

Ying (Gina) Tang, Ph.D.

CURRICULUM VITAE

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EDUCATIONAL BACKGROUND

Ph.D., Electrical Engineering, New Jersey Institute of Technology, Newark, New Jersey, 2001
M.S., Computer Engineering, Northeastern University, Shengyang, China, June 1998
B.S., Electrical Engineering, Northeastern University, Shengyang, China, June 1996.

EXPERIENCE

Sept. 2013 - present, Professor, Electrical and Computer Engineering Program
College of Engineering, Rowan University, Glassboro, NJ

Sept. 2007 – Aug. 2013, Associate Professor, Electrical and Computer Engineering Program
College of Engineering, Rowan University, Glassboro, NJ

Sept. 2002-Aug. 2007, Assistant Professor, Electrical & Computer Engineering Program
College of Engineering, Rowan University, Glassboro, NJ

Sept. 2001-Aug. 2002, Assistant Professor, Computer Science & Computer Engineering
National Science Division, Pacific Lutheran University, Tacoma, WA

2000- 2001, Research Assistant

New Jersey Institute of Technology, Multi-lifecycle Engineering Research Center, Newark

May 2000 – Sept 2000, Research Associate

Kulicke & Soffa Industries, Inc.

1998-1999, Teaching Assistant

New Jersey Institute of Technology, Multi-lifecycle Engineering Research Center, Newark

1997-1998, System Developer

Shanghai Baosteel Group Corporation, P. R. China

RESEARCH INTERESTS

- Green Manufacturing and Service Automation
- Discrete Event Systems and Visualization
- Intelligent Serious Game Systems
- Virtual/Augmented Reality
- Petri Nets Applications
- Artificial Intelligence

PUBLICATIONS

(Google Scholar H-index 29 with Citation 2994; Scopus H-index 25 with Citation 2253; Web of Science H-index 21 with Citation 1439)

Book:

- B1.** Jingshan Li, Bengt Lennartson, **Ying (Gina) Tang**, Stephan Biller, and Andrea Matta, *Sustainable Production Automation*, Momentum Press, 2016.
- B2.** Li, Z. W., Uzam, M., Liu, G. J., Frey, G., and Tang, Y., *Mathematical Problems in Petri Nets Theory and Applications*, Hindawi, 2015. (SCI: 000364039000001, EI: 20154701571374)

Book Chapters (Total: 6)

- BC1.** **Ying Tang**, Christopher Franzwa, Talbot Bielefeldt, Kauser Jahan, Marzieh Saeedi-Hosseiny, Nathan Lamb, and Shengtao Sun, “Sustain City – Effective Serious Game Design in Promoting Science and Engineering Education,” in *Design, Motivation, and Frameworks in Game-Based Learning*, IGI Global, 2017
- BC2.** **Ying Tang**, Lingling Li, and Congbo Li, “Uncertainty Management in Remanufacturing Process Routing,” in *Advances in Sustainable Production Automation*, Momentum Press, 2016.
- BC3.** **Ying Tang**, Sachin Shetty, John Henry, Kauser Jahan, and Samuel Hargrove, “Interactive and Collaborative Games Promoting Metacognition for Science and Engineering Design,” in *Advances in Computer Science and Education Applications - Communications in Computer and Information Science*, M. Zhou and H. Tan (Eds.), Vol. 202, pp. 405-412, 2011, Springer Berlin Heidelberg. (EI: 20112914164711)
- BC4.** Kauser Jahan, Jess W. Everett, **Gina Tang**, Stephanie Farrell, Hong Zhang, Angela Wenger and Majid Noori, “Use of Living Systems to Teach Basic Engineering Concepts,” in *Web-Based Engineering Education: Critical Design and Effective Tools*, Chapter 8, D. Russell and A. K. Haghi (Eds.), IGI Global, 2010, pp. 96-107.
- BC5.** **Tang, Y.**, and Zhou, M. C., “Human-in-the-Loop Disassembly Modeling and Planning,” *Environmentally Conscious Manufacturing*, S. M. Gupta and A. J. D. Lambert (Eds.), Taylor and Francis Group, 2008, pp.363-386.
- BC6.** Caudill, R., Zhou, M. C., Hu, J. J., **Tang, Y.**, and Limaye, K., “Demanufacturing System Simulation and Modeling,” in *Lifecycle Engineering: A Handbook for Mechanical Engineers*, Chapter 17, pp. 405-428, 2001.

Peer-reviewed Journals (Total: 70)

- J1.** Min Liu, Lanlan Hu, **Ying Tang**, Chu Wang, Minghu Wu, Chunyan Zeng, Kun Lin, Zhizi He, Wujie Huo, “A deep learning method for breast cancer classification in the pathology

- images,” *IEEE Journal of Biomedical and Health Informatics*. 2022, doi: 10.1109/JBHI.2022.3187765.
- J2.** J. Liang, R. Hare, Tianyu Chang, Fangli Xu, **Y. Tang**, F. -Y. Wang, Shimeng Peng, and Mingyu Lei, "Student Modeling and Analysis in Adaptive Instructional Systems," in *IEEE Access*, vol. 10, pp. 59359-59372, 2022, doi: 10.1109/ACCESS.2022.3178744.
- J3.** X. Chen, C. Li, Q. Yang, **Y. Tang**, L. Li and X. Zhao, "Toward Energy Footprint Reduction of a Machining Process," in *IEEE Transactions on Automation Science and Engineering*, vol. 19, no. 2, pp. 772-787, April 2022, doi: 10.1109/TASE.2021.3062648.
- J4.** J. Liang, **Y. Tang**, R. Hare, B. Wu and F. -Y. Wang, "A Learning-Embedded Attributed Petri Net to Optimize Student Learning in a Serious Game," in *IEEE Transactions on Computational Social Systems*, doi: 10.1109/TCSS.2021.3132355.
- J5.** X. Guo, Z. Zhang, L. Qi, S. Liu, **Y. Tang**, and Z. Zhao, "Stochastic Hybrid Discrete Grey Wolf Optimizer for Multi-Objective Disassembly Sequencing and Line Balancing Planning in Disassembling Multiple Products," in *IEEE Transactions on Automation Science and Engineering*, doi: 10.1109/TASE.2021.3133601
- J6.** Sifeng Jing, Xiwei Liu, Xiaoyan Gong, **Ying Tang**, Gang Xiong, Sheng Liu, Shuguang. Xiang, Rongshan. Bi, "Correlation analysis and text classification of chemical accident cases based on word embedding," *Process Safety and Environmental Protection*, Volume 158, 2022, Pages 698-710
- J7.** Du, YB, Wu, GA, Tang, Y, Liu, SA, "A two-stage reliability allocation method for remanufactured machine tools integrating neural networks and remanufacturing coefficient," *Computers & Industrial Engineering*, Volume 163, 2022.
- J8.** Y. Lv, C. Li, **Y. Tang** and Y. Kou, "Toward Energy-Efficient Rescheduling Decision Mechanisms for Flexible Job Shop with Dynamic Events and Alternative Process Plans," *IEEE Transactions on Automation Science and Engineering*, doi: 10.1109/TASE.2021.3115821.
- J9.** Shi, T., Qi, Y., Zhu, C., **Tang, Y.**, and Wu, B., "Three-Dimensional Microscopic Image Reconstruction Based on Structured Light Illumination," *Sensors* **2021**, *21*, 6097. <https://doi.org/10.3390/s21186097>
- J10.** Chen, Xingzheng, Li, Congbo, **Tang, Ying**, Li Li. Energy efficient cutting parameter optimization. *Frontiers of Mechanical Engineering*, 2021, 16(2): 221–248.
- J11.** B. Wu, **Y. Tang**, C. Qiu, Y. Huang, C. Huang and P. R. Prucnal, "Secure Analysis of Optical Steganography With Spectral Signature Measurement," in *IEEE Photonics Technology Letters*, vol. 33, no. 17, pp. 971-974, 1 Sept.1, 2021, doi: 10.1109/LPT.2021.3101399.
- J12.** Dezhen Zhang, Gaoyue Huang, Chengtao Ji, Huiying Liu, **Ying Tang**, "Pedestrian evacuation modeling and simulation in multi-exit scenarios," *Physica A: Statistical Mechanics and its Applications*, Volume 582, 2021, 126272, ISSN 0378-4371.
- J13.** X. Zhao, C. Li, Y. Tang and J. Cui, "Reinforcement Learning-Based Selective Disassembly Sequence Planning for the End-of-Life Products With Structure Uncertainty," in *IEEE Robotics and Automation Letters*, vol. 6, no. 4, pp. 7807-7814, Oct. 2021, doi: 10.1109/LRA.2021.3098248.

