CURRICULUM VITAE

Jingang Yi

Rutgers, The State University of New Jersey
Department of Mechanical and Aerospace Engineering
Engineering D-157, 98 Brett Road, Piscataway, NJ 08854-8058
Tel: 848-445-3282, Fax: 732-445-3124, E-mail: jgyi@rutgers.edu, http://coewww.rutgers.edu/∼jgyi

EDUCATION

Ph.D.	*Mechanical Engineering, University of California at Berkeley*	*May 2002*
M.A.	*Mathematics, University of California at Berkeley*	*December 2001*
M.Eng.	*Precision Instruments, Tsinghua University (China)*	*June 1996*
B.S.	*Electrical Engineering, Zhejiang University (China)*	*June 1993*

RESEARCH INTERESTS

- Autonomous robotic systems
  - ▷ autonomous vehicles/robots
  - ▷ rehabilitation robotic systems
  - ▷ human/robot interactions
  - ▷ underwater robotic systems
  - ▷ bio-inspired and soft robotic systems
- Dynamic systems and controls
  - ▷ nonlinear, robust, and adaptive control system design
  - ▷ cooperative and formation control
  - ▷ modeling and control of distributed-parameter systems
  - ▷ smart materials/structures and vibration control
- Automation science and engineering
  - ▷ automation for micro-/nano-systems
  - ▷ civil infrastructure automation
  - ▷ semiconductor manufacturing automation
  - ▷ intelligent transportation systems

HONORS/AWARDS

- Finalist, Best Conference Paper Award, *2018 IEEE/ASME Int. Conf. on Advanced Intelligent Mechatronics*
- Invitational Fellowship for Research in Japan (2017), *Japan Society for the Promotion of Science (JSPS)*
- Chancellor's Scholar (2017-2022), *Rutgers University*
- Fellow, *American Society of Mechanical Engineers* (ASME) (2016)
- 2015 Best New Applications Paper Award, *IEEE Transactions on Automation Science and Engineering*
- *2015 Distinguished Visiting Scholars, University of Technology, Sydney (UTS)*, Australia
- *Shanghai Eastern Scholar (Visiting Professor)*, City of Shanghai, China, 2015 - 2017
- *Overseas Collaborative Research Award*, National Natural Science Foundation of China, 2014 - 2015
- *2014 ASCE Charles Pankow Award for Innovation* (for developing RABIT™ bridge deck assessment tool)
- Finalist, Best Conference Paper Award, *2013 IEEE/ASME Int. Conf. on Advanced Intelligent Mechatronics*
- The *2013 Rutgers Board of Trustees Research Fellowship for Scholarly Excellence*
- Semi-plenary speaker, *2012 ASME Dynamic Systems and Control/11th Motion & Vibration Control Conf.*

- *National Science Foundation CAREER* Award (2010-2016)
- Finalist, Best Conference Paper Award, *2008 IEEE International Conf. on Automation Science and Engineering*
- Finalist, Best Conference Paper Award, *2007 IEEE International Conf. on Automation Science and Engineering*
- Kayamori Best Paper Award, *2005 IEEE International Conference on Robotics and Automation*
- Guanghua Fellowship, Tsinghua University, 1995
- Excellent students fellowship, Zhejiang University, 1989-1993

HONORS/AWARDS FOR SUPERVISED STUDENTS

- Winner team, *2018 Siemens Corporate Technology's FutureMakers Challenge: Agricultural Autonomy and Robotics*
- Best Student Paper Award, *2015 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*
- *2014 ASME Dynamic Systems and Control Division* Best Student Paper on Mechatronics
- Finalist, Best Student Paper Award, *2014 ASME Dynamic Systems and Control Conference*
- Finalist, Best Student Paper Award, *2014 IEEE/ASME Int. Conf. on Advanced Intelligent Mechatronics*
- Finalist, Best Conference Paper Award, *2013 IEEE/ASME Int. Conf. on Advanced Intelligent Mechatronics*
- Best Student Paper Award, *2012 ASME Dynamic Systems and Control/11th Motion & Vibration Control Conf.*
- Best Student Paper Award, *2012 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*
- Finalist, Best Student Paper Award, *2008 ASME Dynamic Systems and Control Conference*

TEACHING EXPERIENCE

- **Instructor**
  Department of Mechanical and Aerospace Engineering, Rutgers University *Fall 2008 – present*
  - ▷ **Byrne Freshmen Seminar**: Robotics: The past, the present, the future (*Springs 2010, 2016, 2017*)
  - ▷ **GE 222**: Engineering mechanics: Dynamics (*Fall 2009*)
  - ▷ **MAE 349/350**: Measurement laboratory (*Fall 2014*)
  - ▷ **MAE 361**: Introduction to mechatronics (*Springs 2011-2014*)
  - ▷ **MAE 401**: Dynamic systems and control (*Spring 2017*, *Falls 2018, 2019*)
  - ▷ **MAE 435**: Energy systems laboratory (*Springs 2009, 2010*)
  - ▷ **MAE 486**: Design of mechanical systems (*Fall 2010*)
  - ▷ **MAE 504**: Advanced control I (*Falls 2012, 2015, 2016*)
  - ▷ **ECE 506**: Control systems II (co-teach, *Fall 2009*)
  - ▷ **MAE 512**: Robotics and mechatronics (*Falls 2013,2015,2017*)
  - ▷ **MAE 524**: Optimal design in mechanical engineering (*Falls 2008, 2011; Spring 2010,2018,2019*)
  - ▷ **MAE 602**: Independent study: Nonlinear systems and control (*Spring 2016*)
  - ▷ **MAE 618**: Special applications in control: Nonlinear systems and control (*Spring 2011*)

