineering Technology*, Fall 2021, Vol. 38, Issue 2, p24-36. **JET Best Paper Award** among all the articles published at JET from Fall 2020 to Spring 2022 issues.

2021   **Yanjun Yan**, Robert Adams, Paul Yanik, Hugh Jack, Andrew Ritenour, and H Bora Karayaka. "BYOE: Individual Lab Kit Options for Analog and Digital Circuits Suitable for In-Class or At-home Experiments," *The 128th ASEE (American Society of Engineering Education) Annual Conference and Exposition (ASEE2021)*, virtual, July, 2021.

2021   **Yanjun Yan**, Hugh Jack, and James Coffin. "Team-teaching a Project-based First-Year Seminar in Pandemic," *The 128th ASEE (American Society of Engineering Education) Annual Conference and Exposition (ASEE2021)*, virtual, July, 2021.

2020   Mary Anna LaFratta and **Yanjun Yan**. "Connections: Transdisciplinary Multimodal Collaborative Design," *The 5th International Conference on Communication & Media Studies: A Pandemic of Misinformation: Truth in Bubbles?* Toronto, Canada, Oct 1, 2020

2020   **Yanjun Yan**, Mary Anna LaFratta, Lane Graves Perry III and Hugh Jack. "Engagement in Practice (EIP): Differences in Perceptions between Engineering and Art Students in an Interdisciplinary Service-Learning Project," *The 127th ASEE (American Society of Engineering Education) Annual Conference and Exposition (ASEE2020)*, virtual, June 21, 2020.

2020   **Yanjun Yan**, Nelson Granda-Marulanda, David Tyler, Hugh Jack, and Lauren Bishop. "Overcoming the Challenges to Launch a Successful Initiative of an Engineering Faculty-led Travel Course While Boosting Interdisciplinary Collaborations," *The 127th ASEE (American Society of Engineering Education) Annual Conference and Exposition (ASEE2020)*, virtual, June 21, 2020.

2020   Patrik Gilley and **Yanjun Yan**. "Comparison of Search Optimization Algorithms in Two-Stage Artificial Neural Network Training for Handwritten Digits Recognition," 2020 *IEEE SoutheastCon*, Raleigh, USA, Mar 12-15, 2020.

2020   Anik Tahabilder and **Yanjun Yan**. "Building Kilobots In-house for Shape-Formation," 2020 *IEEE SoutheastCon*, Raleigh, USA, Mar 12-15, 2020.

2020   Rumana Sultana, Robert Adams, **Yanjun Yan**, Paul Yanik and Martin Tanaka. "Trash and Recycled Material Identification using Convolutional Neural Networks (CNN)," 2020 *IEEE SoutheastCon*, Raleigh, USA, Mar 12-15, 2020.

2019   Mahendra Mallick, Kuo-Chu Chang, Sanjeev Arulampalam, **Yanjun Yan**, and Barbara La Scala. "Heterogeneous Track-to-Track Fusion in 2D Using Sonar and Radar Sensors," *Proceedings of 2019 International Conference on Information Fusion*, Ottawa, Canada, July 2-5, 2019.

2019   **Yanjun Yan**, Mary Anna LaFratta, Hugh Jack, and Lane Graves Perry III. "Engagement in Practice: An Engineering Service-Learning Course in Collaboration with an ART 2D Design Course to Serve Young People on the Autism Spectrum Using The Touchboard," *The 126th ASEE (American Society of Engineering Education) Annual Conference and Exposition (ASEE2019)*, Tampa, USA, June 19, 2019.

2019   Mahendra Mallick, Kuo-Chu Chang, Sanjeev Arulampalam, and **Yanjun Yan**. "Heterogeneous Track-to-Track Fusion in 3D Using IRST Sensor and Air MTI Radar," *IEEE Transactions on Aerospace and Electronic Systems*, Early access on Feb 8, 2019.