- J14.** Ben Wu, Yang Qi, Chenxi Qiu, **Ying Tang**, “Wideband Anti-Jamming Based on Free Space Optical Communication and Photonic Signal Processing,” *Sensors*, Vol. 21, No. 4, pp. 1136, 2021
- J15.** J. Pan, C. Li, **Y. Tang**, W. Li and X. Li, "Energy Consumption Prediction of a CNC Machining Process With Incomplete Data," in *IEEE/CAA Journal of Automatica Sinica*, vol. 8, no. 5, pp. 987-1000, May 2021, doi: 10.1109/JAS.2021.1003970.
- J16.** Jun Xie, Wei Cai, Yanbin Du, **Ying Tang**, Junbo Tuo, “Modelling approach for energy efficiency of machining system based on torque model and angular velocity”, *Journal of Cleaner Production*, Volume 293, 2021.
- J17.** Bingyao Huang, **Ying Tang**, Samed Ozdemir, and Haibin Ling, “A Fast and Flexible Projector-Camera Calibration System,” *IEEE Transactions on Automation Science and Engineering*, Vol. 18, No. 3, pp. 1049-1063, July 2021.
- J18.** Yanbin Du, Yashi Zheng, Guoao Wu, **Ying Tang**, “Decision-making method of heavy-duty machine tool remanufacturing based on AHP-entropy weight and extension theory,” *Journal of Cleaner Production*, Volume 252, 2020.
- J19.** Du, Y., Wu, G., **Tang, Y.**, Huajun Cao, and Shihao Liu, “Reliability Allocation Method for Remanufactured Machine Tools Based on Fuzzy Evaluation Importance and Failure Influence. *Int. J. of Precis. Eng. and Manuf.-Green Tech.* (2020).
- J20.** Liu, M., Deng, B., Tang, Y., Wu, Minghu, and WANG, Juan, “A Low-Cost Approach for Improving Video Transmission Efficiency in WVSNs,” *Journal of Shanghai Jiao Tong University (Science)*, 25 (5), pp. 600-605, <https://doi.org/10.1007/s12204-020-2202-3>, 2020
- J21.** Ying Tang, Joleen Liang, Ryan Hare, and Fei-Yue Wang, “A Personalized Learning System for Parallel Intelligent Education,” *IEEE Trans. on Computational Social Systems*, Vol. 7, No. 2, pp. 352-361, 2020.
- J22.** Lingling Li, Congbo Li, **Ying Tang**, Li Li, Xingzheng Chen, “An Integrated Solution to the Energy Consumption of a Resource-constrained Machining System,” *IEEE Transactions on Automation Science and Engineering*, 2020 17(3):1158-1175. DOI: 10.1109/TASE.2019.295058.
- J23.** Qinge Xiao, Congbo Li, Ying Tang, and Xingzheng Chen, “Energy Efficiency Modeling for Configuration-Dependent Machining via Machine Learning: A Comparative Study,” *IEEE Transactions on Automation Science and Engineering*, pp. 1-14, 2020, DOI: [10.1109/TASE.2019.2961714](https://doi.org/10.1109/TASE.2019.2961714).
- J24.** Qinge Xiao, Congbo Li, Ying Tang, and Li Li, Meta-Reinforcement Learning of Machining Parameters for Energy-Efficient Process Control of Flexible Turning Operations,” *IEEE Transactions on Automation Science and Engineering*, pp. 1-14, 2019.
- J25.** Qinge Xiao, Congbo Li, Ying Tang, Jian Pan, Jun Yu, and Xingzheng Chen, “Multi-component energy modeling and optimization for sustainable dry gear hobbing,” *Energy*, Vol.187, No. 5 pp. 1-16, 2019.
- J26.** Li, L., Li, C., Tang, Y., and Yang, Q., “An integrated approach for remanufacturing job shop scheduling with routing alternatives,” *Mathematical Biosciences and Engineering*, Vol 16, No. 4, pp. 2063-2085, 2019. (SCI: 000465435500019)

- J27.** Wang, F-Y, Tang, Y., Liu, X., Yuan, Y., “Social Education: Opportunities and Challenges in Cyber-Physical-Social Space,” *IEEE Transactions on Computational Social Systems*, Vol. 6, No. 2, PP. 191-196, 2019. (SCI: 000463475000001)
- J28.** KunHe, GuolongLi, YanbinDu, YingTang, “A digital method for calculation the forming cutter profile in machining helical surface,” *International Journal of Mechanical Sciences*, Volume 155, May 2019, Pages 370-380 (SCI: 000468721800030)
- J29.** Qinge Xiao, Congbo Li, **Ying Tang**, Lingling Li, Li Li, “A knowledge-driven method of adaptively optimizing process parameters for energy efficient turning,” *Energy*, Vol. 166, Pages 142-156, 2019. (SCI: 000455694300012)
- J30.** Congbo Li, Lingling Li, **Yang Tang**, Yantao Zhu, Li Li, “A comprehensive approach to parameters optimization of energy-aware CNC milling,” *Journal of Intelligent Manufacturing*, Vol. 30, No. 1, pp. 123-138, 2019 (DOI: 10.1007/s10845-016-1233-y, EI: 20162502523160)
- J31.** K. Jahan, C. Bodnar, S. Farrell, **Y. Tang**, I. Noshadi, CS Slater, DS Miller, “Improving Students’ Learning Behaviors through Hands-on Algae Based Project,” *International Journal Engineering Education*, Vol. 35, No. 5, pp. 1343-1352, 2019. (SCI: 000484364100009)
- J32.** Xingzheng Chen, Congbo Li, **Ying Tang**, Qinge Xiao, “An Internet of Things based energy efficiency monitoring and management system for machining workshop,” *Journal of Cleaner Production*, 2018, 199: 957-968. (SCI: 000444358400087)
- J33.** Lingling Li, Congbo Li, **Ying Tang**, Qian Y, “Influence factors and operational strategies for energy efficiency improvement of CNC machining,” *Journal of Cleaner Production*, 2017, 161: 220–238. (SCI: 000407655400019, EI: 20173003979677)
- J34.** Lingling Li, Congbo Li, **Ying Tang**, Li Li, “An integrated approach of process planning and cutting parameter optimization for energy-aware CNC machining,” *Journal of Cleaner Production*, 2017, 162: 458-473. (SCI: 000407185500042, EI: 20172903957879)
- J35.** Lingling Li, Congbo Li, **Ying Tang**, Yanbin Du, “An integrated approach of reverse engineering aided remanufacturing process for worn components,” *Robotics and Computer-Integrated Manufacturing*, 2017, 48: 39-50. (SCI: 000404199200004, EI: 20170803377143)
- J36.** Shengping Yu, Tianyou Chai, and **Ying Tang**, “An Effective Heuristic Rescheduling Method for Steelmaking and Continuous Casting Production Process with Multi-refining Modes,” *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, Vol. 46, No. 12, Dec. 2016, pp. 1675-1688. (SCI: 000388922100007, EI: 20162502523160)
- J37.** Congbo Li, Xingzheng Chen, Ying Tang, Li Li, “Selection of optimum parameters in multi-pass face milling for maximum energy efficiency and minimum production cost,” *Journal of Cleaner Production*, 2016. (SCI: 000388775300067, EI: 20164603007960)
- J38.** Dezhen, Zhang, Min Zhao, **Ying Tang**, and Yongjun Gong, “Passenger ship evacuation model and simulation under the effects of storms,” *Systems Engineering –Theory & Practice*, Vol.36, No. 6, pp. 1609-1615, 2016. (EI: 20163602772313)
- J39.** Congbo Li, Qingke Xiao, **Ying Tang**, and Li Li, “A Method Integrating Taguchi, RSM, and MOPSO to CNC Machining Parameters Optimization for Energy Saving,” *Journal of Cleaner Production*, Vol. 135, pp. 263-275, 2016. (SCI: 000382792900025, EI: 20164102897513)
- J40.** Margheri, L., and Tang, Y., “Women in Automation: An Experience of Career Growth and Society Volunteering,” *IEEE Robotics and Automation Magazine*, Vol. 22, No. 2, pp. 112-114, 2015. (SCI:000356519900016, EI: 20152700991909)