  Department of Mechanical Engineering, San Diego State University *Spring 2007 – Spring 2008*
  - ▷ **ME 330**: Control systems laboratory (*Springs 2007, 2008*)
  - ▷ **ME 530**: Automatic control systems (*Fall 2007*)
  - ▷ **ME 621**: Mechanical vibrations (*Spring 2008*)
  - ▷ **ME 632**: Advanced topics in automatic control (*Fall 2007*)

  Department of Mechanical Engineering, Texas A&M University *Spring 2005 – Fall 2006*
  - ▷ **ENGR 211**: Conservation principles for engineering mechanics (*Fall 2005*)
  - ▷ **ENGR 221**: Introduction to engineering mechanics (*Fall 2005*)
  - ▷ **MEEN 221/289**: Statics & dynamics (*Spring 2006, Summer 2006*)
  - ▷ **MEEN 363**: Dynamics and vibrations (*Spring 2006*)
  - ▷ **MEEN 364**: Dynamic systems and controls (*Spring 2005*)

- ▷ **MEEN 404**: Engineering laboratory (*Spring 2006*)
- ▷ **MEEN 431**: Advanced system dynamics and controls (*Spring 2005; Falls 2005, 2006*)
- ▷ **MEEN 651**: Control system design (*Fall 2006*)

Departments of Mechanical Engineering, University of California at Berkeley *Spring 2002*

- ▷ **ME 107B**: Mechanical engineering laboratory

- **Teaching assistant**
  Departments of Mechanical Engineering and Mathematics, University of California at Berkeley *Fall 2000 – Fall 2001*
  - ▷ **ME 134**: Automatic control system (*Spring 2001, Fall 2001*)
  - ▷ **MATH 1A**: Calculus (*Fall 2000*)

RESEARCH EXPERIENCE

- **Associate professor (with tenure)** *July 2013 – present*
  Assistant professor *July 2008 – June 2013*
  Department of Mechanical and Aerospace Engineering, Rutgers University
- **Graduate faculty member** *December 2011 – present*
  Department of Electrical and Computer Engineering, Rutgers University
- **Director** *August 2008 – present*
  Robotics, Automation, and Mechatronics (RAM) Lab, Rutgers University
- **Guest Associate Professor (Global)** *September 2016 – March 2017*
  Graduate School of Science and Technology, Keio University, Japan
- **UTS distinguished visiting scholars** *March 2015 – April 2015*
  Centre for Autonomous Systems, University of Technology , Sydney (UTS), Australia
- **Assistant professor** *January 2007 – June 2008*
  Department of Mechanical Engineering and *Comp. Science Research Center, San Diego State University*
- **Visiting assistant professor** *January 2005 – December 2006*
  Department of Mechanical Engineering, Texas A&M University
- **Systems engineer** *May 2002 – December 2004*
  CMP/Cleaning Technology and *New Product Development Divisions, Lam Research Corporation*
- **Graduate research assistant** *September 1996 – May 2002*
  Department of Mechanical Engineering, University of California at Berkeley and *California PATH*
- **Graduate research assistant** *September 1993 – July 1996*
  Sensors and Instrumentation Laboratory, Department of Precision Instruments, Tsinghua University
- **Undergraduate research assistant** *September 1992 – June 1993*
  Institute of Electrical Machines and Drives, Department of Electrical Engineering, Zhejiang University

PUBLICATIONS *

- **Book chapters**

  B5. P. Wang, and **J. Yi**, (2018). Stability of Stationary Rider-Bicycle Interactions With Time-Delay Human Control Models, Conditionally accepted to *Stability, Control and Application of Time-delay Systems*, Q. Gao and H. Reza (Ed.), Elsevier, Ltd, London, UK.

  B4. Y. Zhang, **J. Yi** and D. Song, (2014). Dynamic Modeling of Riderless Motorcycles, In *Modelling, Simulation and Control of Two-Wheeled Vehicles*, M. Tanelli, M. Corno, and S. M. Savaresi (Ed.), John Wiley & Sons, Ltd, London, UK, pp 43-58.

  B3. Y. Zhang, **J. Yi** and D. Song, (2014). Autonomous Control of Riderless Motorcycles, In *Modelling, Simulation and Control of Two-Wheeled Vehicles*, M. Tanelli, M. Corno, and S. M. Savaresi (Ed.), John Wiley & Sons, Ltd, London, UK, pp 293-318.

*Underlined authors are postdocs, graduate students, or undergraduate students under my supervision. The name with a "†" symbol indicates the corresponding author.

B2. D. Song, H. Lee, and **J. Yi**, (2008). On the Analysis of the Depth Error on the Road Plane for Monocular Vision-Based Robot Navigation, Algorithmic Foundations for Robotics VIII, Springer Tracts on Advanced Robotics, G. R. Chirikjian, H. Choset, M. Morales, and T. Murphey (Eds.), Springer, New York, pp 301-315.

B1. C. Canudas de Wit, P. Tsiotras, X. Claeys, **J. Yi** and R. Horowitz, (2003). Tire/Road Friction Modeling, Estimation and Optimal Braking Control. In *Nonlinear and Hybrid Systems for Automotive Control*, R. Johansson and A. Rantzer (Eds.), Springer-Varleg, London, pp 165-229.