2019   Pranoy Kumar Singha Roy, Hayrettin Bora Karayaka, **Yanjun Yan**, and Yazan Alqudah. "Investigations into Best Cost Battery-Supercapacitor Hybrid Energy Storage System for a Utility Scale PV Array," *Journal of Energy Storage*, vol. 22, pp. 50-59, ISSN 2352-152X, Apr 2019.

2019   Md Rakib Hasan Khan, Hayrettin Bora Karayaka, **Yanjun Yan**, Peter Tay, and Yi-Hsiang Yu. "Wave Excitation Force Prediction Methodology Based on Autoregressive Filters for Real Time Control," in *Proceedings of IEEE Green Technologies Conference (GreenTech 2019)*, Lafayette, USA, Apr 3-6, 2019.

2019   Mahendra Mallick, Kuo-Chu Chang, Sanjeev Arulampalam, and **Yanjun Yan**. "Heterogeneous Track-to-Track Fusion in 3D Using IRST Sensor and Air MTI Radar," in *IEEE Transactions on Aerospace and Electronic Systems*. Early access on Feb 8, 2019.

2019   Sudhir Kaul, Chip W Ferguson, **Yanjun Yan**, and Paul M Yanik. "Triangulated Mentorship of Engineering Students: Leveraging Peer Mentoring and Vertical Integration," *Global Journal of Engineering Education (GJEE)*, vol. 21, no.1, 2019.

2018   Mahendra Mallick, **Yanjun Yan**, and Sanjeev Arulampalam. "Heading-Parametrized Multiple Model Method for Bearing-only Filtering," in *Proceedings of the Seventh International Conference on Control Automation & Information Sciences (ICCAIS 2018)*, Hangzhou, China, Oct 24-27, 2018.

2018   Mahendra Mallick, **Yanjun Yan**, and Sanjeev Arulampalam. "Aircraft 3D Trajectory Estimation with a Single Nonlinear Filter Using Two 2D Radars," in *Proceedings of the Seventh International Conference on Control Automation & Information Sciences (ICCAIS 2018)*, Hangzhou, China, Oct 24-27, 2018.

2018   Mahendra Mallick, Sanjeev Arulampalam, and **Yanjun Yan**. "Posterior Cramér-Rao Lower Bound for Angle-only Filtering in 3D," in *Proceedings of the Seventh International Conference on Control Automation & Information Sciences (ICCAIS 2018)*, Hangzhou, China, Oct 24-27, 2018.

2018   Tanner Hollis, Hayrettin Bora Karayaka, Yi-Hsiang Yu, and **Yanjun Yan**. "Hardware-in-the-Loop Simulation for the Proposed Slider-Crank Wave Energy Conversion Device," in *Proceedings of the OCEANS 2018 MTS/IEEE Charleston*, Charleston, SC, USA, Oct 22-25, 2018.

2018   Peter C. Tay and **Yanjun Yan**. "Wavelet Denoising using a Conjointly Space and 2D Frequency Localized Filterbank, " in *Proceedings of 2018 IEEE International Conference on Image Processing*, Athens, Greece, Oct 7-10, 2018.

2018   Chip W Ferguson, **Yanjun Yan**, Sudhir Kaul, and Paul M Yanik, "Scholarship Program Initiative via Recruitment, Innovation and Transformation (SPIRIT): SSTEM Program Initiatives and Results," *125th ASEE (American Society of Engineering Education) Annual Conference & Exposition*, Salt Lake City, USA, Jun 23-27, 2018.

2018   Matthew Stender, **Yanjun Yan**, Bora Karayaka, Peter Tay, and Robert Adams. "Adapted Neighborhood Particle Swarm Optimization Algorithm for Kilobot in Kilombo Simulations," 2018 *IEEE SoutheastCon*, St. Petersburg, USA, Apr 19-22, 2018.

2018   Peter C. Tay and **Yanjun Yan**. "Conjointly Space and 2D Frequency Localized Filter-banks, " in *Proceedings of 2018 IEEE Southwest Symposium on Image Analysis and Interpretation*, Las Vegas, USA, Apr 8-10, 2018.