- J41.** Qian Yi, Congbo Li, Xiaolong Zhang, Fei Liu, and **Ying Tang**, “An optimization model of machining process route for low carbon manufacturing,” *International Journal of Advanced Manufacturing Technology*, 2015, Volume 80, Issue 5, pp 1181-1196. (SCI:000360700900039, EI: 20151700770649)
- J42.** Qian Yi, Congbo Li, Ying Tang, Xingzheng Chen, “Multi-objective Parameter Optimization of CNC Machining for Low Carbon Manufacturing,” *Journal of Cleaner Production*, 2015, 95: 256-264. (SCI: 000353859300026, EI: 20151100646617)
- J43.** Lingling Li, Congbo Li, Huijie Ma*, and **Ying Tang**, “An Optimization Method for the Remanufacturing Dynamic Facility Layout Problem with Uncertainties,” *Discrete Dynamics in Nature and Society*, Vol. 2015, pp. 1-11. (SCI: 000351403100001, EI: 20155301741797)
- J44.** Congbo Li, **Ying Tang**, Longguo Cui, Pengyu Li, “A Quantitative Approach to Analyze Carbon Emissions of CNC-based Machining Systems,” *Journal of Intelligent Manufacturing*, Volume 26, Issue 5 (2015), Page 911-922. (SCI:000361486200007, EI: 20143600044001)
- J45.** Christopher Franzwa, **Ying Tang**, Aaron Johnson, and Talbot Bielefeldt, “Balancing Fun and Learning in a Serious Game Design,” *International Journal of Game-Based Learning*, 4(4), 37-57, Dec. 2014. (EI: 20172803920403)
- J46.** Ramachandran, R., Dahm, K. D., Nickel, R. M., Kozick, R. J., Shetty, S. S., Liang Hong, Chin, S. H., Polikar, R., and Ying Tang, “Vertical Integration of Biometrics Across the Curriculum: Case Study of Speaker, Face and Iris Recognition,” *IEEE Circuits and Systems Magazine*, Vol. 14, No. 3, pp.55-69, 2014. (SCI:000345522000005, EI: 20143618125304)
- J47.** Congbo Li, **Ying Tang**, Chenchuan Li, Lingling Li, “A Modeling Approach to Analyze Variability of Remanufacturing Process Routing,” *IEEE Transactions on Automation Science and Engineering*, Vol. 10, No. 1, 2013, pp. 86-98. (SCI:000312838100010, EI:20130215876381)
- J48.** **Ying Tang**, David M. Carbonetta, and Sachin Shetty, “Development of an Integrated Network Visualization and Graph Analysis Tool for Biological Network,” *International Journal of Computational Biology and Drug Design*, Vol. 5, No. 2, 2012, pp.152-162.
- J49.** H. S. Hu, M. C. Zhou, Z. W. Li, and **Y. Tang**, “An Optimization Approach to Improved Petri Net Controller Design for Automated Manufacturing Systems,” *IEEE Transaction on Automation Science and Engineering*, 10(3), pp. 772-782, 2013. (SCI: 000321339200028, EI: 20140417226821)
- J50.** **Ying Tang**, Sachin Shetty, Kauser Jahan, John Henry, and S. Keith Hargrove, “Sustain City – A Cyberinfrastructure-Enabled Game System for Science and Engineering Design,” *Journal of Computational Science Education*, Vol. 3, No. 1, 2012, pp. 57-65.
- J51.** H. S. Hu*, M. C. Zhou, Z. W. Li, and **Y. Tang**, “Deadlock-free Control of Automated Manufacturing Systems with Flexible Routes and Assembly Operations Using Petri Net,” *IEEE Transaction of Industrial Informatics*, Vol. 9, No. 1, pp. 109-121, 2013. (SCI: 000312839600011, EI:20130215876404)
- J52.** **Ying Tang**, Linda M. Head, Ravi P. Ramachandran, and Lawrence M. Chatman, “Vertical Integration of System-on-Chip Concepts in the Digital Design Curriculum,” *IEEE Transaction on Education*, Vol. 54, No. 2, 2011, pp. 188-196. (SCI:000290166600004, EI: 20111913962615)
- J53.** Jahan, K., Everett, J.W., Farrell, S., Tang, G., Zhang, H., Wenger, A., Noorie, M, “A living system for future engineers,” *WIT Transactions on Ecology and the Environment*, 138, pp.537-544, 2010.

- J54.** Shetty, S., **Tang, Y.**, and Collani, W., “A cross-layer packet loss identification scheme to improve TCP VenO performance,” *International Journal of Computer Networks*, Vol. 1, No. 1, Nov. 2009, pp. 36-45.
- J55.** **Tang, Y.**, “Learning-based disassembly process planner for uncertainty management,” *IEEE Trans. on Systems, Man, & Cybernetics, Part A*, Vol. 39, No. 1, pp. 134-143, 2009. (SCI: **000262429600013**)
- J56.** Grochowski, D. and **Tang, Y.**, “A Machine Learning Approach for Optimal Disassembly Planning,” *International Journal of Computer Integrated Manufacturing*, Volume 22, Issue 4 April 2009 , pages 374 - 383. (SCI: **000264742200009**, EI: **20100112615065**)
- J57.** Qiu, R., **Tang, Y.**, and Joshi, S. B., “A process-driven computing model for reconfigurable semiconductor manufacturing,” *Robotics and Computer-Integrated Manufacturing*, Vol. 24, pp. 709-721, 2008. (SCI:**000260203300003**, EI:**20083611519012**)
- J58.** Zhang, H. and **Tang, Y.**, “Design and Modeling of an Interactive Mobile Aqua Probe and Surveillance (IMAPS) System,” *International Journal of Intelligent Control and Systems*, Vol. 12, No. 3, pp. 256-264, 2007.
- J59.** **Tang, Y.** and Turowski, M., “Adaptive Fuzzy System for Disassembly Process Planning with Uncertainty,” *Journal of Chinese Institute of Industry Engineers*, Vol. 24, No. 1, pp. 20-29, 2007. (EI: **20083711530085**)
- J60.** **Tang, Y.**, and Zhou, M. C., “A Systematic Approach to Design and Operation of Disassembly Lines,” *IEEE Trans. on Automation Science and Engineering*, Vol. 3, No. 3, pp. 324-329, 2006. (SCI: **000239032600016** EI: **20063110039851**)
- J61.** **Tang, Y.**, Zhou, M. C., and Gao, M., “Fuzzy-Petri-Net Based Disassembly Planning Considering Human Factors,” *IEEE Trans. on Systems, Man, and Cybernetics: Part A*, Vol. 36, No. 4, pp. 718-726, 2006. (SCI: **000238321700009**, EI: **20071210493798**)
- J62.** Zhang, H., **Tang, Y.**, Courtney, R., and Mosto, P., “INTERACTIVE MOBILE AQUA PROBE & SURVEILLANCE (IMAPS) – A MULTIDISCIPLINARY DESIGN PROJECT,” *World Transactions on Engineering and Technology Education*, Vol. 5, No. 3, pp.425-428, 2006.
- J63.** Qiu, R. **Tang, Y.** and Xu, Q., “Integration Design of Material Flow Management in an e-Business Manufacturing Environment,” *Journal of Decision Support Systems*, Vol. 42, pp. 1104-1115, 2006. (SCI: **000242209700041**, EI: **20064210174592**)
- J64.** Jahan, K., **Tang, G.** and W. Riddell, “Hands on an Aquarium,” *World Transactions on Engineering and Technology Education*, Vol. 4, No.2, 2005, pp. 177-180.
- J65.** **Tang, Y.** and Qiu, R., “An Integrated Design Approach for Virtual-Production-Line-Based Reconfigurable Manufacturing Systems,” *International Journal of Production Research*, Vol. 42, No. 18, 2004, pp. 3803-3822. (SCI: **000224174500001**, EI: **2004438414994**)
- J66.** Gao, M., Zhou, M. C., and **Tang, Y.**, “Intelligent Decision Making in Disassembly Process Based on Fuzzy Reasoning Petri Nets,” *IEEE Trans. on Systems, Man, and Cybernetics: Part B*, Vol. 34, No. 5, 2004, pp. 2029-2034. (SCI: **000223937400008**, EI: **2004428413777**)
- J67.** **Tang, Y.** and Zhou, M. C., “A Queuing Network-based Method for Reconfiguration of Back-end Semiconductor Manufacturing Systems with Unreliable Equipment,” *Int. J. of Intelligent Control and Systems*, Vol. 11, No. 2, pp. 105-112, 2006.
- J68.** **Tang, Y.**, Zhou, M. C and Qiu, R., “Virtual Production Line Design for Back-end Semiconductor Manufacturing System,” *IEEE Trans. on Semiconductor Manufacturing*, Vol. 16, No. 3, 2003, pp.543-550. (SCI: **000184695600026**, EI: **2003367624217**)

