Curriculum Vitae

James Yang, Ph.D.

Professor
SAE Fellow | ASME Fellow
IEEE Senior Member
Fulbright US Scholar (2017-2018)
Ed and Linda Whitacre Faculty Fellow (2016-2019)
Director, Human-Centric Design Research Laboratory
Associate Chair for Graduate Affairs
Department of Mechanical Engineering
Texas Tech University, Lubbock, TX 79409, USA
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EDUCATION

- Ph.D. Mechanical Engineering, The University of Iowa, USA 08/2003
- M.S. Automobile Engineering, Jilin University, China 04/1992
- B.S. Vehicle Engineering, Jilin University, China 07/1989

AWARDS AND HONORS

- SAE Forest R. McFarland Award 2025
- ASME IDETC/CIE Advanced Vehicle Technology Best Student Paper Award 2022
- "Most Influential" Faculty Member in 2021 at TTU 2021
- Apple Polishing Award, Mortar Board at TTU 2021
- Fellow of Institute for Inclusive Excellence at TTU 2018
- Elected IEEE Senior Member 2018
- Elected Fellow of The American Society of Mechanical Engineers (ASME) 2018
- ASME/CIE 2017 Panel on Smart and Connected Vehicles 2017
- Fulbright US Scholarship 2017
- MTNA e-Journal Article of The Year, Music Teachers National Association 2017
- Ed and Linda Whitacre Faculty Fellowship, College of Engineering, TTU 2016
- Elected Fellow of The Society of Automotive Engineers (SAE) International 2016
- ASME IDETC/CIE Advanced Vehicle Technology Best Student Paper Award 2016
- ASME IDETC/CIE Advanced Modeling and Simulation Best Paper Award 2015
- Chancellors' Council Distinguished Research Award, TTU System 2012
- Outstanding Faculty Mentor Award, Center for Undergraduate Research, TTU 2012
- Most Influential Faculty Member, College of Engineering, TTU 2012
- SAE Ralph R. Teetor Educational Award 2012
- Air Force Summer Faculty Fellowship 2012
- Member, Transdisciplinary Research Academy, TTU 2012
- Faculty Research Award, Department of Mechanical Engineering, TTU 2011
- TTU Alumni Association New Faculty Award 2011
- Whitacre Excellence in Research Award, College of Engineering, TTU 2011
- Nominated for Outstanding Faculty Mentor, Center for Undergraduate Research, TTU 2011
- IIE/Joint Publishers Book-of-the-Year Award, Handbook of Military Industrial Engineering, (Chapter) 2010

- NSF Travel Award, Design Series Workshop, Stanford University 2009
- Publish Forever Award, Center for Computer-Aided Design, The University of Iowa 2007
- The Prometheus Award (Top U.S. Government Technology Award) 2007
- ASME Outstanding Paper Award 2004
- SAE 2003 Arch T. Colwell Merit Award for best paper 2003
- Graduate Scholarship, Jilin University 1989-1992

RESEARCH INTERESTS

- **Human-Centric Engineering**: Physics-based human modeling, slips/falls, computer-aided ergonomics/human factors, occupational health and safety, driver behaviour modelling, joint-based metabolic energy expenditure, and human-centered design.
- **Bioengineering, Biomechanics, Bio-inspired Systems**: Biomechanics, bioengineering modeling, muscle fatigue modelling, postural balance, human injury prediction, spine biomechanics, and sports biomechanics.
- **Healthcare Engineering**: Modeling and simulation of human protective equipment (HPE) such as helmets, goggles, respirators, clothing, shoes; patient falls in hospitals, hospital load handling safety for nurses.
- **Robotic and Multibody Dynamic Systems**: Kinematics and dynamics, special robots, soft robotics, vehicle dynamics, kinematics and dynamics of machinery, driver behaviour modeling for autonomous vehicles, human-like autonomous control.

PROFESSIONAL EXPERIENCE

- **Professor** 09/2020-present
  Department of Mechanical Engineering, Texas Tech University
- **Associate Chair for Graduate Affairs** 06/2024-present
  Department of Mechanical Engineering, Texas Tech University
- **Guest Professor** *University of Skövde, Sweden* 10/2021-09/2023
- **Associate Professor** 09/2014-08/2020
  Department of Mechanical Engineering, Texas Tech University
- **Ed and Linda Whitacre Faculty Fellow** 11/2016-10/2019
  Department of Mechanical Engineering, Texas Tech University
- **Fulbright Scholar** 08/2017-12/2017
  University Center for Defence, Navy Academy/University of Vigo, Spain
- **Associate Chair, Director of Undergraduate Studies** 05/2015-08/2017
  Department of Mechanical Engineering, Texas Tech University
- **Visiting Professor** 01/2017
  University of Technology Sydney
- **Assistant Professor** 08/2008-08/2014
  Department of Mechanical Engineering, Texas Tech University
- **Visiting Professor** 11/2012
  Chinese University of Hong Kong
- **Faculty Research Fellow** Summer 2012
  Air Force Research Lab, Wright-Patterson Air Force Base, Dayton, Ohio
- **Visiting Professor** 11/2009
  Universitat Politecnica De Catalunya (UPC), Spain
- **Research Engineer and Adjunct Assistant Professor** 03/2004-08/2008
  Center for Computer-Aided Design, University of Iowa
- **Postdoctoral Research Scholar** 08/2003-02/2004
  Center for Computer-Aided Design, University of Iowa
- **Research Assistant** 01/1999-08/2003
  Center for Computer-Aided Design, University of Iowa

- **Assistant Professor** 04/1992-10/1998
  Department of Automobile Engineering, Tsinghua University, Beijing, China
- **Research Assistant** 08/1989-04/1992
  Department of Automobile Engineering, Jilin University, Jilin, China

ADMINISTRATION EXPERIENCE

- **Associate Chair, Director of Undergraduate Studies** (05/2015-08/2017)

As the department associate chair for undergraduate studies, I oversee the department undergraduate programs and have the following accomplishments:

1) Assisted the department chair achieving the undergraduate enrolment and awarded degree continuous increase: Enrolment: 684 (2015), 790 (2016), and 942 (2017). Degree awarded: 214 (2015), 232 (2016), and 227 (2017).
2) Developed the instructor course assessment rubric for the ABET review.
3) Conducted all ABET required courses' evaluation each semester for the 2017 ABET review.
4) Prepared the student outcome session results in the ABET 2017 review.
5) Took care of all instructor course assignments and TA assignments each semester for the whole department.

- **Associate Chair for Graduate Affairs** (06/01/2024-present)

Oversee ME department graduate program including admission, qualifying exam, seminar, and recruitment.

TEACHING EXPERIENCE

- Advanced Elasticity and Strength of Material, Fall 2017, Navy Academy, Marin, Spain (Fulbright Scholar)
- Automobile, Fall 2017, Navy Academy, Marin, Spain (Fulbright Scholar)
- **ME2301** Statics, Summer I 2017, TTU, Summer I (Sevilla, Spain) 2024
- **ME3302** Dynamics, Fall 2009, 2011, 2015, Spring 2010, Summer I in 2015, 2016 and 2021, TTU, Summer I (Wilhelmshaven, Germany) 2013, Summer II (Sevilla, Spain) 2014
- **ME3333** Dynamic Systems and Vibrations, Spring 2014, 2015, 2018, 2020, 2022, Fall 2014, 2018, 2020, 2021, 2022, TTU
- **ME4334** Control of Dynamic Systems, Fall 2016, TTU
- **ME4370** Engineering Design I, Fall 2008, 2010, Spring 2009, 2012, 2023, TTU
- **ME4371** Engineering Design II, Fall 2024, TTU
- **ME5311** Advanced Dynamics, Spring 2017, TTU
- **ME5317** Robot and Machine Dynamics (Newly developed course), Spring 2020, 2025, TTU
- **ME5356** Digital Human Modeling for Human-Centric Design, Fall 2010, 2013, 2024, Spring 2016, 2019, TTU
- **ME6330** Computational Multibody Dynamics, Spring 2021, TTU
- **ME6330** Vehicle Dynamics, Spring 2018, Fall 2019, TTU
- **58:153** Fundamentals of Vibrations (Graduate course, 15 students), Spring 2006, UI
- **58:110** Computer Aided Engineering (Graduate course, Lab), Spring 2003, UI
- **56:131** Manufacturing Systems (Pro/E) (Lab), Spring 2002, UI
- **57:005** Engineering I (Pro/E) (Lab), Spring 2001, UI
- **58:150** Intermediate Mechanics of Deformable Bodies (TA), Fall 2000, UI
- **58:115** Finite Element Method I (Lab), Fall 1999, UI
- Automobile Body Structure and Analysis (30 students per semester), Fall 1993, Spring 1994, Fall 1995, Spring 1996, Fall 1997, Tsinghua University.

PUBLICATIONS:

BOOKS

1. Xiang, Y., and **Yang, J.**, *Introduction to Digital Human Modeling*, 2025, Elsevier, Amsterdam, Netherlands.

REFEREED JOURNALS (221)

1. Xiang, Y., Barman, S., Rakshit, R., and **Yang, J.**, Repetitive Lifting Motion Predictions Considering Muscle Fatigue, *ASME Journal of Biomechanical Engineering*, Vol. 147, 2025 061005 (14 pages).
2. Lee, S., and **Yang, J.**, Optimization-Based Three-Dimensional Symmetric Tossing Motion Prediction and Comparison with the 2D Model, *Journal of Mechanics in Medicine and Biology*, https://doi.org/10.1142/S0219519424500532.
3. Tahmid, S., and **Yang, J.**, Simultaneous Prediction of Multiple Unmeasured Muscle Activations through Muscle Synergy Analysis, *ASME Journal of Biomechanical Engineering*, 147(3): 031002, 2025 (9 pages).
4. **Yang, J.**, Rakshit, R., Barman, S, and Xiang, Y., A Fout-Compartment Controller Model of Muscle Fatigue for Static and Dynamic Tasks, *Frontiers in Physiology*, Vol. 16, 2025, DOI:10.3389/fphys.2025.1518847.
5. Mena, A., Wollstein, R., **Yang J.,** Development of a Finite Element Model of the Human Wrist Joint with Radioulnar and Radiocarpal Validation, *ASME Journal of Biomechanical Engineering*, 147(3):031006, 2025 (14 pages).
6. Yang, Y., Negash, N., and **Yang, J.**, Recent Advances in Interactive Driving of Autonomous Vehicles: Comprehensive Review of Approaches, *Automotive Innovation*, https://doi.org/10.1007/s42154-024-00332-w.
7. Kong, D., Meng, D., Gao, Y., and **Yang, J.**, Crashworthiness of asymmetrical square tubes with unequal cells and various wall thicknesses under multiple load conditions, *Construction and Building Materials,* 458, 139637, 2025.
8. Lee, S., and **Yang, J.**, Optimization-Based Two-Dimensional Symmetric Tossing Motion Prediction and Validation, *Part H: Journal of Engineering in Medicine*, Vol. 239, Issue 1, 37-247, 2024.
9. Baus, J., Harry, J., and **Yang, J**., Weighted Vest Load Arrangement and Data Normalization Effects on Lower Limb Biomechanics During Countermovement Jump Landings, *International Journal of Strength and Conditioning*, 4(1), 2024. https://doi.org/10.47206/ijsc.v4i1.186.
10. Baus, J., Nguyen, E., Harry, J., and **Yang, J**., Relevant Biomechanical Variables in Skateboarding: A Literature Review, *Critical Review on Biomedical Engineering*, 52(4), 29-39, 2024.
11. Zhang, S., Gao, Y., **Yang, J.**, Dynamic Modelling and Analysis of Vehicle Scissor Door Mechanism with Mixed Clearance Based on a Hybrid Contact Force Model. *Multibody System Dynamics*, Vol. 61, 509-538 (2024).
12. Oliveira, A., Kashem, M. N. H., Luna, D., Geerts, W., Li, W., and **Yang, J.**, Kinematic Modeling and Design of Untethered Soft Mobile Magnetic Robots with Multiple Support Sections, *Acta Mechanica*, 234, pages 3519–3531 (2023).
13. Zhang, S., Meng, D., Gao, Y., **Yang, J.**, and Xu, X., Modelling and Novel Multi-Level Discrete Optimization Method for Vehicle Scissor Door Joint Mechanism, *Engineering Optimization*, 56(10), 1517-1539, 2023.