- **Journal papers that have appeared or been accepted**

J61. T. Li, Q. Li, T. Liu†, and **J. Yi** (2019), How to carry loads economically: Analysis based on a predictive biped model. *ASME Journal of Biomechanical Engineering*, in press.

J60. Y. Huang, Y. Liu, R. Yang, X. Zhang, **J. Yi**, J. P. Ferreira, and T. Liu† (2019), Real-time intended knee joint motion prediction by deep-recurrent neural networks (RNNs). *IEEE Sensors Journal*, in press.

J59. M. Trkov, K. Chen, and **J. Yi**† (2019), Bipedal model and extended hybrid zero dynamics of human walking with foot slips. *ASME Journal of Computation and Nonlinear Dynamics*, in press.

J58. P. Wang, **J. Yi**† and T. Liu (2019), Stability and control of a rider-bicycle system: Analysis and experiments. *IEEE Trans. on Automation Science and Engineering*, in press.

J57. Z. He, **J. Yi**, and T. Liu† (2019), A wearable sensing and training system: towards gait rehabilitation for elderly patients with knee osteoarthritis. *IEEE Sensors Journal*, vol. 19, no. 14, pp 5936-5945.

J56. H.-M. Cheng, A. Angert, B. Li, **J. Yi**, and D. Song† (2019). Proprioceptive localization assisted by magnetoreception: A minimalist intermittent heading-based approach. *IEEE Robotics and Automation Letters*, vol. 4, no. 2, pp 586-593.

J55. H. Xiang, M. Trkov, K. Yu, and **J. Yi**† (2019). A stick-slip interactions model of soft-solid frictional contacts. *ASME Journal of Dynamic Systems, Measurement and Control*, vol. 141, no. 4, article 041015.

J54. M. Trkov, K. Chen, **J. Yi**†, and T. Liu (2019). Inertial sensor-based slip detection in human walking. *IEEE Trans. on Automation Science and Engineering*, vol. 16, no. 3, pp 1399-1411.

J53. X. Li , J. Lu , **J. Yi**, and Q. Zhao† (2018). Monocular vision-based parameter estimation for mobile robotic painting. *IEEE Trans. on Instruments and Measurement*, in press.

J52. K. Yu, **J. Yi**† and J. W. Shan (2018), Real-time motion planning of multiple nanowires in fluid suspension under electric-field actuation. *International Journal of Intelligent Robotics and Applications*, vol. 2, no. 4, pp 383-399.

J51. Y. Zhang, K. Song, **J. Yi**†, P. Huang, Z. Duan, and Q. Zhao (2018), Pose estimation with partial absolute attitude identification of a rigid body and its supporting moving platform using only two gyroscopes and relative measurements. *IEEE/ASME Trans. Mechatronics*, vol. 23, no. 3, pp 1350-1361.

J50. K. Yu, **J. Yi**†, and J. Shan (2018). Automated characterization and assembly of individual nanowires for device fabrication. *Lab on a Chip*, vol. 18, pp 1494-1503.

J49. G. Li, T. Liu†, and **J. Yi** (2018), Wearable sensor system for detecting gait parameters of abnormal gait: A feasibility study. *IEEE Sensors Journal*, vol. 18, no. 10, pp 4234-4241.

J48. M. Trkov, **J. Yi**†, T. Liu, and K. Li (2018), Shoe-floor interactions in human walking with slips: Modeling and experiments. *ASME Journal of Biomechanical Engineering*, vol. 140, pp 031005-1–031005-11.

J47. K. Yu, **J. Yi**†, and J. W. Shan (2018). Simultaneous multiple-nanowire motion control, planning and manipulation under electric fields in fluid suspension. *IEEE Trans. on Automation Science and Engineering*, vol. 15, no. 1, pp 80-91.

J46. L. Wang, Y. Wang, Q. Li, **J. Yi** and T. Liu† (2017), Evaluation on step counting performance of wristband activity monitors in daily living environment. *IEEE Access*, vol. 5, no. 1, pp 13020-13027.

J45. N. Gucunski†, B. Basily, J. Kim, **J. Yi**, T. Duong, K. Dinh, S.-H. Kee and A. Maher (2017), RABIT: Implementation, performance validation and integration with other robotic platforms for improved management of bridge decks. *International Journal of Intelligent Robotics and Applications*, vol. 1, no. 3, pp 271-286.

J44. X. Lu, K. Yu, Y. Zhang, **J. Yi**†, J. Liu, Q. Zhao (2017). Whole-body pose estimation in physical rider-bicycle interactions with a monocular camera and wearable gyroscopes. *ASME Journal of Dynamic Systems, Measurement and Control*, vol. 139, no. 7, article 071005.

J43. T. Li, Q. Li, T. Liu†, and **J. Yi** (2016). A simple model for predicting walking energetics with elastically-suspended backpack. *Journal of Biomechanics*, vol. 46, pp 4150-4153.

J42. W.-J. Tao, Y.-X. Jia, T. Liu†, **J. Yi**, H. Wang, and Y. Inoue (2016). A novel wheel-track hybrid electric powered wheelchair for stairs climbing. *JSME Journal of Advanced Mechanical Design, Systems, and Manufacturing*, vol. 10, no. 4, pp JAMDSM0060.

J41. C. Akin, **J. Yi**, L. C. Feldman, C. Durand, S. M. Hus, A.-P. Li, H. Y. Hui, M. A. Filler, and J. W. Shan† (2016). High-throughput determination of electrical conductivity of one-dimensional nanomaterials by contactless, solution-based electro-orientation spectroscopy. *Lab on a Chip*, vol. 16, no. 11, pp 2126-2134.