- J69.** Tang, Y., Zhou, M. C., Zussman, E. and Caudill, R., “Disassembly modeling, planning, and application”, *Journal of Manufacturing Systems*, Vol. 21, No. 3., 2002, pp.200-217. (SCI: 000180998300004, EI: 2004057992303)
- J70.** Tang, Y., Zhou, M. C. and Caudill, R., “An Integrated Approach to Disassembly Planning and Demanufacturing Operation,” *IEEE Trans. on Rob. & Aut.*, 17(6), December 2001, pp. 773-784. (SCI: 000173337600001, EI: 2002076863941)

Peer-reviewed Conference Proceedings (Total: 139)

Technical Conference Articles (Total: 97)

- TC1.** Ryan Hare, Nidhi Patel, Ying Tang and Pankti Patel, “A Graph-based Approach for Adaptive Serious Games,” Accepted by IEEE CyberSciTech, Calabria, Italy, September 12-15, 2022.
- TC2.** Xuwang Liu, Biying Zhou, Wei Qi, Xiwang Guo, Jiacun Wang, Ying Tang, “Service Pricing and Strategy Selection of Freemium Model Considering Users’ Stickiness,” Accepted by 2022 IEEE International Conference on Systems, Man, and Cybernetics (SMC), Prague, Czech Republic, October 9-12, 2022.
- TC3.** Xuwang Liu, Junjia Wang*, Wei Qi, Xiwang Guo, Jiacun Wang, Ying Tang, “Two-Stage Online Product Pricing Optimization Based on Consumer Decision Factors,” Accepted by 2022 IEEE International Conference on Systems, Man, and Cybernetics (SMC), Prague, Czech Republic, October 9-12, 2022.
- TC4.** Wei Qi, Ziwei Li*, Xuwang Liu, Xiwang Guo, Jiacun Wang, Ying Tang, “A Two-Stage Pricing Study of Product Line Considering Value-Added Services,” Accepted by 2022 IEEE International Conference on Systems, Man, and Cybernetics (SMC), Prague, Czech Republic, October 9-12, 2022.
- TC5.** Wei Qi, Junlin Pei*, Xuwang Liu, Xiwang Guo, Jiacun Wang, Ying Tang, “Pricing Optimization of Products and Value-added Services based on Multinomial Logit Model,” Accepted by 2022 IEEE International Conference on Systems, Man, and Cybernetics (SMC), Prague, Czech Republic, October 9-12, 2022.
- TC6.** Jing Zhang, Congbo Li*, Ying Tang, Miao Yang, De Zhao, “A Collaborative Resequencing Optimization Method for Multi-stage Automotive Production Line Considering Emergency Order,” Accepted by 2022 IEEE International Conference on Systems, Man, and Cybernetics (SMC), Prague, Czech Republic, October 9-12, 2022.
- TC7.** Laide Guo, Xiwang Guo, Ying Tang, Shujin Qin, Guipeng Xi, Jiacun Wang and Jian Zhao, “Hybrid Neighborhood Search Algorithm for Multi-product Hybrid Disassembly Line Balancing Problem Considering Multi-skill Workers,” submitted to 2022 IEEE International Conference on Networking, Sensing and Control (ICNSC), Oct. 20-23, 2022, Shanghai, China.
- TC8.** Jiaxin Wang, Yunping Han, Xiwang Guo, Jiacun Wang, Shujin Qin, Liang Qi and Ying Tang, “Discrete Migratory Bird Optimizer for Disassembly Line Balancing Problem Considering Tool Deterioration,” submitted to 2022 IEEE International Conference on Networking, Sensing and Control (ICNSC), Oct. 20-23, 2022, Shanghai, China.
- TC9.** Pankti Patel, Ryan Hare, Ying Tang and Nidhi Patel, “3D Multi-Angle Point Cloud Stitching Using Iterative Closest-point Stitching and K-Nearest-Neighbors,” submitted to 2022

International Conference on Cyber-Physical Social Intelligence (ICCSI), Oct. 21-24, Nanjing, China.

- TC10.** Ryan Hare and Ying Tang, “Petri Nets and Hierarchical Reinforcement Learning for Personalized Student Assistance in Serious Games,” submitted to 2022 International Conference on Cyber-Physical Social Intelligence (ICCSI), Oct. 21-24, Nanjing, China.
- TC11.** Shiqi Zhang, Xu Wang, Xiwang Guo, Jiacun Wang, Shujin Qin and Ying Tang, “An Improved Tabu Search Algorithm for Multi-robot Hybrid Disassembly Line Balancing Problems,” submitted to 2022 International Conference on Cyber-Physical Social Intelligence (ICCSI), Oct. 21-24, Nanjing, China
- TC12.** Meng Xu, Shujin Qin, Shixin Liu, Jiacun Wang, Xiwang Guo and Ying Tang, “Modeling and Optimization of Routing Problems for Community Elderly Care Service,” submitted to 2022 International Conference on Cyber-Physical Social Intelligence (ICCSI), Oct. 21-24, Nanjing, China
- TC13.** Maokun Xiong, Congbo Li, Ying Tang, Miao Yang and Xiaobo Hou, “Availability-oriented Maintenance Strategy of Key Equipment in Automated Production Lines Considering Performance Degradation,” submitted to 2022 International Conference on Cyber-Physical Social Intelligence (ICCSI), Oct. 21-24, Nanjing, China
- TC14.** Peng Ji, Xu Wang, Xiwang Guo, Jiacun Wang, Shujin Qin and Ying Tang, “Stochastic Greedy Two-neighborhood Search Algorithm For Hybrid Disassembly Line Balancing Problem Considering Human Posture,” submitted to 2022 International Conference on Cyber-Physical Social Intelligence (ICCSI), Oct. 21-24, Nanjing, China
- TC15.** Ermeng Ma, Xu Wang, Xiwang Guo, Jiacun Wang, Shujin Qin and Ying Tang, “Hybrid Disassembly Lines Considering Employee Training Targets and An Improved Multi-neighborhood Tabu Search Algorithm,” submitted to 2022 International Conference on Cyber-Physical Social Intelligence (ICCSI), Oct. 21-24, Nanjing, China
- TC16.** Huang Fuguang, Guo Laide, Guo Xiwang, Liu Shixin, Qi Liang, Qin Shujin, Zhao Ziyang and Tang Ying, “Multi-objective Discrete Bat Optimizer for Partial U-shaped Disassembly Line Balancing Problem,” 2021 International Conference on Cyber-Physical Social Intelligence (ICCSI), 2021, pp. 1-6, doi: 10.1109/ICCSI53130.2021.9736232, Dec. 18-20, Beijing, China.
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- EC16.** **Ying Tang**, Sachin Shetty, Kauser Jahan, John Henry, and Samuel Hargrove, “SustainCity - An Interactive Virtual Reality Game System,” *Proceedings of Interdisciplinary Engineering Design Education Conference*, March 19, 2012, Santa Clara, CA, pp.18-22. (EI: 20122015016707)
- EC17.** **Ying Tang**, Sachin Shetty, Kauser Jahan, John Henry, and Samuel Hargrove, “Interactive and Collaborative Virtual Reality Games for Science and Engineering Design in Pre-Engineering Curriculum,” *Proceedings of ASEE annual conference*, June 10-13, San Antonio, Texas, AC 2012-3423. (EI: 20123415351565)
- EC18.** **Ying Tang**, Sachin Shetty, and Xiufang Chen, “Educational Effectiveness of Virtual Reality Games Promoting Metacognition and Problem-Solving,” *Proceedings of ASEE annual conference*, June 10-13, San Antonio, Texas. AC 2012-3380. (EI: 20123415351540)
- EC19.** Ravi P. Ramachandran, Robi Polikar, Dr. Kevin D. Dahm, Ying Tang, Sachin Shetty, Richard J. Kozick, Robert M. Nickel, and Steven H. Chin, “Project-based Design of a Biometric Face Recognition System,” *Proceedings of ASEE annual conference*, June 10-13, San Antonio, Texas. AC 2012-3281. (EI: 20123415351473)
- EC20.** **Ying Tang**, Sachin Shetty, Xiufang Chen, “Interactive Virtual Reality Games to Teaching Circuit Analysis with Metacognitive and Problem-Solving Strategies”, *Proceedings of ASEE annual conference*, June 26-29, Vancouver, BC, Canada, 2011, AC2011-768. (EI: 20113414257120)