14. Zhang, S., Gao, Y., Gao, D., Pan, T., **Yang, J.**, Serial Combinational Optimization Method for Double Wishbone Suspension Pseudo Damage Improvement. *Structural and Multidisciplinary Optimization*, 66: 122, 1-21, 2023.
15. Zhang, S., Xu, F., Gao, Y., **Yang, J.**, Adaptive Approximation-Based Multi-Objective Hybrid Optimization Method for Dual-Gradient Top-Hat Structures, *Engineering Optimization*, 55:10, 1778-1797, 2023.
16. Tahmid, S., Font Llagunes, J. M., and **Yang, J.**, Upper Extremity Muscle Activation Pattern Prediction through Synergy Extrapolation and EMG-Driven Modeling, *ASME Journal of Biomechanical Engineering*, 2023, 146(1): 011005 (10 pages).
17. Mena, A., Baus, J., Wollstein, R., **Yang J.**, Finite Element Modeling in Wrist Biomechanics: A Comprehensive Review, *Journal of Wrist Surgery*, 12(06), 478-487, 2023.
18. Xiang, Y., Zaman, R., Arefeen, A., Quarnstrom, J., Rakshit, R., **Yang, J.**, and Hybrid Musculoskeletal Model-Based 3D Asymmetric Lifting Prediction and Comparison with Symmetric Lifting, *IMechE, Part H: Journal of Engineering in Medicine*, Vol. 237, Issue 6, 2023, 770-781.
19. Yang, Y., Zhao, Q., and **Yang, J.**, Effect of Sliding Model Controller's Reaching Law on Its Performance Based on an Active Quarter Car Model Coupled with a Biodynamic Model, *Advances in Mechanical Engineering* (accepted).
20. Negash, N., and **Yang, J.**, Driver Behavior Modeling towards Autonomous Vehicles: A Comprehensive Review, *IEEE Access*, Vol. 11, 2023, 22788-22821.
21. Tahmid, S., Love, B., Liang, Z., and **Yang, J.**, Cervical Spine Finite Element Model for Healthy Subjects: Development and Validation, *ASME Journal of Computing and Information Science in Engineering*, Vol. 23, 2023, 044501 (12 pages).
22. Tahmid, S., Font Llagunes, J. M., and **Yang, J.**, Upper Extremity Joint Torque Estimation Through an EMG-Driven Model, *ASME Journal of Computing and Information Science in Engineering*, Vol. 23, 2023, 030901 (9 pages).
23. Cui, Q., Hurtubise, C., Smith, S., **Yang, J.**, Asphalt Shingle Modeling and Parameter Estimation under Short Period Loading Condition, *Construction and Building Materials*, Vol. 364, 2023, 129966.
24. Liu, Z., Gao, D., Gao, Y., **Yang, J.**, Numerical and Experimental-Aided Framework Based on TPA for Acoustic Contributions of Individual Transfer Paths on a Vehicle Door in the Slamming Event, *Applied Acoustics*, Vol. 203, 2023, 109220.
25. Rakshit, R., Barman, S, Xiang, Y., and **Yang, J.**, Sensitivity Analysis of Sex- and Functional Muscle Group-Specific Parameters for a Three-Compartment-Controller Model of Muscle Fatigue, *Journal of Biomechanics*, 141, 111224, 2022.
26. Zaman, R., Arefeen, A., Quarnstrom, J., Barman, S., **Yang, J.**, and Xiang, Y., Optimization-Based Biomechanical Lifting Models for Manual Material Handling: A Comprehensive Review, *IMechE, Part H: Journal of Engineering in Medicine*, Vol. 236, Issue 9, 1273-1287, 2022.
27. Negash, N., and **Yang, J.**, Anticipation-Based Autonomous Platoon Control Strategy with Minimum Parameter Learning Adaptive Radial Basis Function Neural Network Sliding Mode Control, *SAE International Journal of Vehicle Dynamics, Stability and NVH*, 6(3), 1-19, 2022.
28. Barman, S, Xiang, Y., Rakshit, R., and **Yang, J.**, Joint Fatigue-Based Optimal Posture Prediction for Maximizing Endurance Time in Box Carrying Task, *Multibody System Dynamics*, 55, 323-339, 2022.
29. Cruz, J., and **Yang, J.**, Improved Heat Coefficients for Joint-Space Metabolic Energy Expenditure Model during Level, Uphill, and Downhill Walking, *PloS ONE*, 17(4): e0267120, 2022.
30. Yang, Y., Zhao, Q., and **Yang, J.**, Optimization-Based Parameter Identification for Coupled Biodynamic Model of Seated Posture under Vibration, *SAE International Journal of Vehicle Dynamics, Stability and NVH*, 6(2), 2022, 1-16.

31. Oliveira, A., Kashem, M. N. H., Luna, D., Geerts, W., Li, W., and **Yang, J.**, Magnetic Properties of PDMS Embedded with Strontium Ferrite Particles Cured Under Different Magnetic Field Configurations, *AIP Advances*, Vol. 12, Issue 3, 035121, 2022.
32. Rakshit, R., Xiang, Y., and **Yang, J.**, Functional Muscle Group- and Sex-Specific Parameters for a Three-Compartment Controller Muscle Fatigue Model Applied to Isometric Contractions, *Journal of Biomechanics*, 127, 110695, 2021.
33. Liu, Z., Gao, Y., **Yang, J.**, Xu, X., Fang, J., and, Xie, F., Multi-Objective Optimization Framework of a Vehicle Door Design in the Slamming Event for Optimal Dynamic Performances, *Applied Acoustics*, 187 (2022) 108526.
34. Zaman, R., Xiang, Y., Rakshit, R., and **Yang, J.**, Hybrid Predictive Model for Lifting by Integrating Skeletal Motion Prediction with an OpenSim Musculoskeletal Model, *IEEE Transactions on Biomedical Engineering*, 69(3), 2022, 1111-1122.
35. Baus, J., Harry, J., and **Yang, J**., Optimization Based Subject-Specific Planar Human Vertical Jumping Prediction- Effect of Elbow Flexion and Weighted Vest, *IMechE, Part H: Journal of Engineering in Medicine*, 236(1), 65-71, 2022.
36. **Yang, J.**, Howard, B., and Baus, J., A Collision Avoidance Algorithm for Human Motion Prediction Based on Perceived Risk of Collision: Part 2-Applications, *IISE Transactions on Occupational Ergonomics and Human Factors,* Special issue: Digital Human Model and Industrial 4.0, Vol. 9, Issue 3-4, 2021, 211-222.
37. **Yang, J.**, Howard, B., and Baus, J., A Collision Avoidance Algorithm for Human Motion Prediction Based on Perceived Risk of Collision: Part 1-Model Development, *IISE Transactions on Occupational Ergonomics and Human Factors,* Special issue: Digital Human Model and Industrial 4.0, Vol. 9, Issue 3-4, 2021, 199-210.
38. Oliveira, A., Bhattacharya, S., and **Yang, J.**, Mechanics of Magnetic Robots akin to Soft Beams Supported at Unanchored Contacts, *ASME Journal of Applied Mechanics*, Vol. 88, 2021, 121005-1 (11 pages).
39. Cui, Q., and **Yang, J.**, Evaluation of Numerical Simulation Methods and Ice Material Models for Intermediate-Velocity Hail Impact Simulation, *Engineering Structures*, 244, 2021, 112831,
40. Liu, Z., Gao, Y., **Yang, J.**, Xu, Y., Fang, J., and Xu Y., Effect of Discretized Transfer Paths on Abnormal Vibration Analysis and Door Structure Improvement to Reduce its Vibration in the Door Slamming Event, *Applied Acoustics*, 183 (2021) 108306.
41. Liu, Z., Gao, Y., **Yang, J.**, Xu, X., Fang, J., Duan, Y., Ma, C., Transfer Path Analysis and its Application to Diagonosis for Low-Frequency Transient Vibration in the Automotive Door Slamming Event. *Measurement*, Vol. 183, October 2021, 109896.
42. Baus, J., Harry, J., and **Yang, J**., Optimization Based Subject-Specific Planar Human Vertical Jumping Prediction-Model Development and Validation, *IMechE, Part H: Journal of Engineering in Medicine*, 235(7), 805-818, 2021.
43. Yu, Z., Zhao, Q., **Yang, J.**, Xia, Y., and Ma, Y., Three-Dimensional Uncoupled Biodynamic Model for Seated Humans Exposed to Vibration: Development and Experimental Validation, *International Journal of Industrial Ergonomics*, 85 (2021) 103171.
44. DeLucia, P., Kim, J.H., Nguyen, N., Wang, E., and, **Yang, J.**, Learning to Become Researchers: Lessons Learned from a Research Experience for Undergraduates (REU) Program Focused on Research in Psychological Sciences with Real-World Implications, *SPUR: Scholarship and Practice of Undergraduate Research*, Vol. 4, Issue 4, 10-22, 2021.
45. Liu, Z., Gao, Y., and **Yang, J.**, Numerical and Experimental-Based Framework for Vibro-Acoustic Coupling Investigation on a Vehicle Door in the Slamming Event, *Mechanical Systems and Signal Processing*, Vol. 158, 2021, 107759.
46. Ozsoy, B., and **Yang, J.**, Assisted Spatial Sit-to-Stand Prediction-Part 2: Virtual Injured Elderly Individuals, *ASME Journal of Computing and Information Science in Engineering*, Dec. 2021, 21(6): 061009 (13 pages).

47. Ma, C., Gao, Y., **Yang, J.**, Duan, Y., and Liu, Z., Finite Element-Based Safety Prediction for Hydraulic Excavator Rollover Protective Structure and Experimental Validation, *International Journal of Crashworthiness*, 27 (4), 955-967.
48. Cruz, J., Garcia, M., Garza, C., DeLucia, P., and **Yang, J.**, Object Shape Affects Hand Grip Function for Heavy Objects in Younger and Older Adults, *Ergonomics*, 64(6), 722-732, 2021.
49. Zaman, R., Xiang, Y., Cruz, J., and **Yang, J.**, Three-Dimensional Asymmetric Maximum Weight Lifting Prediction Considering Dynamic Joint Strength, *IMechE, Part H: Journal of Engineering in Medicine*, 235(4), 437-446, 2021.
50. Xiang, Y., Tahmid, S., Owen, P., and **Yang, J.**, Single Task-Based Planar Symmetric Box Delivery Motion Prediction and Experimental Validation, *ASME Journal of Mechanisms and Robotics*, 13(2), Apr 2021, 024501 (6 pages).
51. Pati, D., Valipoor, S., Cloutier, A., **Yang, J.**, Freier, P., Harvey, T.E., and Lee, J., Physical Design Factors Contributing to Patient Falls, *Journal of Patient Safety*, 17(3), 135-142, 2021.
52. Xiang, Y., Tahmid, S., Owen, P., and **Yang, J.**, Two-Dimensional Symmetric Box Delivery Motion Prediction and Validation: Subtask-Based Optimization Method, *Applied Sciences*, 10, 8798, 1-14, 2020.
53. Baus, J., Harry, J., and **Yang, J**., Jump and Landing Biomechanical Variables and Methods – A Literature Review, *Critical Review in Biomedical Engineering*, 48(4): 211-222, 2020.
54. Zaman, R., Xiang, Y., Cruz, J., and **Yang, J.**, Two-Dimensional versus Three-Dimensional Symmetric Lifting Motion Prediction Models: A Case Study, *ASME Journal of Computing and Information Science in Engineering*, Vol. 21, 2021, 044501 (7 pages).
55. Li, B., Yang, X., and **Yang, J.**, Out-of-Plane Tire Model Development for Vehicle Dynamic Simulation on Various Rigid Road Surfaces, *International Journal of Vehicle Performance*, Vol. 7, Nos. 1/2, 83–119, 2021.
56. Lv, T., Zhang, Y., Duan, Y., and **Yang, J.**, Kinematics & Compliance Analysis of Double Wishbone Air Suspension with Frictions and Joint Clearances, *Mechanism and Machine Theory*, Vol. 156, February 2021, 104127.
57. Zhu, H., **Yang, J.**, and Zhang, Y., Dual-Chamber Pneumatically Interconnected Suspension: Modeling and Theoretical Analysis, *Mechanical Systems and Signal Processing*, Vol. 147, 15 January 2021, 107125.
58. Xiang, Y., Cruz, J., Zaman, R., and **Yang, J.**, Multi-Objective Optimization for Two-Dimensional Maximum Weight Lifting Simulation, *Engineering Optimization*, 53(02), 2021, 206 – 220.
59. **Yang, J.**, and Ozsoy, B., Assisted Spatial Sit-to-Stand Prediction-Part 1: Virtual Healthy Elderly Individuals, *ASME Journal of Computing and Information Science in Engineering*, Vol. 21, 2021, 041002 (9 pages).
60. Gao, Y., Duan, Y., **Yang, J.**, Yuan, Z., and Ma, C., Improved K-Medoids Algorithm-Based Clustering Analysis for Handle Driving Force in Automotive Manual Sliding Door Closing Process, *Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automotive Engineering*, Vol. 235, Number 2-3, 871-880, 2021.
61. Chumacero, E., and **Yang, J.**, Validation of an Ankle-Hip Model of Balance on a Balance Board Via Kinematic Frequency-Content, *Gait and Posture*, 82, 2020, 313-321.
62. Rakshit, R., and **Yang, J.**, Modelling Muscle Recovery from a Fatigued State in Isometric Contractions for the Ankle Joint, *Journal of Biomechanics*, Vol. 100, 13 Feb. 2020, 109601.
63. Rakshit, R., Xiang, Y., and **Yang, J.**, Dynamic Joint Strength-Based Simulation for Two-Dimensional Symmetric Maximum Weight Lifting, *Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine*, 234(7), 2020, 660-673.
64. Chumacero, E., and **Yang, J.**, Effect of Disturbances and Sensorimotor Deficits on the Postural Robustness of an Ankle-Hip Model of Balance on a Balance Board, *Nonlinear Dynamics*, Vol. 99, 1959-1973, 2020.

65. Haddas, R., Samocha, Y., and **Yang, J.**, Effects of Volitional Spine Stabilization on Trunk Control during Asymmetric Lifting Task in Patients with Recurrent Low Back Pain, *Global Spine Journal*, Vol. 10(8), 1006-1014, 2020.
66. **Yang, J.**, and Ozsoy, B., Three Dimensional Unassisted Sit-to-Stand Prediction for Virtual Healthy Young and Elderly Individuals, *Multibody System Dynamics*, 49(1), 33-52, 2020.
67. Chumacero, E., **Yang, J.**, and Chagdes, R. J., Effect of Ankle-Pivot Misalignment and Upward Ankle Vertical Displacement on Stability and Equilibrium Location for an Ankle-Hip Model of Balance on a Balance Board, *ASME Journal of Computational ad Nonlinear Dynamics*, 15(2), Feb. 2020, 021002 (13 pages).
68. Gao, Y., Duan, Y., **Yang, J.**, Yuan, Z., and Ma, C., Modeling Planar Joints with Clearance between the Guide and Roller in Mechanisms, *ASME Journal of Computational Nonlinear Dynamics*, 15(1), Jan. 2020, 011010 (10 pages).
69. **Yang, J.**, and Howard, B., Prediction of Initial and Final Postures for Motion Planning in Human Manual Manipulation Task Based on Cognitive Decision Making, *ASME Journal of Computing and Information Science in Engineering*, Vol. 20, Issue 1, March 2020, 011077 (9 pages).
70. Chumacero, E., and **Yang, J.**, Basin of Attraction and Limit Cycle Amplitude of an Ankle-Hip Model of Balance on a Balance Board, *ASME Journal of Biomechanical Engineering*, Vol. 141, Number 11, 2019, 111007 (9 pages).
71. Oliveira, A., and **Yang, J.**, Review of Magnetically Actuated Milli/Micro-Scale Robots Locomotion and Features, *Critical Reviews in Biomedical Engineering*, 47(5), 379-394, 2019.
72. Xu, M., **Yang, J.**, Haddas, R., and Lieberman, I.H., Finite Element Method-Based Study of Pedicle Screw-Bone Interaction in Pullout Test and Physiological Spinal Loads, *Medical Engineering and Physics*, Vol. 67, 2019, 11-21.
73. Chumacero, E., **Yang, J.**, and Chagdes, R. J., Numerical Nonlinear Analysis for Dynamic Stability of an Ankle-Hip Model of Balance on a Balance Board, *ASME Journal of Computational and Nonlinear Dynamics*, Vol. 14, October, 2019, 101008 (11 pages).
74. Xu, M., **Yang, J.**, Haddas, R., and Lieberman, I.H., Comparison of Responses of Pre- and Post-Surgical Scoliotic Spines to Axial Cyclic Vibration: A Finite Element Study, *ASME Journal of Computers and Information Science in Engineering*, Vol. 19, June, 2019, 021006 (6 pages).
75. Xiang, Y., Zaman, R., Rakshit, R., **Yang, J.**, Subject-Specific Strength Percentile Determination for Two-Dimensional Human Symmetric Lifting Prediction Considering Dynamic Joint Strength, *Multibody System Dynamics*, 46(1), 63-76, 2019.
76. Haddas, R., Xu, M., Lieberman, I.H., and **Yang, J.**, Finite Element-Based Analysis of Pre and Post Lumber Fusion for Adult Degenerative Scoliotic Spines, *Spine Deformity*, Vol. 7, 543-552, 2019.
77. Chumacero, E., **Yang, J.**, James, R.C., and Wu, M., Body-Weight Supported Treadmill Walking Training Improves Functional Walking and Balance of Stroke Survivors in Any Post-Stroke Stage: A Systematic Review, *Critical Review in Physical and Rehabilitation Medicine*, 30(4): 1-20, 2018.
78. Yang, Q., Li, H., Shen, S., Zhang, G., Huang, R., Feng, Y., and **Yang, J.**, and Ma, S., Effect of Water Vapor Condensation on Micro-Climate in the N95 FFR, *Scientific Reports*, 8(2018), 17382, 1-13.
79. Xu, M., **Yang, J.**, Lieberman, I.H., and Haddas, R., Comparisons of Stress Distributions in Vertebral Bone and Pedicle Screw and Screw-Bone Load Transfers among Different Fixation Methods of Lumbar Spine Fusion Surgery: A Finite Element Study, *Medical Engineering and Physics*, 63, 2019, 26-32.
80. Zhu, H., **Yang, J.**, and Zhang, Y., Modeling and Optimization for Pneumatically Pitch-Interconnected Suspensions of a Vehicle, *Journal of Sound and Vibration*, Vol. 432, 2018, 290-309.