J40. Y. Liu, H. Han, T. Liu†, **J. Yi**, Q. Li, Y. Inoue (2016). A novel tactile sensor with electromagnetic induction for stick-slip interaction testing on a wafer transfer robot. *Sensors*, vol. 16, no. 4, paper 430.

J39. K. Chen, Y. Zhang, **J. Yi**†, and T. Liu (2016). An Integrated physical-learning model of physical human-robot interactions with application to pose estimation in bikebot riding. *International Journal of Robotics Research*, vol. 35, no. 12, pp. 1459-1476.

J38. W. Tao, J. Zhang, G. Li, T. Liu†, F. Liu, **J. Yi**, H. Wang and Y. Inoue (2016). A wearable sensor system for lower-limb rehabilitation evaluation using the GRF and CoP distributions. *Measurement Science and Technology*, vol. 27, no. 2, p025701.

J37. G. Li, T. Liu†, **J. Yi**, H. Wang, J. Li, and Y. Inoue (2016). The Lower limbs kinematics analysis by wearable sensor shoes. *IEEE Sensors Journal*, vol. 16, no. 8, pp. 2627-2638.

J36. Y. Zhang, K. Chen, **J. Yi**†, T. Liu and Q. Pan (2016). Whole-body pose estimation in human bicycle riding using a small set of wearable sensors. *IEEE/ASME Trans. on Mechatronics*, vol. 21, no. 1, pp 163-174.

J35. C. Akin, **J. Yi**, L. C. Feldman, C. Durand, A.-P. Li, M. A. Filler, and J. W. Shan† (2015). A contactless determination of electrical conductivity of one-dimensional nanomaterials by solution-based electro-orientation spectroscopy. *ACS Nano*, vol. 9, no. 5, pp 5405-5412.

J34. P. Pandey, D. Pompili†, and **J. Yi** (2015). Dynamic collaboration between networked robots and clouds in resource-constrained environments. *IEEE Trans. on Automation Science and Engineering*, vol. 12, no. 2, pp 471-480. (**Googol Best Applications Paper Award**)

J33. K. Yu, **J. Yi**†, and J. Shan (2015). Motion planning and control of nanowires under electric fields in fluid suspension. *IEEE Trans. on Automation Science and Engineering*, vol. 12, no. 1, pp 37-49.

J32. C.-Y. Kim, D. Song†, Y. Xu, **J. Yi**, and X. Wu (2014). Cooperative search of multiple unknown transient radio sources using multiple paired mobile robots. *IEEE Trans. on Robotics*, vol. 30, no. 5, pp 1161-1173.

J31. Y. Zhang and **J. Yi**† (2014). Static tire/road stick-slip interactions: Analysis and experiments. *IEEE/ASME Trans. on Mechatronics*, vol. 19, no. 6, pp 1940-1950.

J30. H. La, R. Lim, B. Basily, N. Gucunski, **J. Yi**†, A. Maher, F. Romero, and H. Parvardeh (2013). Mechatronic systems design for an autonomous robotic system for high-efficiency bridge deck inspection and evaluation. *IEEE/ASME Trans. on Mechatronics*, vol. 18, no. 6, pp 1655-1664.

J29. Y. Zhang, K. Chen, and **J. Yi**† (2013). Rider trunk and bicycle pose estimation with fusion of force/inertial sensors. *IEEE Trans. on Biomedical Engineering*, vol. 60, no. 9, pp 2541-2551.

J28. Y. Zhang, **J. Yi**†, and T. Liu (2013). Embedded flexible force sensor for *in-situ* tire-road interaction measurements. *IEEE Sensors Journal*, vol. 13, no. 5, pp 1756-1765.

J27. J. Li, Y. Zhang and **J. Yi**† (2013). A hybrid physical-dynamic tire/road friction model. *ASME Journal of Dynamic Systems, Measurement and Control*, vol. 135, no. 1, article 011007.

J26. D. Song†, C.-Y. Kim, and **J. Yi** (2012). Simultaneous localization of multiple unknown and transient radio sources using a mobile robot. *IEEE Trans. on Robotics*, vol. 28, no. 3, pp 668-680.

J25. **J. Yi**†, J. Li, J. Lu, and Z. Liu (2012). On the dynamic stability and agility of aggressive vehicle maneuvers: A pendulum-turn maneuver example. *IEEE Trans. on Control Systems Technology*, vol. 20, no. 3, pp 663-676.

J24. Y. Shi†, H. Fang, and **J. Yi** (2011). On stable simultaneous input and state estimation for discrete-time linear systems. *International Journal of Adaptive Control and Signal Processing*, vol. 25, no. 8, pp 671-686.

J23. D. Song†, C.-Y. Kim, and **J. Yi** (2011). On the time to search for an intermittent signal source under a limited sensing range. *IEEE Trans. on Robotics*, vol. 27, no. 2, pp 313-323.

J22. W.-C. V. Chan†, **J. Yi**, and S. Ding (2011). Optimal scheduling of multi-cluster tools with constant robot moving time, Part I: Two-cluster analysis. *IEEE Trans. on Automation Science and Engineering*, vol. 8, no. 1, pp 5-16.

J21. W.-C. V. Chan, S. Ding, **J. Yi**†, and D. Song (2011). Optimal scheduling of multi-cluster tools with constant robot moving time, Part II: Tree-like cluster configurations. *IEEE Trans. on Automation Science and*

Engineering, vol. 8, no. 1, pp 17-28.