- EC21.** R. Ramachandran, P. Jansson, **Y. Tang**, and L. Head, “Vertical Integration of System-on-Chip and Green Engineering Across the Undergraduate Curriculum,” the 40th Annual Frontiers in Education conference, Oct. 27-30, Arlington, VA, Section T3J. **(EI: 20110413614556)**
- EC22.** **Ying Tang**, Linda M. Head, Ravi P. Ramachandran, and Lawrence M. Chatman , “SYSTEM-ON-CHIP AS A THEME FOR ACHIEVING SEAMLESS TRANSITION FROM A TWO-YEAR COLLEGE TO A FOUR-YEAR UNIVERSITY,” *Proceedings of ASEE annual conference*, June 20-23, 2010, Louisville, Kentucky, AC 2010-477. **(EI: 20103513189677)**
- EC23.** **Ying Tang**, Linda M. Head, Ravi P. Ramachandran, and Lawrence M. Chatman, “INTEGRATING SYSTEMS-ON-CHIP IN AN UNDERGRADUATE ECE CURRICULUM,” *Proceedings of ASEE annual conference*, June 14-17, 2009, Austin, TX, AC 2009-151. **(EI: 20120914806270)**
- EC24.** **Ying Tang**, Linda M. Head, Ravi P. Ramachandran, and Lawrence M. Chatman, “Vertical Integration of System-on-Chip Concepts in the Digital Design Curriculum,” *Proceedings of 2009 International Conference on Microelectronic Systems Education*, July 25-17, 2009, San Francisco, CA, pp.85-88. **(EI: 20094812503213)**
- EC25.** Kauser, J., Everett, J. W., **Tang, Y.**, Farrell, S., Zhang, H., Wenger, A., and Noori, M., “A living system for teaching engineering principles,” *ASEE Mid-Atlantic Conference*, April 24-25, 2009, Baltimore, MD.
- EC26.** Kauser Jahan, Mariano Savelski, Joseph Orlins, Yusuf Mehta, William Riddell, Stephanie Farrell, Brian LeFebvre, **Y. Tang**, Anthony Marchese, Paris von Lockette, Courtney Richmond, Catherine Yang, Beena Sukumaran, Patricia Mosto and Demond Miller (2007) “*Sustainability Education for Undergraduates*” Session 1526-NSF Grantees Poster Session, Annual ASEE Conference 2007, Honolulu, HI.
- EC27.** **Jahan, K., Tang, Y.**, and Riddell, W., “The aquarium project: teaching engineering principles and sustainability,” *Proceedings of ASEE Annual Conference*, Honolulu, HI, June 24-27, 2007, AC 2007-1021. **(EI: 20075210997832)**
- EC28.** Zhang, H., **Tang, Y.**, Courtney, R., and Mosto, P., “IMAPS – A Multidisciplinary Aquatic Robot Project,” *Proceedings of ASEE Annual Conference*, Honolulu, HI, June 24- 27, 2007. AC 2007-1607. **(EI: 20075210998185)**
- EC29.** Zhang, H., **Tang, Y.**, Courtney, R., and Mosto, P., “BUILDING AN INTERACTIVE MOBILE AQUA PROBE SYSTEM,” *Proc. of the Annual ASEE Conference*, Chicago, IL, June 18-21, 2006, Section 1699. **(EI: 20075210996814)**
- EC30.** Zhang, H., **Tang, Y.**, Courtney, R., and Mosto, P., “ROBOTIC AQUA SENSOR – AN MULTIDISCIPLINARY PROJECT,” *Proc. of the Annual ASEE Conference*, Chicago, IL, June 18-21, 2006, Section 1694. **(EI: 20075210996809)**
- EC31.** Jansson, P., **Tang, Y.**, Ramachandran, R., Schmalzel, J. L., Mandayam, S. A., Krchnavek, R. R., Head, L. M., Polikar, R. and Ordóñez, R., “THE ROLE OF THE ENGINEERING CLINIC IN PROMOTING AN AGILE ECE LEARNING ENVIRONMENT,” *Proc. of the Annual ASEE Conference*, Chicago, IL, June 18-21, 2006, Section 959. **(EI: 2005319270368)**
- EC32.** Marchese, A., Sukumaran, B., Yang, C., Richmond, C., miller, D., Orlins, J., Jahan, K., Savelski, M., Von Lockette, P., Mosto, P., Farrell, S. Riddell, W., Tang, Y., Mehta, Y., “Research Experiences in Pollution Prevention and Sustainability,” *Proc. of the Annual ASEE Conference*, Chicago, IL, June 18-21, 2006. **(EI: 20075210996976AS)**

- EC33.** Tang, Y., Head, M. L., Mandayam, S., and Jahan, K., “Attracting women into electrical and computer engineering,” *Proc. of ASEE Annual Conference*, Session 3592, Portland, OR, June 12-15, 2005. (EI: 2005319270368)
- EC34.** Tang, Y., Ludivig J. U.* , Tobi M.* , and Tosh K., “Simulation of a disassembly-to-order system,” *Proc. of ASEE Annual Conference*, Session 157, Salt Lake City, UT, June 20-23, 2004, pp. 12633-12640. (EI: 2004448428162)
- EC35.** Jahan, K., Savelski, M., Orlins, J. Mehta, Y. Riddell, W. Farrell, S. Tang, Y., Marchese, A. Lockette, P., Richmond, C. Yang, C. Sukumaran, B., Mosto, P. and Miller, D., “Undergraduate research in pollution prevention and sustainability,” *Proc. of ASEE Annual Conference*, June 7-10, 2005, Portland, OR, pp. 14663-14666. (EI: 2005319271507)
- EC36.** Jahan, K., Savelski, M., Orlins, J. Mehta, Y. Riddell, W. Farrell, S. Tang, Y., Marchese, A. Lockette, P., Richmond, C. Yang, C. Sukumaran, B., Mosto, P. and Miller, D., “Pollution Prevention and Sustainability Initiatives for Undergraduates,” *the Engineering Sustainability 2005 Conference*, Pittsburg, PA.
- EC37.** Jahan, K., Savelski, M., Orlins, J. Mehta, Y. Riddell, W. Farrell, S. Tang, Y., Marchese, A. Lockette, P., Richmond, C. Yang, C. Sukumaran, B., Mosto, P. and Miller, D., “Environmental Education in Pollution Prevention and Sustainability Development,” *the Annual AWMA Conference*, Minneapolis, MN.
- EC38.** Jahan, K., Savelski, M., Orlins, J. Mehta, Y. Riddell, W. Farrell, S. Tang, Y., Marchese, A. Lockette, P., Richmond, C. Yang, C. Sukumaran, B., Mosto, P. and Miller, D (2004) “Research Experiences in Pollution Prevention and Sustainability for Undergraduates,” *Proc. of the ASEE Mid-Atlantic Section Fall Meeting*, Washington D.C. (EI:20075210996976)
- EC39.** Jahan, K., Savelski, M., Orlins, J. Mehta, Y. Riddell, W. Farrell, S. Tang, Y., Marchese, A. Lockette, P., Richmond, C. Yang, C. Sukumaran, B., Mosto, P. and Miller, D., “Undergraduate Research Experiences in Pollution Prevention and Sustainability,” *Proceedings of 36th Annual Mid-Atlantic Industrial and Hazardous Waste Conference*, Oct. 2-10, 2004, Storrs, CT.(EI: 2005319271507)
- EC40.** Jahan, K., Savelski, M., Orlins, J. Mehta, Y. Riddell, W. Farrell, S. Tang, Y., Marchese, A. Lockette, P., Richmond, C. Yang, C. Sukumaran, B., Mosto, P. and Miller, D., “Research Experiences for Undergraduates in Pollution Prevention and Sustainability,” *Proceedings of the 3rd ASEE International Colloquium on Engineering Education*, September 7-10, 2004, Beijing, China.(EI:2004498696249)
- EC41.** Jahan, K., Tang, Y., Gatling, S., and Freeman, K., “Undergraduate Research Experience in Pollution Prevention,” *Proceedings of the Fall 2003 American Society for Engineering Education Middle Atlantic Section Conference*, Section 1234, Baltimore, MD, Oct. 24-25, 2003.
- EC42.** Qiu, R. G. and Tang, Y., “Real Life Examples for a Class of Professionals,” *Proceedings of 2003 American Society for Engineering Education Annual Conference*, June 20-25, 2003, Nashville, Tennessee, pp. 1891-1900. (EI: 2004498697296)

INVITED PRESENTATIONS AND SHORT COURSES

- 1.** Tang, Y., “Adaptation and Personalization in Metaverse Learning”, Plenary talk, The 6th International Conference on Robotics, Control and Automation (ICRCA 2022), Xiameng, China, Feb. 26-28, 2022