81. Chumacero, E., **Yang, J.**, and Chagdes, J. R., Effect of Sensory-Motor Latencies and Active Muscular Stiffness on Stability for an Ankle-Hip Model of Balance on a Balance Board, *Journal of Biomechanics*, Vol. 75, 77-88, 2018.
82. Cloutier, A., and **Yang, J.**, Examining the Robustness of Grasping Force Optimization Methods Using Uncertainty Analysis, *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems Part B: Mechanical Engineering*, Vol. 4, 041007-1-8, December 2018.
83. Li, B., Yang, X., **Yang, J.**, Zhang, Y., and Ma, Z., In-plane flexible ring tire model parameter identification: Optimization algorithms, *SAE International Journal of Vehicle Dynamics, Stability and NVH*, 2(1): 2018, 1-17.
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5. Tong, J., Meng, D., Gao, Y., **Yang J.**, Efficient Simulation of Multi-Body Dynamics with Roller Guide Joints Using Julia, *SAE World Congress*, April 8-10, 2025, Detroit, MI.
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B7. Haddas R., Xu M., Lieberman I., **Yang J**. (2018) *Finite Element Analysis of Pre and Post Lumbar Fusion for Adult Degenerative Scoliosis Patients*. In: Gefen A., Weihs D. (eds) Computer Methods in Biomechanics and Biomedical Engineering. Lecture Notes in Bioengineering. Springer, Cham, 209-217.

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B9. Cloutier, A., Gragg, J., and **Yang, J.**, *Sensitivity Analysis of Achieving a Reach Task Considering Joint Angle and Link Length Variability*, Advances in Applied Human Modeling and Simulation, Edited by V.G. Duffy, CRC Press 2012, 13-22.

B10. Gragg, J., **Yang, J.**, and Liang, D., *Probabilistic and Simulation-Based Methods for Study of Slips, Trips, and Falls-State of the Art*, Advances in Applied Human Modeling and Simulation, Edited by V.G. Duffy, CRC Press 2012, 23-32.

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B12. Zou, Q., **Yang, J.**, and Liang, D., *Stochastic Optimization Applications for Robotics and Human Modeling: A Literature Survey*, Advances in Applied Human Modeling and Simulation, Edited by V.G. Duffy, CRC Press 2012, 43-54.

B13. Lei, Z., and **Yang, J.**, *Contact Area Determination between an N95 Filtering Facepiece Respirator and a Headform*, Lecture Notes in Computer Science, 2011, Vol. 6777, Digital Human Modeling, 119-128, Springer-Verlag Berlin Heidelberg.

B14. Howard, B., and **Yang, J.**, *Predicting Support Reaction Forces for Standing and Seated Tasks with Given Postures-A Preliminary Study*, Lecture Notes in Computer Science, 2011, Vol. 6777, Digital Human Modeling, 89-98, Springer-Verlag Berlin Heidelberg.

B15. Ozsoy, B., and **Yang, J.**, *Planar Vertical Jumping Simulation-A Pilot Study*, Lecture Notes in Computer Science, 2011, Vol. 6777, Digital Human Modeling, 161-170, Springer-Verlag Berlin Heidelberg.

B16. Cloutier, A., Boothby, R., and **Yang, J.**, *Motion Capture Experiments for Validating Optimization-Based Human Models*, Lecture Notes in Computer Science, 2011, Vol. 6777, Digital Human Modeling, 59-68, Springer-Verlag Berlin Heidelberg.

B17. Long, J., Burns, K., and **Yang, J.**, Cloth Modeling and Simulation: A Literature Survey, Howard, B., and **Yang, J.**, *Predicting Support Reaction Forces for Standing and Seated Tasks*

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B18. Zou, Q., Zhang, Q., **Yang, J.**, Boothby, R., Gragg, J., and Cloutier, A., *An Alternative Formulation for Determining Weights of Joint Displacement Objective Function in Seated Posture Prediction*, Lecture Notes in Computer Science, 2011, Vol. 6777, Digital Human Modeling, 231-242, Springer-Verlag Berlin Heidelberg.

B19. Gragg, J., **Yang, J.**, and Boothby, R., *Posture Reconstruction Method for Mapping Joint Angles from Motion Capture Experiment to Simulation Models*, Lecture Notes in Computer Science, 2011, Vol. 6777, Digital Human Modeling, 69-78, Springer-Verlag Berlin Heidelberg.

B20. **Yang, J.**, Feng, X., Kim, J., Xiang, Y., and Rajulu, S., *Joint Coupling for Human Shoulder Complex*, Lecture Notes in Computer Science, Digital Human Modeling, Vol. 5620, 72-81, 2009, Springer-Verlag, Berlin.

B21. **Yang, J.**, Dai, J., and Zhuang, Z., *Human Head Modeling and Personal Head Protective Equipment: A Literature Review*, Lecture Notes in Computer Science, Digital Human Modeling, Vol. 5620, 2009, Springer-Verlag, Berlin.

B22. Pena-Pitarch, E., **Yang, J.**, and Abdel-Malek, K., Virtual Human Hand: Grasping and Simulation, Lecture Notes in Computer Science, Digital Human Modeling, Vol. 5620, 140-149, 2009, Springer-Verlag, Berlin.

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B24. Abdel-Malek, K, **Yang, J.**, Marler, T., and Arora, J., Chapter 26, Digital Warfighter Modeling for Military Applications, in *Handbook of Military Industrial Engineering*, Taylor and Francis/CRC Press, Badiru, A. (Ed.), 2008.

B25. **Yang, J.**, Rahmatalla, S., Marler, T., Abdel-Malek, K., and Harrison, C., *Validation of Predicted Posture for the Virtual Human Santos*, Lecture Notes in Computer Science, *Digital Human Modeling*, Vol. 4561, 2007, 500-510, Springer, Heidelberg, Berlin.

B26. Abdel-Malek, K., **Yang, J.**, Kim, J. K., Marler, T., Beck, S., Swan, C., Frey-Law, Mathai, A., Murphy, C., Rahmatalla, S., and Arora, J., Development of the Virtual-Human Santos, Lecture Notes in Computer Science, *Digital Human Modeling*, Vol. 4561, 2007, 490-499, Springer-Verlag, Berlin.

B27. Abdel-Malek, K., and **Yang, J.**, Chapter 12, Optimization-Based Inverse Kinematics of Articulated Linkages, in *Optimization of Structure and Mechanical Systems*, Arora, J. (Ed.), World scientific Publishing Co. Pte. Ltd, 331-360, 2007.

EDITORIAL ISSUES (5)

E1. Paul, G., **Yang, J.**, Wang, X., Digital Human Modelling in Ergonomics 4.0, Special Issue in *IISE Transactions on Occupational Ergonomics and Human Factors*, 2021.

E2. Xiang, Y., Zhou, X., and **Yang, J.**, Guest Editors, Human Dynamics Motion Prediction and Simulation, Special Issue in *International Journal of Human Factors Modelling and Simulation*, Vol. 2, Issue 1/2, 2011.

E3. **Yang, J.**, Lan, F., and Chen, J., Guest Editors, Research and Advances of Vehicle Body Engineering, Special Issue in *International Journal of Vehicle Design*, Vol. 57, Issue 2/3, 2011.

E4. **Yang, J.**, Kim, J., Guest Editors, Digital Human Modeling and Simulation, and Applications for Vehicle Design, Special Issue in *International Journal of Vehicle Design*, Vol. 51, Issue 3/4., 2009.

E5. Zhang, Y., Chen, L., and **Yang, J.**, Guest Editors, Modelling and Simulation of Complex Mechatronic Systems, Special Issue in *International Journal of Vehicle Autonomous Systems*, Vol. 6, No. 3/4, 2008.

PATENTS (1)

PT1. **Yang, J.**, Rakshit, R., A Four-Compartment Controller Model of Muscle Fatigue for All Activity Type, #63472551, Filed on June 12, 2023.

TECHNICAL REPORTS (20)

T1. Baus, J., Rooks, T., French Krahan, H.A., Tharion, W., **Yang, J.**, Modeling of Biomechanics of Parachute Open Shock, DOD Technical Report 2024.
T2. Lee, S., **Yang, J**., Parametric Musculoskeletal Model with Full Body Surface for Human-Robot Interaction Simulation, DOD DHA Technical Report, 2022.
T3. Baus, J., **Yang, J.**, Patient Digital Twin and Performance Capture System for Scoliosis Physiotherapy, NSF SBIR Technical Report, 2022.
T4. Cheng, Z., Hu, J., **Yang, J.**, Sanford, D., Hoyt, R.W., Zientara, G.P., Individualized Avatars with Complete Anatomy: Repositioning of Superficial Anatomy, USARIEM Technical Report T20-06, 2020.
T5. Liang, D., **Yang, J.**, Tanner, L., Kiesling, E., and Ahmadisoleymani, A., Finite Element Simulation of Storm Shelter, Texas Tech University, October 2016.
T6. Liang, D., **Yang, J.**, Tanner, L., Kiesling, E., and Ahmadisoleymani, A., Literature Review, Storm Shelter-Interim Report, Texas Tech University, December 2015.
T7. Li, N., and **Yang, J.**, Finite Element Simulation Platform for Tornado Door System, Technical Report, National Wind Institute Discovery Program, Texas Tech University, September 2015.
T8. **Yang, J.**, and Lewis, K., Biomechanical Model for Assessing Injury Risks in Mining, Technical Report, Texas Tech University, 06-2014.
T9. **Yang, J.** and Lei, Z., Predictive Models for Respirator Fit and Comfort with Head Movements, Technical Report, Texas Tech University, 2014.
T10. **Yang, J.** and Lei, Z., Predictive Models for Respirator Fit and Comfort with Head Movements, Technical Report, Texas Tech University, 2011.
T11. **Yang, J.** and Lei, Z., Predictive Models for Respirator Fit and Comfort, Technical Report, Texas Tech University, 2010.
T12. **Yang, J.** and Lei, Z., Skin Sensitivity under Mechanical Loads: A Literature Review, Technical Report, Texas Tech University, 2010.
T13. **Yang, J.** and Lei, Z., Survey of Respirator Comfort and Fit, Technical Report, Texas Tech University, 2010.
T14. **Yang, J.** and Long, J., Joystick Evaluation Using Hand Simulation Suite, Texas Tech University, Technical Report, 2009.
T15. **Yang, J.** and Gragg, J., Comfort Metrics for Digital Hand Model, Texas Tech University, Technical Report, 2008.
T16. **Yang, J.**, Gragg, J., and Li, J., Carpal Tunnel Risk Models Based on Empirical Data, Texas Tech University, Technical Report, 2008.
T17. Marler, T., and **Yang, J.**, Determination of the Pareto Optimal Set for a Bi-objective Posture Prediction Problem, University of Iowa, Virtual Soldier Research Program, Technical Report Number VSR-04.07.
T18. **Yang, J.**, Hand Biomechanics, University of Iowa, Virtual Soldier Research Program, Technical Report Number VSR-06.01.
T19. **Yang, J.**, and Pena Pitarch, E., Kinematic Human Modeling, University of Iowa, Virtual Soldier Research Program, Technical Report Number VSR-04-11-01.
T20. Sinokrot, T., **Yang, J.**, and Fetter, B., Workspace Analysis for Santos, University of Iowa, Virtual Soldier Research Program, Technical Report Number VSR-04-11-13.

ABSTRACTS (19)

A1. Mena, A., Wollstein, R., and **Yang, J.**, Wrist Finite Element Model for Wrist Biomechanics Analysis and Pathology Treatment, *APCOM-ACCM 2025*, Brisbane, Australia, December 7-10, 2025.

A2. Mena, A., Wollstein, R., and **Yang, J.**, Cost-effective Digit Grip Force Measurements Device for Wrist Biomechanics Analysis, *30th Congress of the European Society of Biomechanics*, Zürich, Switzerland, July 6 – 9, 2025.

A3. Mena, A., Wollstein, R., and **Yang, J.**, Biomechanical Effects of Scaphotrapeziotrapezoid Arthrodesis: A Wrist Finite Element Analysis Study, *30th Congress of the European Society of Biomechanics*, Zürich, Switzerland, July 6 – 9, 2025.

A4. Roos, P., Pickle, N.T., Tuer, G.M., Middle, R., **Yang, J.**, and Zientara, G.P., Warfighter Digital Twins for Simulating Mission Performance, *The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC)*, Orlando, FL, December 2-6, 2024.