J20. D. Song, C.-Y. Kim, and **J. Yi**† (2009). Simultaneous localization of multiple unknown CSMA-based wireless sensor network nodes using a mobile robot with a directional antenna. *Journal of Intelligent Service Robotics*, vol. 2, no. 4, pp 219-231.

J19. **J. Yi**†, S. Chang, and Y. Shen (2009). Disturbance observer-based hysteresis compensation for piezoelectric actuators. *IEEE/ASME Trans. on Mechatronics*, vol. 14, no. 4, pp 456-464.

J18. **J. Yi**†, H. Wang, J. Zhang, D. Song, S. Jayasuriya, and J. Liu (2009). Kinematic modeling and analysis of skid-steered mobile robots with applications to low-cost inertial measurement unit-based motion estimation. *IEEE Trans. on Robotics*, vol. 25, no. 5, pp 1087-1097.

J17. A. Mathers, K.S. Moon, and **J. Yi**† (2009). A vibration-based PMN-PT energy harvester. *IEEE Sensors Journal*, vol. 9, no. 7, pp 731-739.

J16. **J. Yi**† (2008). Friction modeling in linear chemical-mechanical planarization. *IEEE Control Systems Magazine*, vol. 28, no. 5, pp 59-78.

J15. **J. Yi**† (2008). A piezo-sensor-based "smart tire" system for mobile robots and vehicles. *IEEE/ASME Trans. on Mechatronics*, vol. 13, no. 1, pp 95-103.

J14. **J. Yi**† and H. Liang (2008). A PVDF-based deformation and motion sensor: Modeling and experiments. *IEEE Sensors Journal*, vol. 8, no. 4, pp 384-391.

J13. **J. Yi**†, S. Ding, D. Song, and M. Zhang (2008). Steady-state throughput and scheduling analysis of multi-cluster tools: A decomposition approach. *IEEE Trans. on Automation Science and Engineering*, vol. 5, no. 2, pp 321-336.

J12. D. Song†, H.N. Lee, **J. Yi**, and A. Levandowski (2007). Vision-based motion planning for an autonomous motorcycle on ill-structured roads. *Autonomous Robots*. vol. 23, no. 3, pp 197-212.

J11. Y. Song, M. Zhang†, **J. Yi**, L. Zhang, and L. Zheng (2007). Bottleneck station scheduling in semiconductor assembly manufacturing using ant colony optimization. *IEEE Trans. on Automation Science and Engineering*, vol. 4, no. 4, pp 569-578.

J10. S. Ding†, **J. Yi** and M. Zhang (2006). Multicluster tools scheduling: An integrated event graph and network model approach. *IEEE Trans. on Semiconductor Manufacturing*, vol. 19, no. 3, pp 339-351.

J9. **J. Yi**† and R. Horowitz (2006). Macroscopic traffic flow propagation stability for adaptive cruise controlled vehicles. *Transportation Research, Part C*, vol. 14, no. 2, pp 71-85.

J8. **J. Yi**† (2005). On the wafer/pad friction for chemical-mechanical planarization (CMP) processes, Part I: Modeling and analysis. *IEEE Trans. on Semiconductor Manufacturing*, vol. 18, no. 3, pp 359-370.

J7. **J. Yi**† (2005). On the wafer/pad friction for chemical-mechanical planarization (CMP) processes, Part II: Experiments and applications. *IEEE Trans. on Semiconductor Manufacturing*, vol. 18, no. 3, pp 371-383.

J6. **J. Yi**† and C. Xu (2005). Broad-band optical end-point detection for linear chemical-mechanical planarization (CMP) processes using an image matching technique. *Journal Mechatronics*, vol. 15, no. 3, pp 271-290.

J5. L. Alvarez†, **J. Yi**, R. Horowitz, and L. Olmos (2005). Dynamic friction model-based tire-road friction estimation and emergency braking control. *ASME Journal of Dynamic Systems, Measurement and Control*, vol. 127, no. 1, pp 22-32.

J4. **J. Yi**†, Y. Sheng, and C. Xu (2003). Neural network-based uniformity profile control of linear chemical-mechanical planarization (CMP). *IEEE Trans. on Semiconductor Manufacturing*, vol. 16, no. 4, pp 609-620.

J3. **J. Yi**, H. Lin, L. Alvarez, and R. Horowitz† (2003). Stability of macroscopic traffic flow modeling through wavefront expansion. *Transportation Research, Part B*, vol. 37, no. 7, pp 661-679.

J2. **J. Yi**, L. Alvarez X. Claeys, and R. Horowitz† (2003). Emergency braking control with an observer-based dynamic tire/road friction model and wheel angular velocity measurement. *Vehicle System Dynamics*, vol. 39, no. 2, pp 81-97.

J1. **J. Yi**†, L. Alvarez, and R. Horowitz (2002). Adaptive emergency brake control with underestimation of friction coefficient. *IEEE Trans. on Control Systems Technology*, vol. 10, no. 3, pp 381-392.

- **Journal papers that are under review**

JS3. H. Li, Q. Zhao†, X. Li, X. Zhang and **J. Yi** (2019). Object detection based on color and shape features for service robot in semi-structured indoor environment. Submitted to *International Journal of Intelligent Robotics and Applications*.

JS2. B. Fan, Q. Li, T. Liu†, and **J. Yi** (2019). Accurate foot clearance estimation during level and uneven ground

walking using inertial sensors. Submitted to *Measurement Science and Technology*.