2018   Pranoy Kumar Singha Roy, Hayrettin Bora Karayaka, **Yanjun Yan**, and Yazan Alqudah. "Evaluation of Reference Generation Algorithms for Dispatching Solar PV Power," 2018 *IEEE SoutheastCon*, St. Petersburg, USA, Apr 19-22, 2018.

2018   Mahendra Mallick, Sanjeev Arulampalam, **Yanjun Yan**, Jifeng Ru. "Three Dimensional Tracking of an Aircraft Using 2D Radars," in *IEEE Transactions on Aerospace and Electronic Systems*, vol. 54, no. 2, pp. 585-600, Apr 2018.

2018   Yuanrui Sang, H. Bora Karayaka, **Yanjun Yan**, Nadir Yilmaz, David Souders. "Ocean (Marine) Energy," Book Chapter in *Comprehensive Energy Systems Volume 1: Energy Fundamentals*, to be published by Elsevier on Feb 21, 2018, ISBN 9780128095973.

2017   Yuanrui Sang, H. Bora Karayaka, **Yanjun Yan**, James Z. Zhang, Darek Bogucki, Yi-Hsiang Yu. "A Rule-Based Phase Control Methodology for a Slider-Crank Wave Energy Converter Power Take-Off System," International Journal of Marine Energy, vol. 19, pp. 124-144, 2017.

2017   Pranoy Kumar Singha Roy, Hayrettin Bora Karayaka, **Yanjun Yan**, and Yazan Alqudah. "Size Optimization of Battery-Supercapacitor Hybrid Energy Storage System for 1MW Grid Connected PV Array," *The 49th North American Power Symposium*, Morgantown, USA, Sep 17-19, 2017.

2017   Paul M Yanik, Chip W Ferguson, Sudhir Kaul, and **Yanjun Yan**. "A Pilot Program in Open-Ended Problem Solving and Project Management," *124th ASEE (American Society of Engineering Education) Annual Conference & Exposition*, Columbus, USA, Jun 25-28, 2017.

2017   **Yanjun Yan**, Le Chen, Peter Tay, and Martin Tanaka. "Molecule Binding Parameter Estimation from Surface Plasmon Resonance Measurements," 2017 *IEEE SoutheastCon*, Charlotte, USA, Mar 30-Apr 2, 2017.

2017   Matthew Stender, **Yanjun Yan**, Bora Karayaka, Peter Tay, and Robert Adams. "Simulating Micro-robots to Find a Point of Interest under Noise and with Limited Communication Using Particle Swarm Optimization," 2017 *IEEE SoutheastCon*, Charlotte, USA, Mar 30-Apr 2, 2017.

2016   Nathan Thomas, and **Yanjun Yan**. "Make Kilobots Truly Accessible to All the People around the World," *2016 IEEE International Workshop on Advanced Robotics and its Social Impacts*, Shanghai, China, Jul 8-10, 2016.

2016   **Yanjun Yan**, Mahendra Mallick, James Z. Zhang, and Jie Liu. "Prognostics by Interacting Multiple Model Estimator," 2016 *IEEE International Conference on Prognostics and Health Management (PHM2016)*, Ottawa, Canada, Jun 20-22, 2016.

2016   **Yanjun Yan**, Sudhir Kaul, Chip W Ferguson, Paul M Yanik, and April Tallant. "Perceptions and Applications of Honors Contracts in Developing an Undergraduate Engineering Research Experience," *123rd ASEE (American Society of Engineering Education) Annual Conference & Exposition*, New Orleans, USA, Jun 26-29, 2016.

2016   **Yanjun Yan**, Paul M Yanik, Sudhir Kaul, Chip Ferguson, Robert Adams, Wes Stone, Hugh Jack, and Jeff Ray. "The Challenges and Lessons Learned in Establishing a Travel Course," The *5th Annual ASEE (American Society of Engineering Education) International Forum*, New Orleans, USA, Jun 25, 2016.