A5. Tuer, G.M., Middle, R., Pickle, N.T., **Yang, J.**, Broyles, N., Zientara, G.P., and Roos, P., A Warfighter Digital Twin Can Identify Personalized Risk Factors of Musculoskeletal Injury, *The 2024 Military Health System Research Symposium*, Gaylord Palms Resort and Convention Center, Kissimmee, FL, 2024.

A6. Mena, A., Wollstein, R., and **Yang, J.**, Advancements in Wrist Biomechanics Development of a Comprehensive Linear Finite Element Model, *29th Congress of the European Society of Biomechanics*, June 30-July 3, 2024, Edinburgh, Scotland.

A7. Mena, A., Wollstein, R., and **Yang, J.**, Assessing the Impact of Cortical-Trabecular Distinctions in Wrist Finite Element Simulations, *29th Congress of the European Society of Biomechanics*, June 30-July 3, 2024, Edinburgh, Scotland.

A8. Baus, J., Rooks, T.F., Tharion, W., J., Hoyt, R., French Krahn, H.A., **Yang, J.**, Inverse Kinematics Analysis Based on Parachute Jumpers' Inertial Measurement Units (IMUs) Data, Abstract at *the 61st SAFE Symposium*, Oct. 10-12, 2023, Virginia Beach, VA, USA.

A9. Baus, J., Rooks, T.F., Tharion, W., J., Hoyt, R., French Krahn, H.A., **Yang, J.**, Musculoskeletal Model-Based Neck Generalized Force Estimation during Parachute Opening Shock with and without a Bundle, Abstract at *the 61st SAFE Symposium*, Oct. 10-12, 2023, Virginia Beach, VA, USA.

A10. Mena, A., Parody, N., Yassin, S., **Yang, J.**, and Wollstein, R., Properties of the Carpal Bones in Wrist Modeling, IWIW, Toronto, Canada, Oct. 4, 2023.

A11. Mena, A., Wollstein, R., and **Yang, J.**, Challenges in Developing a Healthy Finite Element Wrist Model: Ligaments, *International Society of Biomechanics*, Fukuoka, Japan, July 30 to August 3, 2023.

A12. Tahmid, S., **Yang, J.**, Development and Validation of a Finite Element Model of the Cervical Spine, *American Society of Biomechanics Annual Meeting*, Atlanta, GA, August 4-7, 2020.

A13. Cruz, J.M., **Yang, J.**, Verifying Joint Space-Based Metabolic Energy Expenditure Models, *American Society of Biomechanics Annual Meeting*, Atlanta, GA, August 4-7, 2020.

A14. Cruz, J.M., **Yang, J.**, Development and Validation of a New Full Body Musculoskeletal Model, *The 43rd Annual Meeting of the American Society of Biomechanics*, Calgary, Canada, July 31-August 4, 2019.

A15. Jackson, E., Garcia, M., Cruz, J., **Yang, J.**, Comparison of Contact Pressure in the Perineal Region and Subjective Comfort among Various Saddles, 17th Annual Regional NORA Symposium, April 18-19, 2019, Salt Lake City, Utah.

A16. Cruz, J.M., **Yang, J.**, Development of a New Full Body Musculoskeletal Model in OpenSim, 17th Annual Regional NORA Symposium, April 18-19, 2019, Salt Lake City, Utah.

A17. Xu, M., **Yang, J.**, Lieberman, I., and Haddas, R., Mesh Sensitivity Analysis for a Healthy Lumber Spine Finite Element Model, *International Society for Advancement of Spine Sugary*, May 16-20, 2016, Singapore.

A18. Xu, M., **Yang, J.**, Lieberman, I., and Haddas, R., Finite Element Model Development and Validation of a Healthy Human Lumbar Spine, *International Society for Advancement of Spine Sugary*, May 16-20, 2016, Singapore.
A19. Haddas, R., Xu, M., Lieberman, I., and **Yang, J.**, Adjacent Level Analysis of Pre and Post Lumbar Fusion for Scoliosis Patients in Comparison to Healthy Controls-Finite Element Analysis, *The 40th Annual Meeting of the American Society of Biomechanics*, Raleigh, NC, August 2-5, 2016.
A20. Haddas, R., Xu, M., Lieberman, I., and **Yang, J.**, Lifting Risk after Lumber Fusion in Scoliosis, *The 39th Annual Meeting of the American Society of Biomechanics*, Columbus, OH, August 5-8, 2015.
A21. Haddas, R., Xu, M., Lieberman, I., Snailer, B., and **Yang, J.**, Adjacent Level Deterioration after Lumber Fusion in Scoliosis-A Finite Element Study, *The 39th Annual Meeting of the American Society of Biomechanics*, Columbus, OH, August 5-8, 2015.
A22. Haddas, R., and **Yang, J.**, Effects of Core Muscle Activation on Injury Risks in Mining Lifting for Healthy Population, *2014 World Congress on Biomechanics*, Boston, July 9, 2014.

POSTERS (14)

P1. Cash, C.D., Lawrence, R., Baus, J., **Yang, J.**, Park, M., Xu, L., Yan, H., and Bae, S., Sights and Sounds: What Does Piano Technique Communicate? *The Piano Conference: NCKP 2025*, Lombard, IL, USA, July 23-26, 2025.
P2. Mena, A., Wollstein, R., and **Yang, J.**, Biomechanical Insights into Wrist Stability: Finite Element Analysis Exploration of Material Representations, *2025 IFSSH and IFSHT Triennial Congress*, Washington, D.C., USA, March 24-28, 2025.
P3. Mena, A., Wollstein, R., and **Yang, J.**, Advancements in Wrist Biomechanics: Development of a Comprehensive Linear Finite Element Model, *29th Congress of the European Society of Biomechanics*, Edinburgh, Scotland, June 30 – July 3, 2024.
P4. Mena, A., Wollstein, R., and **Yang, J.**, Finite Element Method-Based Comparison between Healthy Subject and Patient with Lumbar Interbody Fusion Cage Implant, *ASME 2023 IDETC/CIE*, August 20-23, 2023, Boston, Massachusetts, USA.
P5. Cruz, J., and **Yang, J.**, Asymmetric Two-Handed Box Lifting and the Effect of Handedness, *North America Congress on Biomechanics*, August 21-25, 2022, Ottawa, Canada.
P6. Cheng, Z., Hu, J., **Yang, J.**, Sanford, D., Hoyt, R.W., Zientara, G.P., Individualized Avatar with Complete Anatomy: Repositioning and Animating, *Military Health System Research Symposium (MHSRS)*, August 19-22, 2019, Florida.
P7. Cheng, Z., Hu, J., **Yang, J.**, Sanford, D., Hoyt, R.W., Zientara, G.P., Biomechanical and Physiological Simulations of Individual Warfighters Based on Individualized Avatars with Complete Anatomy, *Military Health System Research Symposium (MHSRS)*, August 19-22, 2019, Florida.
P8. Rakshit, R., **Yang, J.**, A New Localized Muscular Fatigue Model for Dynamic Target Loads, *ASME 2019 International Design Engineering Technical Conference and Computers & Information in Engineering Conference*, August 18-21, 2019, Hilton Anaheim, Anaheim, CA, USA.
P9. Malek, M.I., **Yang, J.**, Nonlinear Dynamics of Human Upright Postural Stability Based on An Ankle-Knee-Hip Model on a Balance Board, *ASME 2019 International Design Engineering Technical Conference and Computers & Information in Engineering Conference*, August 18-21, 2019, Hilton Anaheim, Anaheim, CA, USA.
P10. Oliveira, A., **Yang, J.**, Kinematics and Dynamics of Soft Magnetic Robot for Minimally Invasive Procedures, *ASME 2019 International Design Engineering Technical Conference and Computers & Information in Engineering Conference*, August 18-21, 2019, Hilton Anaheim, Anaheim, CA, USA.

P11. Cruz, J., **Yang, J.**, Implant Fatigue Life Prediction for Post-Surgery Scoliosis Subjects, *ASME 2018 International Design Engineering Technical Conference and Computers & Information in Engineering Conference*, August 26-29, 2018, Quebec City, Canada.
P12. Schuelke, B., Gragg, J., Liang, D., and **Yang, J.**, Factors Affecting Human Mobility in Missouri and Alabama Tornado Survey, *2015 Aging in America Conference*, March 23-27, 2015, Chicago, IL, USA.
P13. Haddas, R., and **Yang, J.**, Effects of Core Muscle Activation on Injury Risks in Mining Lifting for Healthy Population, *2014 World Congress on Biomechanics*, Boston, July 9, 2014.
P14. O'Boyle, M., Westney, W., **Yang, J.**, Grund, C., Hou, J., and Gang, D., Brain Activation in Response to Motion Captured Piano Performance: A Functional Magnetic Resonance Imaging (fMRI) Study, *The 20th Annual Meeting of the Organization for Human Brain Mapping*, June 8-12, 2014, Hamburg, Germany.
P15. O'Boyle, M., Westney, W., **Yang, J.**, Grund, C., Hou, J., Gang, D., and Rajmohan, R., Mirror Neuron Activation in Musicians and Non-Musicians in Response to Motion Captured Piano Performance, Psychonomic Society's 55th Annual Meeting, Hyatt Regency Long Beach, Long Beach, CA, Nov. 20-23, 2014.
P16. Lewis, K., Haddas, R., and **Yang, J.**, Effects of Core Muscle Activation on Injury Risks in Mining Lifting for Healthy Population, 2014 Great Plains Honors Council Conference, Fort Smith, Arkansas, March 28-30, 2014.
P17. Latimer, J., Cloutier, A., **Yang, J.**, Westney, W., O'Boyle, M., and Grund, C., Technological and Aesthetic Investigation of the Physical Movements of Pianists, 2014 Great Plains Honors Council Conference, Fort Smith, Arkansas, March 28-30, 2014.

STUDENT SUPERVISION

Graduate Students
As Dissertation/Thesis Advisor (Chair)
***Ph.D. Students* (22):**

Ongoing (4):

1. Bishal Karki, Spine biomechanics, 08/2025-present.
2. Baivab Jang Bhandari, Biomechanics, 08/2024-present.
3. Yanwen Yang, Autonomous Vehicles, 08/2023-present.
4. Andres Mena, Finite Element Modelling of Wrist Joint and Lumbar Spine, 08/2022-present.

Graduated (18):

1. Jazmin M. Cruz, Lumber Spine Injury Assessment through Whole Body Musculoskeletal Model, 08/2017-08/2025.
2. Juan Baus, Motion Prediction in Collision Avoidance Manual Reaching Tasks Considering Cognitive Perceived Risk, 08/2021-05/2025.
3. Natnael M. Negash, Socially Compatible Behavior Prediction, Decision-Making, and Control for Autonomous Vehicles in Mixed Traffic, 08/2019-08/2024.
4. Seunghun Lee, Optimization-Based Motion Prediction for Tossing Tasks, 08/2019-05/2024.
5. Shadman Tahmid, Upper Extremity Model and Assistive Robotic Rehabilitation of Upper Extremity, 08/2018-08/2023.
6. Ritwik Rakshit, Muscle Fatigue Model, 08/2017-08/2023.
7. Amanda Oliveira, Modelling, Fabrication and Characterization of Tetherless Magneto-Responsive Soft Robots, 01/2018-08/2022.
8. Qihong Cui, Asphalt Shingle Hail Resistance Performance Evaluation Using Numerical Simulation Methods, 08/2016-08/2022.
9. Erik Chumacero, Nonlinear Dynamics of Human Upright Postural Stability on a Balance Board Using an Ankle-Hip Model, 08/2014-05/2019.

10. Ming Xu, Simulation-Based Assessment for Biomechanical Behaviour of Scoliotic Human Thoracolumbar Spine, 01/2014-12/2018.
11. Bin Li, In-Plane and Out-of-Plane Flexible Ring Tire Model Development and Validation, Texas Tech, 08/2013-08/2018.
12. Bradley Howard, Digital Human Posture and Motion Prediction Considering Cognitive Decision Making, Texas Tech, 08/09-08/2018.
13. Aimee Cloutier, Grasping Force Optimization Approaches for Common Anthropomorphic Grasps, Texas Tech, 08/2012-08/2017. Tenure Track Assistant Professor, Department of Mechanical Engineering, Rose-Hulman Institute of Technology, Indiana.
14. Jared Gragg, Ph.D., Investigating the Onset of Slip in Gait by Employing Probabilistic Theory and Optimization-Based Motion Prediction, Texas Tech, 08/2010-05/2014. Current Position: Lecturer, Department of Biomedical Engineering and Mechanics, Virginia Tech University. 2014-2015: Assistant Professor, Department of Mechanical Engineering, University of Louisville, Kentucky.
15. Burak Ozsoy, Ph.D., Sit-to-Stand Human Movement Simulation, Texas Tech, 08/09-05/2014. Current Position: CEO, Global Dynamics Systems, Istanbul, Turkey.
16. Zhipeng Lei, Ph.D., Simulation-Based Assessment for Respirator Fit and Comfort, Texas Tech, 08/09-08/2014. Postdoc, Center for Disease Control (CDC), Pittsburgh.
17. Qiuling Zou, Ph.D., Stochastic Optimization-Based Human Posture and Motion Prediction, Texas Tech, 08/09-05/2012. Defended on Oct. 18, 2012. Current Position: Engineer, New York Air Brake, Irving, Texas.
18. Esteban Pena Pitarch, Ph.D. Dissertation, Co-adviser, Virtual Human Hand: Grasping Strategy and Simulation, University of Iowa, 10/2007.

***MS Students* (21):**

Ongoing (0):

Graduated (21):

1. Bishal Karki, MS, Spine Biomechanics, 08/2024-08/2025.
2. Desirae Grumbine, MS, Autonomous forklift, 08/2023-12/2024
3. Suraj Sande, MS, Medical device design, 05/2021-05/2023.
4. Ivan Aguilar, MS Report, 1/2021-12/2022.
5. Kolawole Lamidi, MS, Person Tracking Intravenous Pole, 01/2021-12/2022.
6. Brittany Love, MS, Cervical Spine Injury Prediction for Shock wave, 08/2020-08/2022.
7. Juan Baus, MS, Optimization-Based Subject-Specific Planar Human Vertical Jumping Prediction and Validation, 08/2019-05/2021.
8. Melvin Summerville, MS, Finite Element Model Development and Result Comparison for Human Hand-Arm Vibration, 08/2019-05/2021.
9. Stephen Mangum, MS, Finite Element Method-Based Simulation of High Explosive Material Machining, 04/2016-05/2018.
10. Ritwik Rakshit, MS, Kinematic Design of an Anatomically-Accurate Exoskeleton Knee Joint, 08/2015-08/2017.
11. Jazmin Aguilar, MS, ACL Injury Modeling and Simulation, transferred to PhD student (August 2017), 01/2016-08/2017.
12. Rajath Rao, MS, Dynamic Response of Suspension Systems, 08/2015-05/2017.
13. Seyed Ahmadisoleymani, MS, Studying the Performance of American Football Helmet in Absorbing the Energy of Impact Based on Finite Element Method, 01/2014-08/2016. Thesis defence on June 28, 2016.
14. Richard George, MS report, Design and Analysis of a Compact Regenerative Motion Rectifying Shock Absorber, 08/2011-05/2015. Report defence on March 25, 2015.