JS1. L. Wang, Y. Sun, Q. Li, T. Liu[†], and **J. Yi** (2019), IMU-based gait normalcy index calculation for clinical evaluation of impaired gait. Submitted to *IEEE Journal of Biomedical and Health Informatics*.

- **Refereed conference papers that have appeared or been accepted**

C134. K. Hunte and **J. Yi** (2019). Collaborative object manipulation through indirect control of deformable sheet by a mobile robotic team. In *Proceedings of 2019 IEEE International Conference on Automation Science and Engineering*, Vancouver, Canada, pp 1463-1468.

C133. M. Edmond, **J. Yi**, N. K. Singa and L. Wang (2019). Generation of high-density hyperspectral point clouds of crops with robotic multi-camera planning. In *Proceedings of 2019 IEEE International Conference on Automation Science and Engineering*, Vancouver, Canada, pp 1475-1480.

C132. Y. Gong, K. Chen, **J. Yi** and T. Liu (2019). Control of a two-wheel steering bikebot for agile maneuvers. In *Proceedings of 2019 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, Hong Kong, China, pp 984-989.

C131. M. Edmonds and **J. Yi** (2019). An MPC-based iterative trajectory optimization method for systems with state-like disturbances. In *Proceedings of 2019 American Control Conference*, Philadelphia, PA, pp 1635-1640.

C130. P. Wang, Y. Gong, **J. Yi** and T. Liu (2019). An integrated stationary/moving balance control of an autonomous bikebot. In *Proceedings of 2019 American Control Conference*, Philadelphia, PA, pp 3273-3278.

C129. K. Yu, C. Guo and **J. Yi** (2019). Complete and near-optimal path planning for simultaneous sensor-based inspection and footprint coverage in robotic crack filling. In *Proceedings of 2019 IEEE International Conference on Robotics and Automation*, Montréal, Canada, pp 8812-8818.

C128. K. Chen, **J. Yi**, and D. Song (2019). Gaussian processes model-based control of underactuated balance robots. In *Proceedings of 2019 IEEE International Conference on Robotics and Automation*, Montréal, Canada, pp 4458-4464.

C127. Y. Abe, T. Almeev, **J. Yi** and S. Katsura (2019). High-power and precise actuation system with direct drive and variable structured elasticity. In *Proceedings of 2019 IEEE International Conference on Mechatronics*, Ilmenau, Germany, pp 396-401.

C126. B. Wang, M. Mihalec, Y. Gong, **J. Yi** and D. Pompili (2018). Disturbance observer-based model predictive control for ROV trajectory-tracking. In *Proceedings of 2018 ASME Dynamic and Control Conference*, Atlanta, GA, Paper#DSCC2018-9200.

C125. M. Mihalec and **J. Yi** (2018). Capturability of inverted pendulum gait model under slip conditions. In *Proceedings of 2018 ASME Dynamic and Control Conference*, Atlanta, GA, Paper#DSCC2018-9203.

C124. K. Yu, **J. Yi** and J. Shan (2018). Automated electric-field-based nanowire characterization, manipulation, and assembly. In *Proceedings of 2018 IEEE International Conference on Automation Science and Engineering*, Munich, Germany, pp 1612-1617.

C123. S. Chen, **J. Yi** and T. Liu (2018). Strength capacity estimation of human upper limb in human-robot interactions with muscle synergy models. In *Proceedings of 2018 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, Auckland, New Zealand, pp 1051-1056. (**Best Conference Paper Award finalist.)**

C122. Z. Zhong, F. Chen, J. Ferreira, Y. Liu, **J. Yi** and T. Liu (2018). A real-time pre-impact fall detection and protection system. In *Proceedings of 2018 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, Auckland, New Zealand, pp 1039-1044.

C121. L. Wang, **J. Yi** and T. Liu (2018). Gait adaptable human-robot interaction system and its application to a robotic walker. In *Proceedings of 2018 IEEE Conference on CYBER Technology in Automation, Control, and Intelligent Systems*, Tianjin, China, pp 707-712.

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C5. L. Mũnoz, G. Gomes, **J. Yi**, C. Toy, R. Horowitz and L. Alvarez, (2001). Integrated meso-microscopic traffic simulation of automated highway systems. In *Proceedings of the 4th IEEE Conference on Intelligent Transportation Systems*, Oakland, CA, pp 84-89.

C4. **J. Yi**, L. Alvarez, R. Horowitz and C. Canudas de Wit, (2000). Adaptive emergency brake control using a dynamic friction model. In *Proceedings of the 39th IEEE Conference on Decision and Control*, Sydney, Australia, pp 456-461.

C3. L. Alvarez, **J. Yi** and R. Horowitz, (2000). Emergency braking control in automated highway systems with underestimation of friction coefficient . In *Proceedings of the American Control Conference*, Chicago,

IL, pp 574-579.

C2. **J. Yi**, L. Alvarez, A. Howell, R. Horowitz, K. Hedrick, (2000). A fault management system for longitudinal vehicle control in AHS. In *Proceedings of the American Control Conference*, Chicago, IL, pp 1514-1518.

C1. L. Alvarez and **J. Yi**, (1999). Adaptive emergency braking control in automated highway systems. In *Proceedings of the 38th IEEE Conference on Decision and Control*, Phoenix, AZ, pp 3740-3745.

- **Non-refereed journal papers**

NJ2. **J. Yi**, J. Ueda, and X. Zhu (2017). Introduction to the Focused Section on Intelligent Robotics for Rehabilitation and Human Assistance. *International Journal of Intelligent Robotics and Applications*, vol. 1, no. 1, pp 1-4.