2016   Nathan Thomas, **Yanjun Yan**, and Hugh Jack. "Maker: A Kilobot Swarm," *123rd ASEE (American Society of Engineering Education) Annual Conference & Exposition*, New Orleans, USA, Jun 26-29, 2016.

2016   Paul M Yanik, **Yanjun Yan**, Sudhir Kaul, and Chip W Ferguson. "Sources of Anxiety among Engineering Students: Intervention and Mitigation," *123rd ASEE (American Society of Engineering Education) Annual Conference & Exposition*, New Orleans, USA, Jun 26-29, 2016.

2016   Chip W Ferguson, Paul M Yanik, **Yanjun Yan**, and Sudhir Kaul. "NSF S-STEM SPIRIT Program: Scholarship Program Initiative via Recruitment, Innovation, and Transformation, Year-One Results," *123rd ASEE (American Society of Engineering Education) Annual Conference & Exposition*, New Orleans, USA, Jun 26-29, 2016.

2016   Sudhir Kaul, Chip W Ferguson, Paul M Yanik, and **Yanjun** Yan. "Importance of Undergraduate Research: Efficacy and Student Perceptions," *123rd ASEE (American Society of Engineering Education) Annual Conference & Exposition*, New Orleans, USA, Jun 26-29, 2016.

2016   Jordan Chaires, Hayrettin Bora Karayaka, **Yanjun Yan**, and Patrick Gardner. "Solar Farm Hourly Dispatching using Super-Capacitor and Battery System," *The 15th IEEE Annual Power Systems Conference*, Clemson, USA, Mar 8-11, 2016.

2015   **Yanjun Yan**, James Z. Zhang, and Hayrettin Bora Karayaka. "A Comparison of Edge Detectors in the Framework of Wake Pattern Modeling for Wind Turbines," *International Journal of Prognostics and Health Management*, Vol. 6, No. 28, 2015.

2015   Peter C. Tay and **Yanjun Yan**. "Conjointly Well Localized Modulated Lapped Orthogonal Transforms," in *Proceedings of 49th Asilomar Conference on Signals, Systems and Computers*, Asilomar Conference Grounds, Pacific Grove, USA, Nov 8-11, 2015.

2015   Yuanrui Sang, Hayrettin Bora Karayaka, **Yanjun Yan**, James Z. Zhang, Eduard Muljadi, and Yi-Hsiang Yu. "Energy Extraction from A Slider Crank Wave Energy Converter under Irregular Wave Conditions," *OCEANS'15 MTS/IEEE*, Washington DC, USA, Oct 19-22, 2015.

2015   Yuanrui Sang, Hayrettin Bora Karayaka, **Yanjun Yan**, James Z. Zhang, and Eduard Muljadi. "Irregular Wave Energy Extraction Analysis for A Slider Crank WEC Power Take-off System," *2015 ACEMP-OPTIM-Electromotion International Conference*, Side, Turkey, Sep 2-4, 2015.

2015   **Yanjun Yan**. "Nacelle Orientation based Health Indicator for Wind Turbines," *2015 IEEE International Conference on Prognostics and Health Management (PHM 2015)*, Austin, TX, June, 2015.

2014   Yuanrui Sang, Hayrettin Bora Karayaka, **Yanjun Yan**, James Z. Zhang, "Resonance Control Strategy for a Slider Crank WEC Power Take-off System," *OCEANS'14 Marine Technology Society/IEEE*, St. John's, Newfoundland, Canada, September, 2014.

2014   **Yanjun Yan** and James Z. Zhang. "Using Edge-detector to Model Wake Effects on Wind Turbines," *2014 IEEE International Conference on Prognostics and Health Management (PHM 2014)*, Spokane, USA, June, 2014.

2014   Peter Tay and **Yanjun Yan**. "Particle Swarm Optimization to Determine Conjointly Well Localized MLTs," *2014 IEEE Southwest Symposium on Image Analysis and Interpretation (SSIAI 2014)*, San Diego, USA, April, 2014.