15. Prasad Kumbhar, MS, Simulation-Based Virtual Driver Fatigue Prediction and Determination of Optimal Vehicle Seat Dynamic Parameters, 08/2011-08/2013. Thesis defence on June 26, 2013.
16. James Long, MS, Simulation-Based Assessment for Construction Helmets and Clothing, 01/2010-05/2012. Thesis defence on March 27, 2012.
17. Thomas Powelson, MS, A Study into the Application of Piezoelectrics to Modify Ankle Torques in Active Prosthetic Feet by Finite Element Analysis, 09/2010-05/2012. Thesis defence on March 21, 2012.
18. Jared Gragg, M.S. Thesis, Toward a New Digital Human Model and Applications, Texas Tech, 08/2008-05/2010. Thesis defence on March 23, 2010.
19. Jichang Dai, M.S. Thesis, Simulating the Interaction between Head Protective Equipment and a Headform, Texas Tech, December 2009. 09/2008-12/2009. Thesis defence on October 28, 2009.
20. Tariq Sinokrot, M.S. Thesis, Human Reach Envelope Analysis and Zone Differentiation, University of Iowa, 01/2004-08/2005.
21. Jason Olmstead-Muhs, M.S. Thesis, Geodesics Model for Human Motion Collision Avoidance, University of Iowa, 01/2004-08/2005.
22. Jason Potratz, M.S. Thesis, Development and Prototyping of Hand Mechanism with High Degrees of Freedom, University of Iowa, 01/2004-08/2005.

Undergraduate Students

Undergraduate Research Assistants (55)

Ongoing (4):

1. Emilio Lafuente Hernandez, Wrist Biomechanics, 02/2025-present
2. Nicolas Perez Barrera, Sensors, 09/2024-present
3. Isabella Krebs, Biomechnaics, 01/2025-present
4. Paula Varela Melero, Prosthesis hand, 02/2024-present

Graduated (51):

1. Mary Dillard, Human Modeling, 03/2024-12/2024
2. Reece Lawrence, Biomechanics in musicians, 03/2022-05/2025
3. Matthew Lee, IMUs integration, 03/2023-05/2024.
4. Ethan Nguyen, Skateboarding, 03/2023-05/2024.
5. Chloe Harbick, Biomechanics, 10/2022-05/2024.
6. Kyden Corelis, Biomechanics, 10/2022-05/2023.
7. Nathan Broyles, Muscle Fatigue, 09/2021-05/2023.
8. Giulia Piombo, Hand Prosthesis, 08/2020-10/2022.
9. Yvonne Celeb, Muscle Fatigue, 09/2021-05/2022.
10. Anastasia Hewitt, Wrist Joint Modeling, 04/2021-12/2021.
11. Becky Joseph, Muscle Fatigue, 08/2019-12/2021.
12. Alexis Palomarez, Hand Prosthesis, 08/2020-05/2021.
13. Brandon Darby, Autonomous Robot, 11/2020-03/2021.
14. Valeria Pujol, Human Modeling, 02/2019-05/2020
15. Aditya Tandon, Autonomous Robot, 01/2019-11/2020
16. Phearum Or, Soft Robot Hand, 08/2019-05/2020
17. Suren Yadev, Soft Hand Prosthesis, 08/2019-05/2020
18. Brittany Love, Head and Neck Modeling, 01/2020-05/2020.
19. Matthew Davis, Human Following Robot, 01/2019-12/2019.
20. Elizabeth Jackson, Biomechanics Mechanism of Bicycle Saddles, 01/2018-12/2019
21. Mario Garcia, Effect of Object Surfaces and Shapes on Hand Grip Functions for Heavy Objects, Biomechanics Mechanism of Bicycle Saddles, 08/2017-12/2019

22. Adrian Harvey, Object Delivery Study, 08/2018-05/2019.
23. Alfred O. Ongolo, McNair Scholar, Patient Reposition Table Design, 08/2018-12/2018.
24. Alexander Webster, Department of Mechanical Engineering, TTU, Bicycle Saddles, 10/2016-12/2017.
25. Cecilia Garza, Texas A&M University-Kingsville, REU student, Effect of Object Surfaces and Shapes on Hand Grip Functions for Heavy Objects, 06/2017-07/2017 (8 weeks).
26. Jessie Opella, Honors College, Texas Tech University, Spine Modeling, 09/01/2015-05/2017.
27. Khoi Ly, Honours College, Texas Tech University, Prototype of Finger Dentation Apparatus and Experiment, 01/20/2015-05/16/2017.
28. Abigail S. Holmes, Honors College, Texas Tech University, Human Modeling, 09/01/2015-12/15/2016.
29. Brandt Colborg, Department of Mechanical Engineering, Texas Tech University, Design of New Punching Cap Machine, 09/03/2014-12/15/2105.
30. Brandon Snailer, Department of Health, Exercise Sciences and Sports, Texas Tech, Slip and falls, 08/26/2014-05/21/2015.
31. Dave Knipe, Honors College, Texas Tech University, Prototype of Finger Dentation Apparatus and Experiment, 09/01/2014-12/15/2014.
32. Sarah Bird, Honors College, Texas Tech University, Long Distance Driving Discomfort, Individual study, 09/01/14-12/2014.
33. Jesse Latimer, Honors College, Texas Tech University, Piano Project, 04/16/13-12/2014.
34. Jerrod Hollers, Department of Mechanical Engineering, Texas Tech University, Patient Slip Data Processing, 05/18/2014-12/15/2014.
35. Pedro Peralta, Universidad del Turabo, Puerto Rico, Human Finger Design and Simulation, 06/02/14-07/31/14.
36. Kate Lewis, Honors College, Texas Tech University, Biomechanical Model for Assessing Injury Risk in Mining, 08/13-05/2014. She was accepted into the Common European Master's Course in Biomedical Engineering (CEMACUBE). This consortium prepares students from Europe and outside Europe for professions in biomedical engineering through a European dual-master program. In 2014, 33 students from 16 countries were accepted. Lewis was one of three Americans who will participate.
37. Victoria Banuelas, Department of Health, Sports and Exercise Sciences, Texas Tech University, TTU HHMI Research Scholar, the effect of Age on ACL Injury, 08/2013-12/2013.
38. Rebeca Camurca, Engineering Military Academy, Brazil, 08/2013-12/2013.
39. Brandon Schuelke, Department of Health, Exercise Sciences and Sports, Texas Tech University, Simulation Model for Tornado Evacuation of the Elderly, 03/20/13-08/2013.
40. Mark Ryan, Honours College, Texas Tech University, Motion Capture Experiment for Piano Players, 09/2012-12/2012.
41. Aimee Cloutier, NSF REU student, Honours College, Texas Tech University, Motion Capture Experiment and Validation, 09/2010-08/15/2012. Graduated with Highest Honours.
42. Katherine Burns, NSF REU student, Texas Tech University, Human Modeling, 09/2010-05/2011.
43. Byron Griffin, BS, Thermodynamic Modeling of Gas Wells, 09/2010-05/2011.
44. Kyle Beck, BS, Development of an External Heating for Tubing, 09/2010-12/31/2010.
45. Pierce McGrath, BS, Development of Insulation for Steel Tubing, 09/2010-05/2011.
46. Byron Griffin, undergraduate research assistant, Design and Analysis of a Novel Hip Joint for Earpiece-less Eyeglass Frame, 01/2010-05/2010.
47. Robyn Boothby, undergraduate research assistant, Motion Capture, 01/2010-07/2010.
48. Colton Gragg, undergraduate research assistant, Human Shoulder Modeling, Motion Capture, 09/2009-05/2010.
49. James Long, undergraduate research assistant, Human Modeling, 05/2009-12/2009.

50. Kyle King, undergraduate research assistant, Human Modeling, 01/2009-12/2009.
51. Ross Johnson, Hand Modeling and Simulation, Caterpillar Inc. Project, University of Iowa, 08/2007-07/2008.

High School Students (4)

1. Tony Wang, Lubbock High, 06/2022-08/2022.
2. Esme Eleanor Abbot, Clark Scholar, Canyon Crest Academy, San Diego, CA, 06/2019-07/2019. Undergraduate Student at Olin Engineering College.
3. Eric Shang, St Marks School of Texas, TX, 06/2016-07/2016. Undergraduate student at University of Chicago.
4. Ellison Klose, Clark Scholar, Bismarck High School, ND, 06/23/2014-08/09/2014. Undergraduate student at MIT.

Visitors/Visiting /Postdoctoral Scholars

1. Dr. Haiyan Li, Guangdong University of Technology, 12/31/2024-12/30/2025.
2. Mr. Suo Zhang, Tongji University, 09/15/2023-08/23/2024.
3. Mr. Jiachi Tong, Tongji University, 09/15/2023-08/23/2024.
4. Mr. Tiaqi Lv, Huazhong University of Science and Technology, 09/20/2019-10/04/2020.
5. Mr. Yuexing Duan, Tongji University, 09/05/2019-09/11/2020.
6. Dr. Wencan Zhang, Fushan University, 07/14/2018-09/09/2018.
7. Dr. Jixiong Li, Fushan University, 01/10/2018-01/09/2019.
8. Dr. Min Li, South China University of Technology, 08/30/2017-08/29/2018.
9. Dr. Jun Liu, Wuhan University, 12/17/2017-12/16/2018.
10. Dr. Liang Liang, Wuhan University, 11/11/2017-11/10/2018.
11. Dr. Xingxing Deng, Wuhan University of Science and Technology, 09/07/2017-09/06/2018.
12. Dr. Jing Yang, Wuhan University, 06/15/2017-06/14/2018.
13. Prof. Hui Li, Wuhan University, 08/2016-11/2016.
14. Dr. Fei Xie, Jilin University, 08/31/201609/01/2017.
15. Hengjia Zhu, visiting Ph.D. student, Huazhong University of Science and Technology, 04/25/2016-04/24/2017.
16. Prof. Rongyu Ge, University of Jinan, 12/06/2015-12/05/2016.
17. Prof. Hongli Xu, Changzhou Institute of Technology, 08/26/2015-08/25/2016.
18. Prof. Jie Tian, Nanjing Forestry University, 08/26/2015-02/25/2016.
19. Prof. Xianhai Yang, Shandong University of Technology, 07/12/2015-12/01/2015.
20. Mr. Zeyu Ma, visiting Ph.D. student, Huazhong University of Science and Technology, 02/02/2015-2/01/2016.
21. Prof. Yongsheng Zhao, Beijing University of Technology, 04/2014-03/2015.
22. Prof. Yunqing Zhang, Huazhong University of Science and Technology, 03-04/2014, 05/2015.
23. Dr. Zhiqing Cheng, Infoscitex Corporation, 04/2014.
24. Prof. Alexander Leonessa, Virginia Tech, 09/2013.
25. Dr. Joo H. Kim, Polytechnic Institute of New York University, April 29, 2013.
26. Alan Mayton, NIOSH, March 25. 2013
27. Donald Bloswick, University of Utah, Feb. 18, 2013.
28. Prof. David Rosen, Georgia Tech, Nov. 2011
29. Dr. Ziqing Zhuang, NIOSH, August 2011
30. Dr. Kathy Butler, NIST, Nov. 2010
31. Dr. Ziqing Zhuang, NIOSH, Nov. 2010
32. Prof. Denis Blackmore, NJIT, Oct. 2010
33. Prof. Esteban Pena Pitarch, UPC, Spain, 07-08/2010, 2016
34. Prof. Guolai Yang, Nanjing University of Science and Technology, 07-08/2010
35. Prof. Qinghong Zhang, Northern Michigan University, 05/2010

36. Dr. Ziqing Zhuang, NIOSH, Dec. 2009
37. Dr. Xuguang Wang, INRETS, France, 07/2009
    Research: Shoulder Modelling and Simulation
38. Dr. Qinghua Liu, Huazhong University of Science and Technology, China, 03/2008-08/2008
    Research: Posture Prediction with External Loads (Honda R&D Project)
39. Dr. Xuemei Feng, Wuhan University of Technology, China, 03/2007-02/2008
    Research: Modeling of Shoulder Complex (USCAR Project)

Student Accomplishments:

- Natnael M. Negash:
  - 2022 ASME IDETC/CIE Advanced Vehicle Technologies Best Student Paper Award
  - Doctoral Dissertation Completion Fellowship ($34,000+fringe benefits), TTU (2022)
- Ritwik Rakshit:
  - Doctoral Dissertation Completion Fellowship ($34,000+fringe benefits), TTU (2022)
- Brandon Darby:
  - Undergraduate Research Conference Award: First Place in Technology Impact (2021)
- Brittany Love:
  - Graduate Student Research Support Award ($1,000), Graduate School, TTU (2021)
- Qihong Cui:
  - Doctoral Dissertation Completion Fellowship ($29,000+fringe benefits), TTU (2021)
  - Graduate Research Award ($1,000), Graduate School, TTU (2020)
- Shadman Tahmid:
  - 2019 ASME IDETC Student Poster Symposium Travel Award
- Mahmuda Ishrat Malek:
  - 2019 ASME IDETC Student Poster Symposium Travel Award
- Amanda Oliveira:
  - Graduate Student Research Support Award ($920), Graduate School, TTU (2021)
  - 2019 ASME IDETC Student Poster Symposium Travel Award
- Jazmin M. Cruz:
  - 2019 Travel Award from the National Occupational Research Agenda (NORA) to attend the 17th NORA Symposium at Salt Lake City.
  - 2018 ASME IDETC Student Poster Symposium Travel Award
  - 2017 Presidential Graduate Fellowship ($34,000 per year as stipend, $2,000 per year for travel for three years), TTU
- Ming Xu:
  - 2017 Dissertation Complete Fellowship, TTU
  - 2017 Travel Award from the National Occupational Research Agenda (NORA) to attend the 15th NORA Symposium at Salt Lake City.
- Bin Li:
  - 2016 ASME IDETC/CIE Advanced Vehicle Technologies Best Student Paper Award ($500)
- Bradley Howard:
  - The 2012 Helen DeVitt Jones Excellence in Graduate Teaching Award.
  - Certificate in recognition of publishing scholarly journal paper, August 5, 2012.
- Aimee Cloutier:
  - 2016 Teaching Effectiveness and Career enHancement (TEACH) Fellow.
  - 2015 Interior Design Educators Council 2015 Scholarship Excellence Award
  - 2015 ASME IDETC/CIE Best Paper Award.