2. **Tang, Y.**, “Towards Adaptive and Personalized Cyber-physical Social Education,” Keynote talk, The 11th International Conference on Advanced Mechatronic Systems, Tokyo, Japan, December 9-12, 2021
3. **Tang, Y.**, “Personalized Instruction and Need-aware Gaming – a Parallel Intelligent Education System” Invited talk, the 2nd international forum on frontiers of automation and artificial intelligence, Oct. 22-23, 2020
4. **Tang, Y.**, “New Frontier for AI-empowered Learning and Learning for AI” Invited talk, 抗击疫情 Chinese Association of Automation (CAA), March 11, 2020.
5. **Tang, Y.**, “智慧平行教育-培养德智体美劳全方面人才,” Invited Talk, 青岛少年科学院奇点论坛, *Jan. 13, 2020*, 青岛, China.
6. **Tang, Y.**, “平行智能区块链教育的生态研究,” Invited talk, 首届中国人工智能与机器人教育峰会之“区块链赋能智慧教育研讨会”, *Jan. 4, 2020*, Nanjing, China.
7. **Tang, Y.**, “Intelligent Energy Solutions to Sustainable Manufacturing for Industry 5.0,” Keynote Speech, 2019 International Conference on Sustainable System Design and Operation, *Dec. 13-15, 2019*, Ganzhou, China.
8. **Tang, Y.**, “智慧平行教育-托起科创之星,” Invited Talk, 青岛少年科学院奇点论坛, *Dec. 26, 2019*, 青岛, China.
9. **Tang, Y.**, “Artificial Intelligence (AI) Enabled Education and AI Education,” Invited talk, Microsoft AI Empower the Future of Industry, Nov. 13, 2019, Qingdao, China.
10. **Tang, Y.**, “Energy-aware Sustainable Manufacturing for Industry 4.0,” Keynote Speech, 2019 IEEE International Conference on Service Operation and Logistics, and Informatics, Nov. 6-8, 2019, Zhenzhou, China.
11. **Tang, Y.**, “Parallel Education: Virtual Teachers for Real Teaching in iSTREAM and iCDIOS,” US-China Smart Education Conference and International Conference on Smart Learning Environments, March 18-20, 2019, Denton, Texas.
12. **Tang, Y.**, “How to Perform Quality Research and Write Quality Papers,” Dalian Maritime University, Dalian, China, July, 2018
13. **Tang, Y.**, “Virtual Reality Serious Games in Education and Training,” Dalian Maritime University, Dalian, China, July, 2017.
14. **Tang, Y.**, “Augmented Reality for Image Guided Surgery and Mobile Applications,” The World-Famous Scientist Lecture Series in HuBei, Jiangnan University, Wuhan, China, June, 2017.
15. **Tang, Y.**, “Sustainable Manufacturing: Application Challenges and Future Trends,” The World-Famous Scientist Lecture Series in HuBei, Wuhan University of Science and Technology, Wuhan, China, June, 2017.
16. **Tang, Y.**, a short course on “Smart Vision and Image Processing,” Northeastern University, Shenyang, China, August, 2016.
17. **Tang, Y.**, “Augmented Reality for Image Guided Surgical Systems,” Dalian Maritime University, Dalian, China, August, 2016.
18. **Tang, Y.**, Invited Panelist for the panel of “Know what your audience wants,” 2016 IEEE Panel of Conference Organizers, Montreal, Canada, July 28-30, 2016.
19. **Tang, Y.**, “Augmented Reality for Image Guided Surgical Systems,” Hubei University of Technology, Hubei, China, March, 2016.
20. **Tang, Y.**, “Women in Engineering – A Experience of Career Growth and Society Volunteering,” the Women in Engineering Luncheon Keynote at the 11th IEEE

- International Conference on Automation Science and Engineering, Gothenburg, Sweden, August. 2015.
21. **Tang, Y.**, “Augmented Reality – Challenges and Future Trends,” Dalian Maritime University, Dalian, China, July, 2015
 22. **Tang, Y.**, “What Virtual Reality Games Can Help in Education,” Dalian Maritime University, Dalian, China, August, 2014.
 23. **Tang, Y.**, a short course on “Optimization of Discrete Event Systems,” Northeastern University, Shengyang, China, July, 2014
 24. **Tang, Y.**, “Modeling, Design and Optimization for Sustainable Production Automation,” Northeastern University, Shengyang, China, December, 2013
 25. **Tang, Y.**, “Modeling, Design and Scheduling of Computer Integrated Disassembly Systems,” Chongqing University, Chongqing, China, June, 2011
 26. **Tang, Y.**, “Modeling, Design and Optimization for Environmental Conscious Manufacturing and Product Recovery,” Southwest Jiaotong University, China, Aug. 2011
 27. **Tang, Y.**, “A Machine Learning Approach for Uncertainty Management in Optimal Disassembly Planning,” XiDian University, Xi’an, China, May, 2009.
 28. **Tang, Y.**, “A Machine Learning Approach for Uncertainty Management in Optimal Disassembly Planning,” University of Electronic Science and Technology of China, Chengdu, China, June, 2009.
 29. **Tang, Y.**, “A Machine Learning Approach for Uncertainty Management in Optimal Disassembly Planning,” Southwest Jiaotong University, Chengdu, China, June, 2009.
 30. **Tang, Y.**, “A Machine Learning Approach for Uncertainty Management in Optimal Disassembly Planning,” Cinvestav, Mexico, D. F., Mexico, Nov. 2008.
 31. **Tang, Y.**, “A Qualitative and Quantitative Analysis of Java Obfuscation,” Avaya Research Laboratory, 233 Mt. Airy Road, Basking Ridge, NJ 07920, Jan., 2008
 32. **Tang, Y.**, “Learning-based Disassembly Process Planner for Uncertainty Management,” the IEEE North Jersey Control Systems Chapter, December 8th, 2005
 33. **Tang, Y.**, “Virtual Production Line-based Reconfigurable Manufacturing Systems,” the Institute of Automation, Chinese Academy of Science, Aug. 9, 2005, Beijing, China

PATENT

Use of Spatially Structured Light for Dynamic Three Dimensional Reconstruction and Reality Augmentation, Patent Number 9,626,568, U.S.A

HONORS & AWARDS

- 2021 IEEE Systems, Man & Cybernetics Society (SMCS) Most Active Technical Committee on Intelligent Solutions to Human-aware Sustainability
- Best Student Paper Finalist Award of 2021 International Conference on Cyber-physical Social Intelligence, Dec. 18-20, 2021. “Modeling and Adaptivity Methods within Adaptive Serious Games,” by Ryan Hare and **Ying Tang**.
- 2020 IEEE SMCS Meritorious Service Award
- Best Conference Paper of 2020 IEEE International Conference on Networking, Sensing and Control, October 30 - November 2, 2020, Nanjing, China “MatchMesh: Knowledge-based

- 3D Point Cloud Meshing Using Divide-and-conquer Deformation,” by **Ying Tang**, Shengtao Sun, and Ben Wu.
- 2020 IEEE Robotics and Automation Society Most Active Technical Committee on Sustainable Production Automation
 - Winner of the Inspira Health Network/Rowan University Health Hack, “Developing and testing a portable 3-D fluorescent microscope for quick dermatologic diagnosis,” by Wu Ben, Ying Tang, Yang Qi, Shengtao Sun, and Xiao Hu., June 22-23, 2018.
 - Best Conference Paper Finalist of 2017 IEEE International Conference on Automation Science and Engineering (IEEE CASE 2018), August 20-23, 2017, Xi’an, China, “Integration of Process Planning and Cutting Parameter Optimization for Energy-Aware CNC Machining,” by Lingling Li*, Congbo Li, **Ying Tang**, Li Li.
 - 2017 Prestigious Scholar Plan at Wuhan, China.
 - Faculty Advisor of the Best Student Paper Finalist of 2014 IEEE International Conference on Networking, Sensing and Control (IEEE ICNSC 2014), April 7-9, 2014, Miami, USA, “KNN-based Adaptive Virtual Reality Game System,” by Aaron Johnson, **Ying Tang**, Chris Franzwa.
 - Faculty Advisor of the 3rd place of student posters in 2012 The Electric Machines Technology Symposium (EMTS), May 23-24, 2012, Philadelphia, PA, “Augmented Reality using Structured Light,” by Mike Torries, Richard Jassel, and **Ying Tang**
 - 2011 National Academy of Engineering (NAE) - Frontier of Engineering Education Fellow
 - Faculty advisor of 2010 NSF International Research and Education in Engineering (IREE) Travel Award by Richard Jassel
 - 2007 Christian R. and Mary F. Lindback Minority Junior Faculty Award
 - 2006 Charles A. and Anne Morrow Lindbergh Foundation Award
 - 2004 ExcEEd (Excellence in Engineering Education) Fellowship
 - Faculty advisor of the Technical Innovation Award on Interdisciplinary Collaboration and Robot Design at 21st National Conference on Artificial Intelligence, July 16-20, 2006, Boston, MA.
 - Faculty advisor of the 2nd place of 2005 Philadelphia Section Outstanding Student Paper Competition, “A comparative study of Java obfuscators” by J. MacBride, S. Marks, and C. Mascioli.
 - Faculty advisor of the Honorable Mention of 2005 Philadelphia Section Outstanding Student Paper Competition, “Analysis of an adaptive fuzzy system for disassembly process planning” by M. Turowski.
 - Faculty advisor of the 1st Place of student posters in 2002 Consortium for Computing in Small Colleges Northwestern Regional conference, “Simulation of a disassembly-to-order system,” by Ludivig J. Ungewitter and Tobi Mann
 - Regency Advancement Award for 2002-2003 in Pacific Lutheran University
 - “Best Student Paper” Award for “Design of Virtual Production Lines in Back-end Semiconductor Manufacturing Systems,” in 2000 *IEEE International Conference on Systems, Man and Cybernetics*, Nashville, TN, Oct. 8-11, 2000.