2013   Tiee-Jian Wu, Pinyuen Chen and **Yanjun Yan**. "The weighted average information criterion for multivariate regression model selection," *Signal Processing*, Vol. 93, No. 1, 2013, pp. 49–55.

2012   Mahendra Mallick, Mark Morelande, Lyudmila Mihaylova, Sanjeev Arulampalam and **Yanjun Yan**. "Angle-Only Filtering in Three Dimensions," book chapter in *Integrated Tracking, Classification, and Sensor Management*, Wiley & IEEE Press, 2012, pp. 3-42.

2012   Siva Sivananthan, **Yanjun Yan**, and Jifeng Ru. "Altitude Estimation Using Primary Returns from Two Radars," *The Journal of Air Traffic* Control, Vol. 54, No. 4, 2012, pp. 33-37.

2011   Mahendra Mallick, Lyudmila Mihaylova, Sanjeev Arulampalam and **Yanjun Yan**. "Angle-only Filtering in 3D Using Modified Spherical and Log Spherical Coordinates," in *Proceedings of 2011 International Conference on Information Fusion*, Chicago, US, July 5-8, 2011.

2010   Xiang Ye, **Yanjun Yan** and Lisa Ann Osadciw, "Learning Decision Rules by Particle Swarm Optimization (PSO) for Wind Turbine Fault Diagnosis," in *Proceedings of Annual Conference of the PHM (Prognostics and Health Management) Society 2010*, Portland, OR, Oct 10-14, 2010.

2010   Lisa Ann Osadciw, **Yanjun Yan**, Xiang Ye, Glen Benson and Eric White, "Wind Turbine Diagnostics based on Power Curve Using Particle Swarm Optimization," book chapter in *Wind Power Systems: Applications of Computational Intelligence*, Springer, 2010.

2010   Mahendra Mallick, **Yanjun Yan**, Sanjeev Arulampalam, Aditya Mallick, "Connection between Differential Geometry and Estimation Theory for Polynomial Nonlinearity in 2D," in *Proceedings of 2010 International Conference on Information Fusion*, EICC Edinburgh, UK, July 26-29, 2010.

2010   Weihua Gao, **Yanjun Yan** and Lisa Osadciw, Chunjie Duan and Cheng Li, "A Two Stage PAPR Reduction Method on Frequency Redundant OFDM System," in *Proceedings of 25th Queen's Biennial Symposium on Communications (QBSC 2010)*, Kingston, Canada, May 12-14, 2010.

2009   Lisa Osadciw and **Yanjun Yan**, "Spectral Estimation for Clutter Processing in Digital Radars by Dimension-Adaptive Particle Swarm Optimization (DA-PSO), " in *Proceedings of 43rd Asilomar Conference on Signals, Systems and Computers*, Asilomar Conference Grounds, Pacific Grove, California, Nov 1-4, 2009.

2009   **Yanjun Yan**, Ganapathi Kamath, Lisa A. Osadciw, Glen Benson, Paul Legac, Peter Johnson, and Eric White, "Fusion for Modeling Wake Effects on Wind Turbines," in *Proceedings of 12th International Conference on Information Fusion*, Seattle, Washington, USA, July 6-9, 2009.

2009   Xiang Ye, Kalyan Veeramachaneni, **Yanjun Yan**, and Lisa A. Osadciw, "Unsupervised Learning and Fusion for Failure Detection in Wind Turbines," in *Proceedings of 12th International Conference on Information Fusion*, Seattle, Washington, USA, July 6-9, 2009.

2009   **Yanjun Yan**, Lisa A. Osadciw, Glen Benson, and Eric White, "Inverse Data Transformation for Change Detection in Wind Turbine Diagnostics," in *Proceedings of 22nd IEEE Canadian Conference on Electrical and Computer Engineering*, Delta St. John's, Newfoundland and Labrador, Canada, May 3-6, 2009.