- 2015 Travel Award from the National Occupational Research Agenda (NORA) to attend the 13th NORA Symposium at Salt Lake City.
- **2013 NSF Graduate Research Fellowship**.
- 2012 NSF Student Poster Symposium Travel Award ($950) for ASME IMECE (Houston).
- Awarded the 2012 CH Foundation Doctoral Fellowship, TTU (Total $16,000 for 4 years).
- Awarded the 2012 Graduate School Doctoral Fellowship, TTU (Annual $26,000 for two years, waive tuition and other fees).

➢ Jared Gragg:
- The 2014 Outstanding Dissertation Award.
- The 2013 Summer Dissertation Research Award.
- The 2013 Helen DeVitt Jones Excellence in Graduate Teaching Award.
- The 2012 Air Force Summer Research Fellowship.
- Certificate in recognition of publishing scholarly journal paper, February 13, 2012.
- Spring 2012 ME Graduate Tuition Scholarship.
- Awarded the 2010 Dean's Fellowship in Fall 2010.
- Awarded the 3rd Place in the Ninth Annual Graduate Student Research Poster Competition in Spring 2010.
- Awarded the prestigious 2010-2011 AT&T Chancellor's Fellowship Awards in Spring 2010.
- 2010-2011 Harrington Graduate Engineering Scholarship.
- 2008-2009 Honors Scholarship Quasi Endowment.

➢ Burak Ozsoy:
- The 2013 Summer Dissertation Research Award.
- Awarded the Harrington Graduate Engineering Scholarship in 2009.

➢ Zhipeng Lei:
- The 2014 Summer Dissertation Research Award.
- 2013 Travel Award from the National Occupational Research Agenda (NORA) to attend the 10th NORA Symposium at Salt Lake City.
- Awarded the 2012 Chinese Government Award for Outstanding Self-Financed Student Abroad ($6,000)
- Awarded the 2012 ISRP Full Paper Student Winner ($2,000 cash and $5,000 travel money)
- Certificate in recognition of publishing scholarly journal paper, February 13, 2012.

➢ Mario Garcia:
- TOP 20 Finalist: Commercialization Track Poster Showcase (2019)

➢ Jessie Opella:
- 2016 Travel Award from the National Occupational Research Agenda (NORA) to attend the 14th NORA Symposium at Salt Lake City.
- Awarded Undergraduate Student Scholarship from the Honours College (09/2015-08/2016).

➢ Khoi Ly:
- Honor's thesis: Evaluation of 3-D Printed Soft Fingertip Grasping Ability for Variable Fingertip Design Parameters
- 2017 Outstanding Undergraduate Researcher Honourable Mention.
- 2016 Travel Award from the National Occupational Research Agenda (NORA) to attend the 14th NORA Symposium at Salt Lake City.
- Awarded Undergraduate Student Scholarship from the Honours College (09/2015-08/2016).

- Abigail S. Holmes:
  - 2016 Travel Award from the National Occupational Research Agenda (NORA) to attend the 14th NORA Symposium at Salt Lake City.
  - Awarded Undergraduate Student Scholarship from the Honours College (09/2015-08/2016).
- Thomas Powelson:
  - Awarded the TTU Chancellor's MS Fellowship from TTU in Fall 2010.
- Jichang Dai:
  - Awarded the James Douglas and Mary Hazlewood Memorial Fellowship in 2009.
- Jesse Latimer:
  - Honors Thesis Title: Technological and Aesthetic Investigation of the Physical Movement of Pianists, Graduated with Highest Honours.
  - Awarded Undergraduate Student Fellowship from the Honours College (09/2013-09/2014).
- Kate Lewis:
  Kate was accepted into the Common European Master's Course in Biomedical Engineering (CEMACUBE). This consortium prepares students from Europe and outside Europe for professions in biomedical engineering through a European dual-master program. In 2014, 33 students from 16 countries were accepted. Lewis was one of three Americans who will participate.
- Mark Ryan:
  - Awarded Undergraduate Student Fellowship from the Honours College (09/2012-12/2012).
- Aimee Cloutier:
  - Honor's Thesis: Probability of Achieving a Reach Task Considering Joint Angle and Link length Variability.
  - Awarded the 2012 Honours Collaborative Learning Award.
  - Travel Fund Award to the SAE 2012 World Congress, Detroit, MI, by the Honours College.
  - Travel Fund Award to the Great Plains Honours Council Conference, Kansas City, in 2012 by the Honours College.
  - Awarded Undergraduate Student Fellowship from the Honours College (09/2010-05/2012).
  - Travel Fund Award to the HCI 2011 Conference, Orland, FL by the Honours College and Center for Undergraduate Research.
- Ross Johnson:
  - Awarded the University of Iowa 2009 Student Employee of the Year

As Thesis/Dissertation Committee Member

<u>Ph.D. Dissertation</u>:

1. Yeonjin Jung, Ph.D. Dissertation, Advisor: Changdong Yeo, June 10, 2024.
2. Yasa Yanik, Ph.D. Dissertation, Advisor: Stephen Ekwaro-Osire, March 27, 2024.
3. Nazir Gandur, Ph.D. Dissertation, Advisor: Stephen Ekwaro-Osire, Oct. 25, 2024.
4. Ellie Nahirafee, Ph.D. Dissertation, Advisor: Debajyoti Pati, Oct. 25, 2023.
5. Nicholas John Ward, Ph.D. Dissertation, Advisor: Stephen Ekwaro-Osire, June 26, 2023.
6. Amit Arefin, Ph.D. Dissertation, Advisor: Paul Egan, Oct. 17, 2023.
7. Nayem Mohammed Reza Shah, Ph.D. Dissertation, Advisor: Changdong Yeo, Oct. 24, 2022,
8. Yanchi Wu, Ph.D. Dissertation, Oct. 24, 2022, Advisor: Xinzhong Chen.
9. Jinghui Huang, Ph.D. Dissertation, Oct. 26, 2022, Advisor: Xinzhong Chen.

10. Luke Chowning, Department of Kinesiology and Sports Management, Oct. 14, 2022, Advisor: John R. Harry.
11. Jingjing Tian, Ph.D. Dissertation, June 24, 2022, Advisor: Xinzhong Chen.
12. Yong Wang, Ph.D. Dissertation, June 24, 2022, Advisor: Xinzhong Chen.
13. Sujoy Talukder, Ph.D. Dissertation, Advisor: Changdong Yeo, April 1, 2022.
14. Shahriar Mufid Rahman, Ph.D. Dissertation, defense on March 30, 2021, Advisor: Changdong Yeo.
15. Abraham Nispel Pizarro, Ph.D. Dissertation, Advisor: Stephen Ekwaro-Osire, Oct. 14, 2020.
16. Shweta Dabetwar, Ph.D. Dissertation, Advisor: Stephen Ekwaro-Osire, Oct. 16, 2020.
17. Zachary Estlack, Ph.D. Dissertation, Advisor: Jay Kim.
18. Ozhan Gecgel, Ph.D. Dissertation, Advisor: Stephen Ekwaro-Osire, Improved Sensors for Remaining Useful Life Estimation through Uncertainty Propagation, Oct. 14, 2019.
19. Godlove Wanki, Ph.D. Dissertation, Advisor: Stephen Ekwaro-Osire, Probabilistic Analysis of Hierarchical Design in Bone.
20. Cagri Mert Bakirci, Ph.D. Dissertation, Advisor: Burak Aksak, March 21, 2018.
21. Peter McDonough, Ph.D. Dissertation, Advisor: Alan Barhorst, March 2017.
22. Ricardo Cruz-Lozano, Ph.D. Dissertation, Advisor: Stephen Ekwaro-Osire, Quantification of Uncertainty in Engineering Sketches, March 2017.
23. Noah Wheeler, Ph.D. Dissertation, Keith S. Jones, Department of Psychological Sciences. July 18, 2016.
24. Haile Endeshaw, Ph.D. Dissertation, Advisor: Stephen Ekwaro-Osire, June 20, 2016.
25. Jingan Song, Ph.D. Dissertation, Advisor: Chang-Dong Yeo, September 21, 2016.
26. Christopher Umstead, Ph.D., Thesis Advisor: Alan Barhorst, October 16, 2015.
27. Xianlin Zeng, Ph.D., Thesis Advisor: Qing Hui, June 24, 2015.
28. Haopeng Zhang, Ph.D. Dissertation, Advisor: Qing Hui, April 23, 2014.
29. Ariful I. Bhuiyan, Ph.D. Dissertation, Advisor: Javad Hashemi, Finite Element Model of Human Leg for ACL Injury Investigation, March 18, 2013.
30. Bo Gao, Ph.D. Dissertation, Advisor: Zhaoming He, Effect of Papillary Muscles Shifting on Leaflet Coaptation Mechanism, September 26, 2012.
31. Ryan E. Breighner, Ph.D. Dissertation, Advisor: Javad Hashemi, An In-Vitro Study of Joint Geometry and Loading Effects on Anterior Cruciate Ligament Strain and Knee Kinematics. Dec. 2, 2011 defense.
32. Jiannan Tan, Ph.D. Dissertation, Advisor, Siva Parameswaran, A Study of Solving Navier-Stokes Equation with Finite Volume Method based on Polygonal Unstructured Grids and the Application in Ground Vehicle Aerodynamics, October 18, 2010.
33. Liang Shi, Ph.D. Dissertation, Advisor, Zhaoming He, Left Ventricle Fluid Mechanics under Mitral Valve Edge-to-Edge Repair, August 30, 2010.
34. Marco Solano, Ph.D. Dissertation, Advisor: Stephen Ekwaro-Osire, High-Level Fusion for Intelligence Applications using Recombinant Cognition Synthesis, March 19, 2010.
35. Duc Pham, Ph.D. Dissertation, Advisor: Alexander Idesman, Oct. 7, 2013.

MS Theis:

1. Chase George, MS Thesis, Advisor: Burak Aksak, Oct. 11, 2021.
2. Benjamin Dankesreiter, MS Thesis, Dynamic Surface Contact Behavior of DLC Doped with Hydrogen, Advisor: Changdong Yeo, March 31, 2021.
3. Mercy Ombogo, MS Thesis, Advisor: Stephen Ekwaro-Osire, Oct. 13, 2020.
4. Chukwuemeka Nelson Nwauche, MS Thesis, Advisor: Stephen Ekwaro-Osire, Oct. 13, 2020.
5. Zachary Estlack, MS Thesis, Advisor: Jungkyu (Jay) Kim.
6. Nkama Nkama, MS Thesis, Probabilistic Analysis of Innovative Drivetrains to Increase Reliability, Thesis Advisor: Stephen Ekwaro-Osire, March 24, 2015.

7. Kailiang Zhang, M.S. Thesis, Advisor: Zhaoming He, Oct. 5, 2013.
8. Haileyesus B. Endeshaw, MS Thesis, Advisor: Stephen Ekwaro-Osire, Probabilistic Modeling of the Rupture of Algae Cells, July 8, 2011.
9. Krishnamoorthy Neeraj, MS Thesis, Advisor: Derrick Tate, Comparative Study of Functional Modeling Methods using Protocol Analysis, June 28, 2010.
10. Ammar Hazrat, MS Thesis, Advisor: Derrick Tate, Modeling and Characterization of Friction between Compressed Earth Block and Metal Surfaces and Its Effects on CEB Properties, March 23, 2010.
11. Divyareddy Chilupuri, MS, Texas Tech, Advisor: Sergey Smirnov, Fluid Flow in Flexible Tubes, February 5, 2010.
12. Prashanth Krishna, MS, Texas Tech, Advisor: Alexander Idesman, A New Explicit-Implicit Finite Element Technique for Linear Wave Propagation Problems in Solids, November 12, 2009.
13. Hrishikesh Kulkarni, MS, Texas Tech, Advisor: Stephen Ekwaro-Osire, A Weakest-link Approach for Fatigue Limit of Steels, October 26, 2009.
14. Sree Tallapragada, MS., Texas Tech, Advisor: Alexander Idesman, A Finite Element Method with Low Space-Discretization Error for Wave Propagation Problems in Solids, Spring 2009.
15. Vipin Palande, MS., Texas Tech, Advisor: Jahan Rasty, Residual Stress Analysis during Cold Expansion Process, Fall 2008.