- First Place of 2001 North New Jersey IEEE Section Graduate Category Student Paper Presentation Contest for “A systematic approach to disassembly line balancing”.
- Teaching Fellowship in New Jersey Institute of Technology 1998-1999
- Research Fellowship in New Jersey Institute of Technology 2000-2001

RESEARCH AND INSTRUMENTATION GRANTS

- WaterWorks: Developing the New Generation of Workforce for Water/Wastewater Utilities, U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA), Total Award Amount: \$499,999, Feb. 1, 2022 – Jan. 31, 2025, Role: Co-PI
- MERGE: Multiphysics Enriched Mixed Reality for Integrated Geotechnical Education, NSF – IUSE, Total Award Amount: \$299,910, Oct. 15, 2021 – Oct. 14, 2024, Role: Co-PI
- Image-Guided Surgical Robot for Femur Fracture Alignment, New Jersey Health Foundation, Total Award Amount: \$35,000, March 1st, 2021 – Feb. 28th 2022, Role: Co-PI
- Selective Disinfection Against COVID-19 Based on Directional Ultraviolet Irradiation and Artificial Intelligence, New Jersey Health Foundation, Total Award Amount: \$34,950, March 1st, 2022 – Feb. 28th 2023, Role: Co-PI
- Three-Dimensional and Label-Free Imaging for Curative Cancer Surgery, Camden Health Initiative, Total Award Amount: \$100,000, 2020 – 2023, Role: Co-PI
- Improving Problem-based Learning through Personalized Online Instruction that Promotes Student Engagement, Motivation, and Self-efficacy, NSF – IUSE, Total Award Amount: \$299,993, Oct. 1, 2019 – Sept. 30, 2022, Role: PI
- Endoscopy Image Processing with Light Speed Deep Learning Accelerator, New Jersey Health Foundation, Total Award Amount: \$35,000, March 1st, 2020 – Feb. 28th, 2021, Role: Co-PI.
- Real-time Imaging Guidance for Curative Cancer Surgery, New Jersey Health Foundation, Total Award Amount: \$35,000, March 1st, 2019 – Feb. 28th, 2020, Role: Co-PI
- E4SPA: ELEARNING COURSE FOR SUSTAINABLE PRODUCTION AUTOMATION, IEEE Robotics and Automation Society, Total Award Amount: \$10,000, Sept 1st, 2018 – August. 31th 2019, Role: PI
- Mobile Development of Structured-light-based Augmented Reality –Part II, Rowan IAAME, Total Award Amount: \$2,157, Sept 1st, 2018 – June. 31th 2019, Role: PI
- Noninvasive Three-Dimensional Fluorescence Microscopy for Skin Disease Detection, New Jersey Health Foundation, Total Award Amount: \$35,000, March 1st, 2018 – Feb. 28th 2019, Role: Co-PI
- Mobile Development of Structured-light-based Augmented Reality –Part I, Rowan IAAME, Total Award Amount: \$2,157, Sept 1st, 2017 – June. 31th 2018, Role: PI
- Algae Grows the Future, NSF – IUSE, Total Award Amount: \$300,000, Sept. 1, 2016 – August 31, 2019, Role: Co-PI
- Joint Virtual Reality Laboratory for Integrative Neuro-Imaging, ELEKTA LLC, Total

- Funding Amount: \$298,110, Sept. 2013 – Aug. 2015, Role: **Site-PI**.
- Power-aware Optimization and Control of CNC Machining, - Natural Science Foundation of China, 2015-2018, Total Award Amount: RMB ¥800,000 (\$130K), Role: **Co-PI**
 - Intelligent Virtual Reality Games Promoting Personalized Learning, Total Award Amount: \$3,000, Rowan University, 2012-2013, Role: **PI**.
 - Uncertainty Management in Remanufacturing Process Routing and Scheduling, - Natural Science Foundation of China, 2012-2014, Total Award Amount: RMB ¥260,000 (\$42K), Role: **Co-PI**
 - Collaborative Research: TUES: Vertical Integration of Concepts and Laboratory Experiences in Biometrics Across the Four Year Electrical and Computer Engineering Curriculum, NSF-TUES, Oct. 1, 2011 –Sept. 30, 2016, Total Award Amount: \$600,000 with subcontracts; \$356,654 for Rowan (Lead institution), \$111,700 for Bucknell University, and \$131,080 for Tennessee State University. Role: **Co-PI**
 - CI-TEAM Demonstration: Interactive and Collaborative Learning Environment using Virtual Reality Games Promoting Metacognition for Science and Engineering Design in Context, *NSF-CI-TEAM*, Total Award Amount: \$250,000, Sept. 2010-Aug. 2015, Role: **PI**.
 - Empowering Students with Engineering Literacy and Systematic Problem Solving through Interactive and Cost-Effective Games, *NSF-IEECI*, Total Award Amount: \$199,986, Sept. 2009-Aug. 2012, Role: **PI**.
 - “Hands-on on Aquarium,” *NSF-CCLI*, Total Award Amount: \$199,649, June 2008 –May 2011, Role: Co-PI
 - “South Jersey GAMTTEP”, DOT, Total Award Amount: \$100,000, June 2008, Role: Co-PI.
 - A Collaborative Proposal to Integrate System-on-Chip Concepts into Two Year Engineering Science and Four Year ECE Curricula, *NSF-CCLI*, Total Award Amount: \$175,171, June 2007-May 2010, Role: **PI**.
 - A Sustainable Solution to Discarded Electronics, *the Christian R. and Mary F. Lindback Foundation*, Total Award Amount: \$14,947, 2007-2009, Role: **PI**.
 - Developing an Analytical Model for Electronics Disassembly to Make Electronic Recycling Safer and More Automated, *the Charles A. and Anne Morrow Lindbergh Foundation Grant*, Total Award Amount: \$10,528, 2006-2007, Role: **PI**.
 - A Sustainable Solution for Discarded Electronics,” *Non-salary Support Grant*, Total Award Amount: \$6,459, Rowan University, 2005-2006. Role: **PI**.
 - ANALYSIS OF JAVA CODE PROTECTOR,” *Lockheed Martin Corporation*, Total Award Amount: \$20,520, 2005-2006, Role: **PI**.
 - Virtual production line for reconfigurable manufacturing systems, PI, KLCSIS-IA-CAS, Open Research Project Grant, Institute of Automation, Chinese Academy of Science, Total Award Amount: \$1,000, 2005-2006, Role: **PI**.
 - Interactive Mobile Aqua Probing & Surveillance, *NSF*, Total Award Amount: \$72,692, 2005-2007, Role: **Co-PI**.
 - Java obfuscation,” *Lockheed Martin Corporation*, Total Award Amount: \$15,660, 2004-2005 Role: **PI**.

- REU in Pollution Prevention and Sustainability, *NSF-REU*, Total Award Amount: \$253,172, 2004-2006, Role: Co-PI.
- Real-time programming with Java and C++, *Lockheed Martin Corporation*, Total Award Amount: \$10,800, 2003-2004, Role: **PI**.
- Development of an Advanced Visualization Protocol for Simulating Ship-Board Fuel Cell Systems, *Naval Surface Warfare center*, Total Award Amount: \$11,880, 2003-2004, Role: Co-PI.
- Design an Intelligent Network Protocol on FPGA, *Separately Budgeted Research program grant*, Total Award Amount: \$9,000, Rowan University, 2003, Role: **PI**.
- Research Opportunities in Pollution Prevention, Senior Personnel, *NSF*, Total Award Amount: \$254,000, 2001-2003, Role: Senior Personnel
- Simulation of a disassembly-to-order system, M. J. Murdock Charitable Trust College Science Research Program grant, Pacific Lutheran University, 2002, Role: **PI**.