2009   **Yanjun Yan**, Ganapathi Kamath and Lisa A. Osadciw. "Feature Selection Optimized by Discrete Particle Swarm Optimization for Face Recognition," *2009 SPIE Symposium on Defense and Security, Conference on Biometric Technology for Human Identification V*, Orlando, FL, Mar. 2009.

2009   **Yanjun Yan** and Lisa A. Osadciw, "Density Estimation by a New Dimension Adaptive Particle Swarm Optimization Algorithm," *Swarm Intelligence*, vol. 3, no. 4, 2009, pp. 275-301.

2008   **Yanjun Yan**, Rajani Muraleedharan and Lisa Osadciw. "Contourlet Based Image Compression for Wireless Communication in Face Recognition System," *Proc. IEEE-ICC 2008, 2008 IEEE International Conference on Communications* (ICC), Beijing, China, May, 2008.

2008   **Yanjun Yan**, Pinyuen Chen and Lisa Ann Osadciw. "Confidence Interval of Feature Number Selection for Face Recognition," *Journal of Electronic Imaging*, vol. 17, no. 1, Jan 2008.

2007   **Yanjun Yan** and Lisa Ann Osadciw. "Fusion for Component based Face Recognition," *Proc. Conference on Information Sciences and Systems* (CISS), Baltimore, MD, Mar. 2007.

2005   **Yanjun Yan** and Lisa Ann Osadciw. "Contourlet based image recovery and de-noising through wireless fading channels," *Proc. Conference on Information Sciences and Systems* (CISS), Baltimore, MD, Session: FA6, Mar. 2005.

2002   Norio Baba, Naoyuki Inoue, **Yan Yanjun**. "Utilization of Soft Computing Techniques for Constructing Reliable Decision Support Systems for Dealing Stocks," *Proc. International Joint Conference on Neural Networks* (IJCNN), Hawaii, May, 2002.

Grants and Awards

2022-2023   UNC Board of Governors Award for Excellence in Teaching, one WCU recipient per year

Fall, 2021   Fulbright U.S. Scholar visiting Technical University of Sofia, Bulgaria.

Fall, 2021   WCU Scholarly Development Award Program.

2020-2021   WCU Provost Scholarship Development Award, with Dr. Steve Ha.

2020-2021   WCU Outstanding Faculty Participation in Community Service Projects

2019-2020   CET Distinguished Student Engagement Award, one recipient per year at CET

2019-2024	Co-PI (with PI: Dr. Paul Yanik, co-PI: NC FIRST Robotics President Marie Hopper) of the Burroughs Wellcome Fund to support outreach from WCU to establish FIRST FRC Robotics teams across the Western North Carolina region, $178,600.
2020	WCU Top Community Engagement Faculty, one of eleven at WCU
2019	WCU Intentional Learning Funding Grant.
2018-2019	WCU Faculty Scholarship and Creative Activities Award. 2nd time. One out of five recipients per year at WCU
2014-2018	NSF SPIRIT (Scholarship Program Initiative via Recruitment, Innovation, and Transformation) in the Department of Engineering and Technology at WCU, awarded $625,179, award #1355872.
2018-2019	American Society of Engineering Education Electrical and Computer Engineering Technology Department Heads Association mini-grant "Development of Touch-Board Projects for Children and Adults on the Autism Spectrum by Students from The School of Engineering + Technology and School of Art and Design in Two Cross-listed Interdisciplinary Service Learning Courses", $1000.
2017-2018	The College of Engineering and Technology (CET) Board of Governors Distinguished Teaching Award. One recipient per year at CET
Spring, 2018	WCU Coulter Endowment Grant on "Factor in Faculty Fit"
2016-2017	The College of Engineering and Technology (CET) Distinguished Research & Scholarly Engagement Award, one recipient per year at CET
2017	WCU Honors College UAPG (Undergraduate Academic Project Grant) awarded to my undergraduate student
2017	co-PI (with PI: Dr. Bora Karayaka) in the WCU Provost's Internal Funding Support Grant
2016	PI in the WCU Provost's Internal Funding Support Grant
2015-2016	WCU Hunter Scholar Award (one recipient per year at WCU, and this is the first time when a Hunter Scholar is from Kimmel School since this award's inception in 1988). Course releases, a graduate student, and materials fee
2014-2015	The Kimmel School Outstanding Early-Career Faculty Award, one recipient per year at Kimmel School
2014-2016	The Center for Rapid Product Realization and the Kimmel School Research Award
2014-2015	WCU Faculty Scholarship and Creative Activities Award, 1st time. One of five recipients per year at WCU