As Report Committee Member

1. Denis Jushanin, MS Report, Texas Tech, Advisor: Stephen Ekwaro-Osire, Tool Path Computation for Improved Accuracy, May 5, 2014.
2. Sagar Godse, MS Report, Texas Tech, Advisor: Timothy Maxwell, Sustainable Product Design, November 16, 2010.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

- Society of Automotive Engineers (SAE): Member (2004-), Fellow (2016)
- American Society of Mechanical Engineers (ASME): Member (2008-), Fellow (2018)
- The Institute of Electrical and Electronics Engineers (IEEE) (2016-), Senior Member (2018)
- American Association for the Advancement of Science (AAAS): Member (2018-)
- American Society of Biomechanics (2020-)

PROFESSIONAL SERVICE

Proposal Reviewer

- National Science Foundation (NSF) CBET (2010), CMMI (2009, 2011, 2015, 2016, 2022), GRFP (2022, 2023)
- National Aeronautics and Space Administration (NASA) Habitation, Train and Robotics (2014)
- Natural Sciences and Engineering Research Council of Canada (NSERC) (2019)
- Israeli Ministry of Science, Technology and Space (2015)
- Israeli Science Foundation (2018)
- Switzerland National Science Foundation (2015)
- National Research Foundation (NRF), South Africa (2018)
- University of Alabama at Birmingham (2010)
- King Fahd University of Petroleum & Minerals (2018)
- University of California System (2020)

Fulbright Program Reviewer

- Fulbright U.S. Scholar Regional Peer Review (2018)

External Evaluator for Tenure and Promotion

- University of South Carolina (2020)
- Shenzhen University (2020, 2021)
- Al-Balqa Applied University, Jordan (2021)
- University of Michigan Transportation Research Institute (UMTRI) (2021)
- New Jersey Institute of Technology (2022)
- King Saud University (2023)
- Texas A&M Corpus Cristi (2023)
- University of Alabama Birmingham (2023)

External Scientific Review Committee

- Virtual Factory-Knowledge-Driven Optimization (VF-KDO) International Scientific Review Committee, University of Skövde, Sweden (2021-2023)

American Society of Biomechanics

- Grant-in Aid Review Committee (2023-)

Journals and Conferences

- Associate Editor for *IEEE Transactions on Human-Machine Systems* (2016-)
- Associate Editor for *ASME Journal of Mechanisms and Robotics* (2019-)
- Associate Editor for *Ergonomics in Design* (2021-)
- Associate Editor for *International Journal of Human Factors Modelling and Simulation* (2016-)
- Associate Editor for *Human Factors and Ergonomics in Manufacturing and Service Industries* (2016-)
- Associate Editor for *Journal of Mechanisms in Medicine and Biology* (2018-)
- Associate Editor for *International Journal of Robotics and Automation* (2004-2019)
- Associate Editor for the Human-Machine Systems Track of the *IEEE Systems, Man & Cybernetics Conference* (2021, 2022)
- Editorial Board Member**:** *International Journal of Industrial Ergonomics* (2016-)
- Editorial Board Member**:** *Automotive Innovation* (2019-)
- Executive Editor for *International Journal of Human Factors Modelling and Simulation* (2004-2016)
- Guest Editor: *IISE Transactions on Occupational Ergonomics and Human Factors, Special Issue: Digital Human Modelling in Ergonomics 4.0*, Vol. 9, Issue 3-4, 2021.
- Guest Editor: *International Journal of Vehicle Design (IJVD), Special Issue: Research and Advances of Vehicle Body Engineering*, Vol. 57, Issue 2/3, 2011.
- Guest Editor for *International Journal of Human Factors Modelling and Simulation, Special Issue: Dynamics in Digital Human Modeling and Simulation*, Vol. 2, Issue 1/2, 2011.
- Guest Editor: *International Journal of Vehicle Design (IJVD), Special Issue: Digital Human Modelling and Simulation, and Applications for Vehicle Design*, Vol. 51, Issue 3/4., 2009.
- Guest Editor: *International Journal of Vehicle Autonomous Systems (IJVAS), Special Issue: Modeling and Simulation of Complex Mechatronic Systems,* Vol. 6, No. 3/4 (2008)
- Editorial Board Member: *The Open Ergonomics Journal* (2007-2018)
- Editorial Board Member: *International Journal of the Digital Human* (2010-2014)
- Editorial Board Member**:** *Ferrari Millechili Journal: Weight Reduction in Vehicle Design* (2010-2015)
- Editorial Advisory Board Member: *Scientific Journals International (SJI)* (2006-2014)

- International Advisory Board for Automotive Technology (i-ABAT), North America Chinese Society of Automotive Engineers (NACSAE) (2013-2018)
- SAE Materials Modelling and Testing (MMT) Committee (2009-)
- Reviewer for the following international journals and conferences (total 71):
  - *ASME Journal of Biomechanical Engineering*
  - *ASME Journal of Mechanical Design*
  - *ASME Journal of Medical Devices*
  - *ASME Journal of Mechanisms and Robotics*
  - *ASME Journal of Computing and Information Science in Engineering*
  - *IEEE Transactions of Robotics*
  - *IEEE Transactions on Biomedical Engineering*
  - *IEEE Transactions on Systems, Man, Cybernetics-Part B*
  - *International Journal of Robotics and Automation*
  - *Robotics and Computer-Integrated Manufacturing*
  - *International Journal of Human Factors Modelling and Simulation*
  - *Automatica*
  - *Computer Aided Design*
  - *Computers and Graphics: An International Journal*
  - *Journal of Sound and Vibration*
  - *Journal of Vibration and Control*
  - *International Journal of Advanced Manufacturing Technology*
  - *Mechanism and Machine Theory*
  - *SAE Digital Human Modeling for Design and Engineering Conference*
  - *SAE World Congress*
  - *ASME Design Engineering Technical Conferences*
  - *International Symposium of Robotics and Automation*
  - *Proceedings of IMech Part D, Journal of Automobile Engineering*
  - *Proceedings of IMech Part B, Journal of Engineering Manufacture*
  - *Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multibody Dynamics*
  - *Part H: Journal of Engineering in Medicine*
  - *The IASTED International Conference on Applied Simulation and Modelling (ASM)*
  - *Computer Aided Design and Applications*
  - *Applied Acoustics*
  - *Ergonomics*
  - *Applied Ergonomics*
  - *International CAD Conference*
  - *International Journal of Precision Engineering and Manufacturing*
  - *Journal of Mathematical Biology*
  - *Journal of Zhejiang University Science A*
  - *The Open Ergonomics Journal*
  - *Journal of Biomechanics*
  - *Journal of NeuroEngineering and Rehabilitation*
  - *IEEE of Transactions on Automation of Science and Engineering*
  - *International Journal of Industrial Ergonomics*
  - *Applied Ergonomics*
  - *Computer Methods in Biomechanics and Biomedical Engineering*
  - *IEEE Transactions on Human-Machine Systems*
  - *Robotica*
  - *Computer Science Review*
  - *Journal of Neurological Sciences*
  - *PLOS ONE*

- *Mechatronics*
- *BMC Musculoskeletal Disorders*
- *Computers in Biology and Medicine*
- *Advances in Mechanical Engineering*
- *Automotive Innovation*
- *Journal of Medical and Biological Engineering*
- *Acta Mechanica Sinica*
- *Annals of Biomedical Engineering*
- *Clinical Biomechanics*
- *Biomechanics and Modeling in Mechanobiology*
- *International Journal for Numerical Methods in Biomedical Engineering*
- *Measurement and Control*
- *Journal of the Mechanical Behavior of Biomedical Materials*
- *Gait and Posture*
- *Science China Technological Sciences*
- *Computers in Biology and Medicine*
- *International Conference on Robotics and Automation (ICRA)*
- *SAE International Journal of Vehicle Dynamics, Stability, and NVH*
- *Medical & Biological Engineering & Computing*
- *Vehicle Dynamic Systems*
- *Mechanisms and Machine Theory*
- *Journal of Process Mechanical Engineering*
- *Tire Science and Technology*
- *Journal of Terramechanics*
- *Safety and Health at Work*

- Book Reviewer
  - Elsevier (2012, 2013, 2018, 2020, 2022, 2023)
  - John Wiley & Son (2013)
  - Taylor and Francis Books, Inc./CRC Press (2013)
  - Cognella (2021)
- Conference Committee
  - **ASME**
    - ✓ Technical Committee Chair, Advanced Modeling and Simulation, ASME IDETC/CIE, August 17-20, 2025, Anaheim, CA, USA.
    - ✓ Symposium Organizer, Advanced Human Modeling and Simulation, ASME IDETC/CIE, August 17-20, 2025, Anaheim, CA, USA.
    - ✓ Symposium Organizer, Advances in Ground Vehicle Safety and Ergonomics, ASME IDETC/CIE, August 17-20, 2025, Anaheim, CA, USA.
    - ✓ Technical Committee Vice Chair, Advanced Modeling and Simulation, ASME IDETC/CIE, August 25-28, 2024, Washington, DC, USA.
    - ✓ Symposium Organizer, Advanced Human Modeling and Simulation, 2024 ASME IDETC-CIE, August 25-28, 2024, Washington, DC, USA.
    - ✓ Technical Committee Secretary, Advanced Modeling and Simulation, ASME IDETC/CIE, August 20-23, 2023, Boston, Massachusetts, USA.
    - ✓ Symposium Organizer, Advanced Human Modeling and Simulation, 2023 ASME IDETC-CIE, August 20-23, 2023, Boston, Massachusetts, USA.
    - ✓ Symposium Organizer, Advanced Human Modeling and Simulation, 2022 ASME IDETC-CIE, August 14-17, 2022, St Louis, MO, USA.
    - ✓ Symposium Organizer, Digital Twin: Advanced Human Modeling and Simulation, 2021 ASME IDETC-CIE, August 17-20, 2021, Virtual, Online.

- ✓ Symposium Organizer, Human Modeling and Simulation for Engineering, 2020 ASME IDETC-CIE, August 16-19, 2020, St Louis, MO, USA.
- ✓ Symposium Organizer, 1) Human Modeling: Methods and Applications in Engineering, 2) Advances in Ground Vehicle Safety and Ergonomics, 2019 ASME IDETC-CIE, August 17-21, 2019, Anaheim, CA, USA.
- ✓ Symposium Organizer, 1) Human Modeling: Methods and Applications in Engineering, 2) Advances in Ground Vehicle Safety and Ergonomics, 2018 ASME IDETC-CIE, August 26-29, 2018, Quebec City, Canada.
- ✓ Symposium Organizer, 1) Human Modeling: Methods and Applications in Engineering, 2) Biomechanics Applications, and 3) Advances in Ground Vehicle Safety and Ergonomics, 2017 ASME IDETC-CIE, August 6-9, 2017, Cleveland, Ohio, USA.
- ✓ Symposium Organizer, Human Modeling: Methods and Applications in Engineering, 2016 ASME IDETC-CIE, August 21-24, 2016, Charlotte, NC, USA.
- ✓ Symposium Organizer, Biomechanics, 2016 ASME IDETC-CIE, August 21-24, 2016, Charlotte, NC, USA.
- ✓ Symposium Organizer, Advances in Ground Vehicle Safety and Ergonomics, 2016 ASME IDETC-CIE, August 21-24, 2016, Charlotte, NC, USA.
- ✓ Symposium Organizer, Human Modeling: Methods and Applications in Engineering, 2015 ASME IDETC-CIE, August 2-5, 2015, Boston, MA, USA.
- ✓ Symposium Organizer, Biomechanics, 2015 ASME IDETC-CIE, August 2-5, 2015, Boston, MA, USA.
- ✓ Symposium Organizer, Advances in Ground Vehicle Safety and Ergonomics, 2015 ASME IDETC-CIE, August 2-5, 2015, Boston, MA, USA.
- ✓ Symposium Organizer, Biomechanics, 2014 ASME IDETC-CIE, August 17-20, 2014, Buffalo, NY, USA.
- ✓ Session Chair, Digital Human Modeling in Engineering Applications, 2014 ASME IDETC-CIE, August 17-20, 2014, Buffalo, NY, USA.
- ✓ Symposium Organizer, Modeling and Simulation of Humans in Engineering, 2014 ASME IDETC-CIE, August 17-20, 2014, Buffalo, NY, USA.
- ✓ Symposium Organizer, Modeling and Simulation of Humans and Human Usage Contexts in Engineering Design, the 38th Design Automation Conference, 2013 ASME IDETC, August 4-7 2013, Portland, OR, USA.
- ✓ Session Chair, Metamodel-Based Design Optimization (MBDO), the 38th Design Automation Conference, 2013 ASME IDETC, August 4-7 2013, Portland, OR, USA.
- ✓ Symposium Organizer, Symposium of Human Modeling and Simulation for Engineering, the 38th Design Automation Conference, 2012 ASME IDETC, August 12-15, 2012, Chicago, IL, USA.
- ✓ Symposium Organizer, Symposium of Advances in Vehicle Safety and Ergonomics, 14th International Conference on Advanced Vehicle Technologies, 2012 ASME IDETC, August 12-15, 2012, Chicago, IL, USA.
- ✓ Session Chair, Mechanisms and Robots in Medicine, Assistive and Rehabilitation Applications, 35th Mechanisms and Robotics Conference, August 28-31, 2011, Washington, DC, USA.
- ✓ Session Chair, Modeling and Simulation in Biomechanics, 31st Computers and Information in Engineering Conference, August 28-31, Washington, DC, USA.
- ✓ Technical Committee, ASME Dynamics and Control of Systems and Structures (DCSS), February 2011.

- **AHFE**

- ✓ Scientific Advisory Boards, 14th International Conference on Applied Human Factors and Ergonomics (AHFE) July 20-24, 2023, San Francisco, CA, USA.
- ✓ Scientific Advisory Boards, 13th International Conference on Applied Human Factors and Ergonomics (AHFE) July 24-28, 2022, Manhattan, NY, USA.
- ✓ Scientific Advisory Boards, 12th International Conference on Applied Human Factors and Ergonomics (AHFE) July 25-29, 2021, Manhattan, NY, USA.
- ✓ Scientific Advisory Boards, 11th International Conference on Applied Human Factors and Ergonomics (AHFE) July 16-20, 2020, San Diego, CA, USA.
- ✓ Scientific Advisory Boards, 10th International Conference on Applied Human Factors and Ergonomics (AHFE) July 24-28, 2019, Washington Hilton, Washington D.C., USA.
- ✓ Scientific Advisory Boards, 7th International Conference on Applied Digital Human Modeling, on July 21-25, 2018, Orlando, FL, USA.
- ✓ Scientific Advisory Boards, 6th International Conference on Applied Digital Human Modeling, on July 17-21, 2017, Los Angles, CA, USA.
- ✓ Scientific Advisory Boards, 5th International Conference on Applied Digital Human Modeling, on July 27-31, 2016, Walt Disney World, Florida, USA.
- ✓ Scientific Advisory Boards, 4th International Conference on Applied Digital Human Modeling, on 26-30 July, 2015 at Caesars Palace Hotel, Las Vegas, NV, USA.
- ✓ Scientific Advisory Boards, 3rd International Conference on Applied Digital Human Modeling and Human Factors, on 19-23 July, 2014 at Jagiellonian University, Krakow, Poland.
- ✓ Scientific Advisory Boards, 2nd International Conference on Applied Digital Human Modeling, on 21-25 July, 2012 at the Hilton in San Francisco, California, USA.
- ✓ Scientific Advisory Boards, 1st International Conference on Applied Digital Human Modeling, Miami, FL, July 17-20, 2010.