NJ1. J. R. Morrison, C.-F. Chien, S. Dauzère-Pérès, M. Dawande, H. Ding, J. S. Pettinato, and **J. Yi** (2011). Guest Editorial: Special Section on Equipment and Operations Automation in the Semiconductor Industry. *IEEE Trans. on Automation Science and Engineering*, vol. 8, no. 1, pp 1-4.

- **Non-refereed conference papers/presentations (extended abstract reviewed)**

NC9. L. Wang, K. Yang, A. Dusane1, M. Cotton, J. Xie, Y. Wang, X. Gong, S. Zhang, C. Yang, E. Kim, K. Yu, **J. Yi**, and A. D. Mazzeo (2017). A Jellyfish-based Aquatic Locomotor with Tunable Gaits. In *Workshop on Material Robotics* at *2017 Robotics Science and Systems*, Boston, MA.

NC8. Y. Abe, K. Chen, M. Trkov, **J. Yi** and S. Katsura (2017). Disturbance observer-based HZD control of biped walking and slip recovery. In *Dynamic Walking 2017*, Mariehamn, Finland.

NC7. M. Trkov, K. Chen, and **J. Yi** (2016). Slip detection and fall prevention system for human walking with foot slip. In *Dynamic Walking 2016*, Ann Arbor, MI.

NC6. N. Gucunski, **J. Yi**, B. Basily, T. Duong, J. Kim, P. Balaguru, H. Parvardeh, A. Maher, and H. Najm (2015). Concrete bridge deck early problem detection and mitigation using robotics. In *Proceedings of the 2015 SPIE Conference on Structural Health Monitoring and Inspection of Advanced Materials, Aerospace, and Civil Infrastructure*, vol. 9437, Paper #94370P, San Diego, CA.

NC5. M. Trkov, F. Liu, **J. Yi**, and H. Baruh (2011). Study of concrete drilling for automated non-destructive evaluation and rehabilitation system for bridge decks. In *Proceedings of the 2011 SPIE Conference on Non-destructive Characterization for Composite Materials, Aerospace Engineering, Civil Infrastructure, and Homeland Security V*, Paper #798307, San Diego, CA.

NC4. K. S. Moon, S. Kassegne, K. Morsi, **J. Yi**, and A. Beyene (2008). Low-cost polymeric and carbon-based photovoltaic cells for clean energy applications. In *Proceedings of the 5th International Congress of Nano-Bio Clean Tech*, San Francisco, CA.

NC3. R. Cooper, H. Lee, J. Butler, B. Mika, D. Clayton, K. Wang, **J. Yi**, and H. Liang (2008). Stress-resolved and cockroach-friendly piezoelectric sensors. In *Proceedings of 2008 SPIE Conference on Sensors, and Command, Control, Communications, and Intelligence (C3I) Technologies for Homeland Security and Homeland Defense VII*, Orlando, FL, vol. 6943, Paper 6943-9.

NC2. **J. Yi** and H.H. Liang (2007). Development of a PVDF-based rubber-tread deformation sensing system for understanding wheel/ground interactions. In *Proceedings of 2007 World Forum on Smart Materials and Smart Structures Technology*, Nanjing, China.

NC1. K. Moon, H.H. Liang, and **J. Yi** (2007). Tire tread deformation sensor and energy harvester development for "Smart tire" applications. In *Proceedings of 2007 SPIE Conference on Sensors and Smart Structures Technologies for Civil, Mechanical, and Aerospace Systems*, San Diego, CA, vol. 6529, Paper 65290K.

- **Technical reports**

R4. **J. Yi**, S. Suryanarayanan, A. Howell, R. Horowitz, M. Tomizuka, and K. Hedrick, (2002). Development and implementation of a vehicle-centered fault diagnostic and management system for the extended PATH-AHS architecture: Part I. California PATH Research Report UCB-ITS-RR-2002-34 , Institute of Transportation Studies, University of California at Berkeley.

R3. **J. Yi**, S. Suryanarayanan, A. Howell, R. Horowitz, M. Tomizuka, and K. Hedrick, (2002). Development and implementation of a vehicle-centered fault diagnostic and management system for the extended PATH-AHS architecture: Part II. California PATH Research Report UCB-ITS-RR-2002-35 , Institute of Transportation Studies, University of California at Berkeley.

R2. **J. Yi**, A. Howell, R. Horowitz, K. Hedrick and L. Alvarez, (2001). Fault detection and handling for

longitudinal control of automated highway systems (AHS). California PATH Research Report UCB-ITS-PRR-2001-21, Institute of Transportation Studies, University of California at Berkeley.

R1. **J. Yi**, L. Alvarez and R. Horowitz, (1998). An interface between fault handling and detection modules. California PATH Research Report UCB-ITS-PRR-1998-16, Institute of Transportation Studies, University of California at Berkeley.

- **Theses**

T3. **J. Yi**, (2002). A fault tolerant longitudinal control and tire/road friction estimation system for automated highway systems (AHS). Ph.D. dissertation, Department of Mechanical Engineering, University of California at Berkeley.

T2. **J. Yi**, (2001). Macroscopic traffic flow stability through wavefront expansion. M.A. thesis, Department of Mathematics, University of California at Berkeley.

T1. **J. Yi**, (1996). Design improvements on condition monitoring and fault diagnostic systems for large-scale turbo generators and an automobile wheel rim testing system. M.Eng. thesis, Department of Precision Instruments and Mechanology, Tsinghua University, China.