Service Activities

2013-present	Chairing the Excellence in Teaching Liberal Studies Award Selection Committee, WCU AI Working Group, Math (and Computer Science) Tutoring Center Program Review, WCU on Tour week-long recruitment tour in NC, Serving in WCU Institutional Review Board (IRB), Board Member of WCU American Association of University Women (AAUW), WCU Graduate Council, WCU Excellence in Teaching Liberal Studies Award Selection Committee, WCU faculty-led committee, Council of International Faculty and Staff, Council on Inclusion Excellence, WCU Liberal Studies Committee, WCU Budget Advising Committee, Department DCRD committee, Department Peer Review of Teaching Materials committee, University Scholarship Committee, Provost Office's Student Community Ethics Committee, Kimmel School Technology Advisory Committee, Dean's Advisory Committee, University One Book Selection Committee, WCU FYE Cabinet, etc

2013-present	Participated in ABET accreditation efforts, University Academic Fairs, Open Houses, New Students Convocation, Commencements, etc.
2013-present	Outreach in K-12 schools STEM events, on-campus summer camp for high schoolers, judge for FLL, FRC, Science Fair, etc.
2013-2020	Advising graduate students: being the major advisor for five students (Patrik Gilley, Anik Tahabilder, Matthew Stender, Le Chen) on topics of "Swarm Robotics" and "ROI Detection and Signal Estimation for SPR measurements", etc.
2013-2018	Serving on the thesis committee of graduate students (Lucas Lombard, Rumana Sultana, Md Rakib Hasan Khan, Trevor Parrish, Pranoy Kumar Singha Roy, Kaleb Frizzell, Yuanrui Sang, Carl Cole Drawdy, Edward Al Matthews, Chaoke Dong, Jordan Chaires, and Kyle Bailey)
2013-2020	Mentoring various senior Capstone projects, "Automated Inventory Cycle Counting" "Shape Formation Using Kilobots", "Collective Behavior of Swarm Robotics Using Kilobots", "Tool Punch Count System-Tagging/Reader System", "Automated Eye Drop Dispenser", "Warning device for leak of vacuum in cancer patient fixation bags", etc.
2013-present	Having mentored dozens of honours projects in my courses, and advising undergraduate research projects

Selected Professional Development Activities

2020-2024	SF ADVANCE Partnership ASCEND project (Advancing STEM Careers by Empowering Network Development) NSF Award Number 1936070
2021-2022	WCU Institutional Leadership Program
2022, Apr	ABET Accreditation & Assessment Essentials by ABET
2021, May	ELE Experiential Leadership workshop offered by William Jewell College
2020 May-June	WCU Fast-Track Online Course Design Institute (OCDI)
2019/11/7-9	AAC&U (American Association of Colleges and Universities) "Transforming STEM Higher Education" conference, PKAL (Project Kaleidoscope)'s 30th Anniversary
2019/7/16-21	AAC&U and PKAL STEM Leadership Institute
2018-2019	Virtual International Collaborations by Universidad Veracruzana in Mexico
2017-2018	Selected and Participated in WCU Faculty Institute on Community Engagement
2017-2018	Selected and Participated in WCU Global Learning Academy
2015-2016	Selected and Participated in WCU Online Teaching and Learning Academy
2014/4/25	Participated in the event "Women Scientists: Establishing and Developing Research Agendas," sponsored by the Appalachian Women Scientists program in office of research at Appalachian State University (Boone, NC), with their support from an Elsevier Foundation New Scholars grant award
2013-2014	Certificate of the 21-hours Community Mediation Training