- **CAD Conference and Exhibition**
  - ✓ International Organizing Committee-Americas 2004-Present

- **SAE Digital Human Modeling**
  - ✓ General Committee, Session Co-Chair, Dynamics and Impact I, the 2009 Digital Human Modeling for Design and Engineering Conference and Exhibition, Gothenburg, Sweden, June 9-11, 2009.
  - ✓ Session Co-Chair, Shoulder, Reach and Comfort, the 2008 Digital Human Modeling for Design and Engineering Conference and Exhibition, June 17-19, Pittsburgh, Pennsylvania, USA.
  - ✓ Session Co-Chair, Physics-Based Modeling, the 2007 Digital Human Modeling for Design and Engineering Conference and Exhibition, June 12-14, 2007, Seattle, University of Washington, WA, USA.
  - ✓ Paper Reviewer, 2006 Digital Human Modeling for Design and Engineering Conference and Exhibition, Lyon, France.
  - ✓ Paper Reviewer, 2005 Digital Human Modeling for Design and Engineering Conference and Exhibition, Iowa City, Iowa, USA.
  - ✓ Paper Reviewer, 2004 Digital Human Modeling for Design and Engineering Conference and Exhibition, Detroit, Michigan, USA.

- **IEA-Digital Human Modeling**
  - ✓ Scientific Board Member, the 9th Digital Human Modeling Symposium, July 29-31, 2025, Loughborough University, UK.

- ✓ Scientific Board Member, the 8th Digital Human Modeling Symposium, September 4-6, 2023, Antwerp, Belgium.
- ✓ Scientific Board Member, the 7th Digital Human Modeling Symposium, August 29-31, 2022, Iowa City, Iowa, USA.
- ✓ Scientific Board Member, the 6th Digital Human Modeling Symposium, August 31-September 2, 2020, Skovde, Sweden.
- ✓ Scientific Board Member, the 20th World Congress on Ergonomics, Human Simulation and Virtual Environments, August 26-30, 2018, Florence, Italy.
- ✓ Scientific Board Member, the 5th Digital Human Modeling Symposium, June 26-28, 2017, Bonn, Germany.
- ✓ Scientific Board Member, the 4th Digital Human Modeling Symposium, June 15-17, 2016, Monteal, Canada.
- ✓ Scientific Board Member, the 3rd Digital Human Modeling Symposium, May 20-22, 2014, Odaiba, Tokyo, Japan.
- ✓ Scientific Board Member, the 2nd Digital Human Modeling Conference, Ann Arbor, June 14-16, 2013.
- ✓ Scientific Board Member, the 18th World Congress on Ergonomics, Human Simulation and Virtual Environments, February 12-16, 2012, Recife, Brazil.
- ✓ Scientific Board Member, the 1st Digital Human Modeling Conference, Lyon, France, June 14-16, 2011.

- **International Conference on Manufacturing Automation**
  International Program Committee, December 13-15, 2010, The Chinese University of Hong Kong, Hong Kong.

- **SAE World Congress**
  - ✓ Session Chair, the 2025 SAE World Congress, Cobo Center, Detroit, Michigan, April 8-10, 2025.
  - ✓ Session Chair, the 2024 SAE World Congress, Cobo Center, Detroit, Michigan, April 16-18, 2024.
  - ✓ Session Chair, the 2023 SAE World Congress, Cobo Center, Detroit, Michigan, April 18-20, 2023.
  - ✓ Session Chair, the 2022 SAE World Congress, Cobo Center, Detroit, Michigan, April 5-7, 2022.
  - ✓ Session Chair, the 2021 SAE World Congress, Cobo Center, Detroit, Michigan, April 13-15, 2021.
  - ✓ Session Chair, the 2020 SAE World Congress, Cobo Center, Detroit, Michigan, April 21-23, 2020.
  - ✓ Session Chair, the 2019 SAE World Congress, Cobo Center, Detroit, Michigan, April 9-11, 2019.
  - ✓ Session Chair, the 2018 SAE World Congress, Cobo Center, Detroit, Michigan, April 10-12, 2018.
  - ✓ Session Chair, the 2017 SAE World Congress, Cobo Center, Detroit, Michigan, April 4-6, 2017.
  - ✓ Session Chair, the 2016 SAE World Congress, Cobo Center, Detroit, Michigan, April 12-14, 2016.
  - ✓ Session Chair, the 2015 SAE World Congress, Cobo Center, Detroit, Michigan, April 21-23, 2015.
  - ✓ Session Chair, Vehicle Ride Comfort Modeling/Simulation/Testing and Analysis, the 2014 SAE World Congress, Cobo Center, Detroit, Michigan, April 8-10, 2014.

- ✓ Session Chair, Vehicle Ride Comfort Modeling/Simulation/Testing and Analysis, the 2013 SAE World Congress, Cobo Center, Detroit, Michigan, April 16-18, 2013.
- ✓ Session Chair, Vehicle Ride Comfort Modeling/Simulation/Testing and Analysis, the 2012 SAE World Congress, Cobo Center, Detroit, Michigan, April 24-26, 2012.
- ✓ Session Chair, Vehicle Ride Comfort Modeling/Simulation/Testing and Analysis, the 2011 SAE World Congress, Cobo Center, Detroit, Michigan, April 11-14.
- ✓ Session Chair, Driver Modeling and Vehicle Ride Comfort Analysis, the 2010 SAE World Congress, Cobo Center, Detroit, Michigan, April 13-15.
- ✓ Session Chair, Driver Modeling and Vehicle Ride Comfort Analysis, the 2009 SAE World Congress, Cobo Center, Detroit, Michigan, April 20-23.
- ✓ Paper Reviewer, the 2008 SAE World Congress, Cobo Center, Detroit, Michigan.
- ✓ Paper Reviewer, the 2007 SAE World Congress, Cobo Center, Detroit, Michigan.
- ✓ Paper Reviewer, the 2006 SAE World Congress, Cobo Center, Detroit, Michigan.
- ✓ Paper Reviewer, the 2005 SAE World Congress, Cobo Center, Detroit, Michigan.

- **IASTED**
  - ✓ Technical Committee, IASTED International Conference on Applied Simulation and Modelling (ASM 2012), Napoli, Italy, June 25-27, 2012.
  - ✓ Technical Committee, IASTED International Conference on Applied Simulation and Modelling (ASM 2011), Crete, Greece from June 22, 2011 to June 24, 2011.
  - ✓ Technical Committee, IASTED International Conference on Robotics and Control (AsiaRC 2010), November 24-26, Bangkok, Thailand.
  - ✓ Technical Committee, IASTED International Conference on Robotics and Applications (RA 2010), Cambridge, November 1-3, 2010, Massachusetts, USA.
  - ✓ Technical Committee, 2009 IASTED International Conference on Robotics, Telematics and Applications, October 12-14, Beijing, China.
  - ✓ Technical Committee, 2008 IASTED International Conference on Applied Simulation and Modelling (ASM), June 23-25, 2009, Corfu, Greece.
  - ✓ Technical Committee, 2007 IASTED International Conference on Applied Simulation and Modelling (ASM), August 29-31, 2007, Palma de Mallorco, Spain.
  - ✓ Technical Committee, 2006 IASTED International Conference on Applied Simulation and Modelling (ASM), June 26-28, 2006, Rhodes, Greece.

- **HCI**
  - ✓ Scientific Advisory Boards, 2025 International Human Computer-Interaction (HCI), June 22-27, 2025, Gothenburg, Sweden.
  - ✓ Scientific Advisory Boards, 2024 International Human Computer-Interaction (HCI), June 29-July 4, 2024, Washington DC, USA.
  - ✓ Scientific Advisory Boards, 2023 International Human Computer-Interaction (HCI), July 23-28, 2023, Copenhagen, Denmark.
  - ✓ Scientific Advisory Boards, 2022 International Human Computer-Interaction (HCI), June 26-July 1, 2022, Gothenburg, Sweden.
  - ✓ Scientific Advisory Boards, 2021 International Human Computer-Interaction (HCI), July 24-29, 2021, Washington DC, USA.

- ✓ Scientific Advisory Boards, 2020 International Human Computer-Interaction (HCI), 11th Conference on Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management, July 19-24, 2020, AC Bella Sky Hotel and Bella Center, Copenhagen, Denmark.
- ✓ Scientific Advisory Boards, 2019 International Human Computer-Interaction (HCI), 10th Conference on Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management, Orlando, 26 - 31 July 2019, FL, USA.
- ✓ Scientific Advisory Boards, 2018 International Human Computer-Interaction (HCI), 9th Conference on Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management, July 15-20, 2018, Las Vegas, Nevada, USA.
- ✓ Scientific Advisory Boards, 2017 International Human Computer-Interaction (HCI), 8th Conference on Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management, July 9-14, 2017, Vancouver Convention Center, Canada.
- ✓ Scientific Advisory Boards, 2016 International Human Computer-Interaction (HCI), 7th Conference on Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management, July 17-21, 2016, Toronto, Canada.
- ✓ Scientific Advisory Boards, 2015 International Human Computer-Interaction (HCI), 6th Conference on Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management, 2-7 August 2015, Los Angles, CA, USA.
- ✓ Scientific Advisory Boards, 2014 International Human Computer-Interaction (HCI), 5th Conference on Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management, 22-27 June 2014, Heraklion, Crete, Greece.
- ✓ Scientific Advisory Boards, 2013 International Human Computer-Interaction (HCI), 4th Conference on Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management, 21-26 July 2013, Mirage Hotel, Las Vegas, Nevada, USA.
- ✓ Scientific Advisory Boards, 2011 International Human Computer-Interaction (HCI), 3rd Conference on Digital Human Modeling and Simulation, Hilton Orlando Bonnet Creek, Orlando, July 9-14, 2011, Florida, USA.
- ✓ Scientific Advisory Boards, 2009 International Human Computer-Interaction (HCI), 2nd Conference on Digital Human Modeling and Simulation, July 19-24, 2009, San Diego, CA, USA.
- ✓ Scientific Advisory Boards, 2007 International Human Computer-Interaction (HCI), 1st Conference on Digital Human Modeling and Simulation, July 22-25, 2007, Beijing, China.

- **SPIE**
  - ✓ 2006 SPIE Defense and Security Symposium, Modeling and Simulation for Military Applications, April 17-21, 2006, Orlando, FL, USA.

Department Committees

1. Faculty Search Committee, 09/2022-05/2023.
2. Faculty Search Committee, 09/2021-05/2022.
3. New Faculty Mentor, 11/2022-present (Dr. Tanushree Roy).
4. New Faculty Mentor, 09/2022-present (Dr. Donald Docimo, Dr. Shu-Xia Tang).
5. New Faculty Mentor, 09/2018-present (Dr. Paul Egan).

6. Engineers in Medicine Faculty Search Committee, Department of Mechanical Engineering, Texas Tech University, 2019-2020.
7. ME Department Research and Graduate Affairs Committee (Chair), 08/2018-08/2019.
8. ME Department ABET Committee (Chair), 05/2015-08/2017.
9. ME Department Executive Committee, 09/2015-08/2017.
10. ME Advisory Committee, 09/2015-08/2017.
11. ME Undergraduate Studies Committee (Chair), 05/2015-08/2017.
12. ME Undergraduate Scholarship Committee, 05/2015-present.
13. Graduate Program Committee, Department of Mechanical Engineering, Fall 2014-present.
14. Team member, Department of Mechanical Engineering, Texas Tech University, Transforming Engineering Culture to Advance Inclusion and Diversity (TECAID) Program for U.S. Mechanical Engineering Department sponsored by National Science Foundation (03/2015-08/2016).
15. Nanotechnology, Biomedical and Bioengineering Faculty Search Committee, Department of Mechanical Engineering, Texas Tech University, 2013-2014.
16. Department Seminar Coordinator, Department of Mechanical Engineering, Texas Tech University, Spring 2013.
17. Nanotechnology, Biomedical and Bioengineering Faculty Search Committee, Department of Mechanical Engineering, Texas Tech University, Spring 2012.
18. Department Seminar Committee, Department of Mechanical Engineering, Texas Tech University, Fall 2011.
19. Emerging Faculty Search Committee, Department of Mechanical Engineering, Texas Tech University, Spring 2011.
20. Member of the Tenure and Promotion Committee, Department of Mechanical Engineering, Texas Tech University, Fall 2008.

College of Engineering Committees

1. College of Engineering T&P Committee, 09/2021-08/2023
2. Academic Program Council Committee, Edward E. Whitacre Jr. College of Engineering, TTU, Summer 2015-08/2017.
3. Faculty Research Awards Committee (FRAC), Edward E. Whitacre Jr. College of Engineering, TTU, Fall 2015.
4. Koh Graduate Scholarship Committee, 01/2015-08/2017.
5. Faculty Teaching Award Committee, Edward E. Whitacre Jr. College of Engineering, TTU, Fall 2014.
6. Bioengineering Undergraduate Program Committee, Fall 2013-Spring 2015.
7. Faculty Research Awards Committee (FRAC), Edward E. Whitacre Jr. College of Engineering, TTU, Spring 2013.
8. Digital Measures Committee, College of Engineering, Spring and Fall 2010.

University Committees

- Tenure and Promotion Committee, College of Human Sciences, TTU, 8/2021-08/2023
- Graduate School Dean Representative:
  - Nathan Fryar, ECE, TTU, Oct. 21, 2024.
  - Davi Rodrigues, ECE, TTU, March 27, 2023.
  - Zhenhe Pan, CS, TTU, Oct. 13, 2021
  - Yangxue Liu, Chemistry, TTU, June 4, 2021
  - Amir Koneshloo, IMSE, TTU, June 18, 2020
  - Junxuan Zhao, Civil Engineering, TTU, Oct. 8, 2019

- Manish Ranjit, March 24, 2017
- Ben Qin, Biology, TTU, March 24, 2017
- Tianxi Dong, July 8, 2016
- Dayong Wu, March 7, 2016
- Ikenna Ivenso, Oct. 28, 2015
- Zhi Lu, January 15, 2015
- Jie Ding, October 9, 2014
- Sungae Lee, March 31, 2014
- Dali Wei, March 25, 2014
- Fisseha Alemayehu, May 31, 2013
- Kunal Patil, March 26, 2013
- Siming Li, October 12, 2012
- Krystel Kaliecta Castillo, October 19, 2011
- Miao Hu, June 22, 2011
- Rula Allaf, April 4, 2011
- Xi Zhang, December 5, 2008

- Women's Studies Scholarship Committee, Texas Tech University, Spring 2016.
- Graduate Program Review Committee, Graduate School, Texas Tech University, Dec. 2014-May 2015.

➢ Chancellor's Council Distinguished Research Award Committee, Fall 2013.

Outreach Programs

- Dunbar Middle School Field Trip Program (January and May 2010, February 2011, April 2012)
- Native American Summer Bridge Institute, Texas Tech University (Summer 2010, 2011, 2012)

Community

- Judge for the FIRST Tech Challenge-Robotics Competition for 9-12, Lubbock, TX, May 21, 2011.