PROFESSIONAL AFFILIATIONS

- Senior Member, Institute of Electrical & Electronic Engineering (IEEE)
Society Memberships: Systems, Man, & Cybernetics, and Robotics and Automation,

PROFESSIONAL SERVICE

- ***JOURNAL/BOOK EDITING***
 - Associate Editor, *IEEE Transactions on Computational Social Systems*, 2018 - Present
 - Associate Editor, *IEEE Transactions on Automation Science and Engineering*, 2009 - 2012
 - Associate Editor, *International Journal of Intelligent Control and Systems (IJICS)*, 2005-
 - International Editor Board Member, *International Journal of Remanufacturing*, 2009 – 2013
 - Guest Editor, Special Issue of Behavioral Modeling, Learning and Adaptation in Cyber-physical Social Intelligence in *IEEE Transactions on Computational Social Systems*
 - Guest Editor, Special Issue of Advances in Green Manufacturing and Optimization in *MDPI Processes*
 - Guest Editor, Special Issue of Intelligent Energy Solutions to Sustainable Production and Service Automation in *IEEE Transactions on Automation Science and Engineering*
 - Guest Editor, Special Issue of Intelligent Energy Solutions to Sustainable Production and Service Automation in *IEEE Transactions on Automation Science and Engineering*
 - Guest Editor, Special Issue of Mathematical Problems in Petri Nets Theory and Applications in *Mathematical Problems in Engineering*, in press
 - Editor, Book on *Advances in Sustainable Production Automation*, Momentum Press, New York, Under contract, projected publication in 2016.
- ***SOCIETY LEADERSHIP ROLES***
 - Vice President Finance, IEEE Systems, Man & Cybernetics Society, 2020-2022
 - Secretary, IEEE Systems, Man & Cybernetics Society, 2018 – present

- Member-at-Large, IEEE Systems, Man & Cybernetics Society Board of Governance, 2019 - 2021
- Chair of Electronic Communications, IEEE Systems, Man & Cybernetics Society, 2016 - 2017
- Member, Steering Committee of Computational Intelligence and AI in Games, 2016-2018
- Member, Ad Hoc WIE Committee, IEEE Robotic and Automation Society, 2013-2015
- Founding Chair of Technical Committee on Intelligent Solutions to Human-aware Sustainability, 2019 -present
- Founding Chair of Technical Committee on Sustainable Production Automation for IEEE Robotic and Automation, 2012 -present
- Chapter Coordinator, IEEE Systems, Man, & Cybernetics Society Membership Committee, 2005- 2010
- Founding member of Technical Committee on Discrete Event Systems for IEEE Systems, Man, & Cybernetics, 2006 – present
- Member, IEEE membership development committee for Education Society, 2004
- Member, ASEE nomination committee for Electrical & Computer Division, 2004
- ***CONFERENCE ORGANIZATION***
 - General Chair, 2022 International Conference on Cyber-physical Social Intelligence, Nanjing, China, Oct. 21-24, 2022
 - General Co-Chair, 2021 International Conference on Cyber-physical Social Intelligence, Beijing, China, Dec. 18-20, 2021
 - Special Session Chair, the 29th Mediterranean Conference on Control and Automation, June 22-25, 2021, Puglia, Italy.
 - Program Chair, IEEE International Conference on Service, Operation, Logistics and Informatics, Zhengzhou, China, Nov. 6-8, 2019.
 - Tutorial/Workshop Chair, IEEE International Conference on Automation Science and Engineering, Xi'an, China, Aug. 20-23, 2017
 - SMC Junior/WIE Chair, IEEE International Conference on Systems, Man, and Cybernetics, Banff, Canada, Oct. 5-8, 2017.
 - Publicity Co-Chair, IEEE International Conference on Networking, Sensing and Control, Calabria, Italy, May 16-18, 2017
 - Publicity Co-Chair, IEEE International Conference on Networking, Sensing and Control, Miami, FL, USA, April 7-9, 2014
 - Publication Co-Chair, IEEE International Conference on Automation Science and Engineering, Madison Wisconsin, Aug. 17-21, 2013
 - Publication Co-Chair, IEEE International Conference on Networking, Sensing and Control, Beijing, China, April 11-14, 2012.
 - Publication Co-Chair, IEEE International Conference on Systems, Man, and Cybernetics, Anchorage, Alaska, Oct. 9-12, 2011

- Publicity Chair, IEEE International Conference on Automation Science and Engineering, Trieste, Italy, Aug. 24-27, 2011.
- Program Co-Chair, IEEE International Conference on Mechatronics and Automation, Xi'an, China, August 4-7, 2010.
- Special Session Chair, IEEE International Conference on Automation Science and Engineering, August 23-26, Washington D. C., 2008
- Special Session Chair, International Conference on Flexible Automation and Intelligent Manufacturing, June 18-20, Philadelphia, PA, 2007
- Special Session Chair, IEEE International Conference on Service Operations, Logistics, and Informatics, June 20-23, 2006, Shanghai, China
- Finance Chair, IEEE International Conference on Networking, Sensor, and Control, April 23-25, 2006, Ft. Lauderdale, FL.
- Publication Chair, *2005 IEEE International Conference on Service Operations and Logistics, and Informatics*, Aug. 10-12, 2005, Beijing, China.
- Student Activity Chair, *2005 IEEE International Conference on Networking, Sensing and Control*, March 19-22, 2005, Tucson, AZ
- Award Committee Chair, *2003 International Conference on Information Technology: Research and Education*, Newark, NJ, Aug. 2003.
- Chair, Session "Sustainable Production Automation," *2013 IEEE International Conference on Automation Science and Engineering*, Madison, WI, USA, Aug. 17-21, 2013.
- Chair, Session "Manufacturing Automation," *2013 International Conference on Networking, Sensing and Control*, Paris, France, April 10-12, 2013.
- Chair, Session "Green Automation," *2012 IEEE International Conference on Automation Science and Engineering*, Seoul, Korea, Aug. 20-24, 2012.
- Chair, Session "Logistic and Supply Chain Management," *2005 IEEE International Conference on Service Operations and Logistics, and Informatics*, Beijing, China
- Chair, Session "Verification, Validation, Evaluation, and Tools," *the IASTED International Conference on Software Engineering and Applications*, Phoenix, AZ, 2005
- Chair, Session "Emerging Science and Technologies in Sustainable Development," *2005 IEEE Int. Conf. On Systems, Man, and Cybernetics*, Big Island, Hawaii.
- Chair, Session "Sustainable Development", *2003 IEEE Int. Conf. On Systems, Man, and Cybernetics*, Hyatt Regency, Washington, D.C.
- Chair, Session "Data Mining II", *2003 IEEE Int. Conf. On Systems, Man, and Cybernetics*, Hyatt Regency, Washington, D.C.
- Co-Chair, Session "Manufacturing Systems Control", *2000 IEEE Int. Conf. on Systems, Man & Cybernetics*, Nashville, TN.
- **PEER REVIEWING**
 - NSF Panel Review

- Gerber Foundation Pediatric Research Award Panel Review
- Journal Manuscript Review for
 - IEEE Transactions on Robotics & Automation
 - IEEE Transactions on Automation Science and Engineering
 - IEEE Transactions on Systems, Man, & Cybernetics
 - IEEE Transactions on Mechatronics,
 - IEEE Transactions on Control Systems
 - Elsevier – Knowledge-Based Systems
 - Elsevier - Robotics and Computer Integrated Manufacturing
 - Elsevier – Journal of Manufacturing Systems
 - Elsevier – Journal of Cleaner Production
 - Taylor Francis – International Journal of Production Research
 - Hindawi - Discrete Dynamics in Nature and Society
 - Inderscience - International Journal of Services Operations and Informatics
 - International Journal of Intelligent Control and Systems
 - The International Journal of Management Systems
- Conference Article Review
 - Editor, 2021 *IEEE International Conference On Automation Science and Engineering*
 - Associate Editor, 2015-2020 *IEEE International Conference On Automation Science and Engineering*
 - Program Committee, 2008-2019 *IEEE International Conference On Automation Science and Engineering*
 - Program Committee, 2003-2020 *IEEE International Conference On Systems, Man, and Cybernetics*
 - Program Committee, 2005-2019 *IEEE International Conference On Networking, Sensor, and Control*
 - Program Committee, 2011 IEEE Microelectronics Systems Education (MSE) Conference
 - Program Committee, IEEE International Conference on Mechatronics and Automation
 - Program Committee, the 4th ACS/IEEE International Conference on Computer Systems and Applications, March 8-11, 2006, Dubai/Sharjah, UAE