Referee/Reviewer Experience

Technical Program Committee:

- International Conference on Information Fusion 2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011, and 2010
- PHM (IEEE International Conference on Prognostics and Health Management) 2018, 2017, 2016
- SSIAI (IEEE Southwest Symposium on Image Analysis and Interpretation) 2018, 2016
- SDPC (International Conference on Sensing, Diagnostics, Prognostics, and Control) 2018, 2017

- ✧ ANTS (International Conference on Swarm Intelligence) 2016, 2014
- ✧ ICCAIS 2015 (The International Conference on Control, Automation and Information Sciences)
- ✧ I4CT 2015 (International Conference on Computer, Communications, and Control Technology)
- ✧ VTC-Spring (Vehicular Technology Conference) 2014, 2012
- ✧ ICMCE 2014 (International Conference on Mechanics and Control Engineering)
- ✧ BDM (Biological inspired techniques for data mining) in PAKDD, 2013, 2011
- ✧ On Multi-media Communications Networks in the Session of Sensor Networks & Distributed Computation in the Complex Adaptive Systems Conference, 2011
- ✧ WAC (IADIS International Conference on Wireless Applications and Computing) 2008

For Journals:

- ✧ IEEE Transactions on Reliability (TR)
- ✧ IEEE Transactions on Image Processing (TIP)
- ✧ Journal of Electronic Imaging by IS&T and SPIE (JEI)
- ✧ Soft Computing Journal
- ✧ Swarm Intelligence Journal
- ✧ International Journal of Prognostics and Health Management (IJPHM)
- ✧ IEEE Transactions on Pattern Recognition and Machine Intelligence (TPAMI)
- ✧ IEEE Sensors Journal
- ✧ IEEE Transactions on Signal Processing (TSP)
- ✧ IEEE Transactions on Information Forensics & Security (TIFS)
- ✧ IEEE Transactions on Aerospace and Electronic Systems (TAES)
- ✧ IEEE Transactions on Smart Grid
- ✧ IEEE Communications Letters
- ✧ Machine Vision and Applications
- ✧ Optical Engineering
- ✧ International Journal of Intelligent Computing and Cybernetics
- ✧ International Journal of Signal and Imaging Systems Engineering
- ✧ International Journal of Image and Graphics
- ✧ International Journal of Distributed Sensor Networks

Review Manager or Review for Other Conferences:

- ✧ IEEE SouthEastCon 2018, 2017
- ✧ North American Power Symposium (NAPS) 2017
- ✧ Asia Pacific Conference of the Prognostics and Health Management Society 2017
- ✧ ACC (American Control Conference) 2017, 2016, 2015, 2014
- ✧ PHM Conference (IEEE International Conference on Prognostics and Health Management) 2015, 2011, 2010, 2009
- ✧ European Conference of the Prognostics and Health Management Society 2014
- ✧ IEEE International Symposium on Biometrics & Security Technologies (ISBAST 2014)
- ✧ IEEE WCNIS2010-Communication Theory and Signal Processing 2010
- ✧ GC'09-WNS (IEEE GlobeCom Conference 2009 Wireless Networking Symposium)
- ✧ SIS (IEEE Swarm Intelligence Symposium Conference) 2008

External Reviewer for Grant Proposals:

- ✧ NSF GRFP Panel, USA, 2018, 2016

- ✧ Natural Sciences and Engineering Research Council of Canada, 2017, 2014
- ✧ Wilks University, USA, 2015

Book Proposal Reviewer:

- ✧ CRC Press by Taylor & Francis Group, book proposal "Offshore Wind Turbines and Wave Energy Converters; Numerical Modelling and Physical Model Testing"