- **Video**

V1. A. Levandowski, A. Schultz, C. Smart, A. Krasnov, H. Chau, B. Majusiak, F. Wang, D. Song, **J. Yi**, H. Lee, and A. Parish, (2006). Ghostrider: Autonomous Motorcycle. In *Proceedings of 2006 IEEE International Conference on Robotics and Automation*, Orlando, FL.

PATENTS

P5. T. Taylor, **J. Yi** and P. Norton, "System and method for *in-situ* characterization and maintenance of polishing pad smoothness in chemical-mechanical polishing", US Patent $7,153,182$, December 26, 2006.

P4. **J. Yi** and C. Xu, "Neural network control of chemical mechanical planarization", US Patent $7,001,243$, February 21, 2006.

P3. **J. Yi** and C. Xu, "Methods for monitoring and controlling chemical mechanical planarization", US Patent $6,931,330$, August 16, 2005.

P2. **J. Yi** and C. Xu, "End-point detection with image matching in semiconductor manufacturing", US Patent $6,930,782$, August 16, 2005.

P1. G. Lee, C. Xu, E. Zhao and **J. Yi**, "Application of heated slurry for oxide CMP", US Patent Application 20040266192, December 30, 2004.

RESEARCH GRANTS

- **External**

G23. "CPS: Small: Real-time machine learning-based control of human cyber-physical balance systems." *National Science Foundation, CNS-1932370* (*Recommended*), 10/1/2019-9/30/2022, PI: **J. Yi**, co-PI: B. Yuan. Amount: $500,000. Prorated amount: 80%.

G22. "INTERN DCL - Human-inspired balance control of bipedal walkers with foot slip." *National Science Foundation, IIP-1934204*, 9/1/2019-2/28/2020, PI: **J. Yi**. Amount: $50,750. Prorated amount: 100%.

G21. "Human-inspired balance control of bipedal walkers with foot slip." *National Science Foundation, CMMI-1762556*, 9/1/2018-8/31/2021, PI: **J. Yi**. Amount: $343,672. Prorated amount: 100%.

G20. "Cloud-based Agricultural Robotic Evaluation System (CARES)." *Siemens Corporate Technology*, 7/1/2018-12/31/2018, PI: **J. Yi**, co-PI: B. Huang. Amount: $140,000. Prorated amount: 50%.

G19. "CPS: Medium: Enabling real-time dynamic control and adaptation of networked robots in resource-constrained and uncertain environments." *National Science Foundation, CNS-1739315*, 9/1/2017-8/31/2020, PI: D. Pompili, co-PIs: **J. Yi** and F. J. Diez-Garias. Amount: $999,904. Prorated amount: 33%.

G18. "Advanced materials - review and performance." *NJ DOT Long Term Bridge Performance (LTBP) Program*, 1/1/2016-12/31/2016. PI: N. Guncunski, co-PIs: **J. Yi** and P. N. Balaguru. Amount: $200,000. Prorated amount at Rutgers: $30,000

G17. "EAGER: Development of model-based active chair for proactive injury prevention." *National Science Foundation, IIS-1555408*, 10/1/2015-9/30/2018, PI: K. Li, co-PIs: **J. Yi**, M. Vives, V. Pavlovic, and D. Metaxas. Amount: $300,000.

G16. "Control methods for unstable physical human-machine interactions." Exploratory funding, *The State Key Lab of Fluid Power Transmission and Control, GZKF-201404*, Zhejiang University, 12/1/2014-12/1/2016, PI: **J. Yi**. Amount: RMB100,000.

G15. "Modeling and cooperative control of human motor skills with unstable physical human-robot interactions." *National Natural Science Foundation of China, NSFC-61428304*, 1/1/2015-12/31/2016, PI: **J. Yi**, co-PI: T. Liu (Zhejiang University). Amount: RMB200,000.

G14. "NRI: Collaborative Research: Minimally invasive robotic non-destructive evaluation and rehabilitation for bridge decks (Bridge-MINDER)." *National Science Foundation, IIS-1426828*, 8/1/2014-7/31/2017, PIs: **J. Yi** and D. Song (Texas A&M University), co-PIs: N. Guncunski and H. La. Amount: $878,567. Prorated amount at Rutgers: $578,567. (US-European Collaboration Supplemental Awards: *NSF/IIS-1523341*: $49,932.)

G13. "Cooperative adaptation and shaping of human motor control through unstable physical human-robot interactions." *National Science Foundation, CMMI-1334389*, 9/1/2013-8/31/2016, PI: **J. Yi**, co-PI: K. Li. Amount: $325,000. Prorated amount: $295,439. (REU Supplemental Awards: *NSF/CMMI-1723358*: $8,000; *NSF/CMMI-1522335*: $5,000; *NSF/CMMI-1417336*: $5,000.)

G12. "BIOME - A bio-robotic infrastructure for oceanic microbial ecology." *National Science Foundation, OCE-1131022*, 10/1/2011-9/30/2015, PI: L. Kerkhof, co-PIs: **J. Yi**, O. Schofield, and S. Glenn. Amount: $826,509. Prorated amount: $274,954.

G11. "Automated condition assessment of concrete bridge decks using multiple NDE technologies." *Federal Highway Administration (FHWA) Long Term Bridge Performance (LTBP) Program* , 6/1/2011-5/31/2013. Total project amount: $2.2 millions. Dr. Yi is the robotics task leader for the project. Prorated amount: around $750,000.

G10. "CAREER: Human-inspired safety-preserved vehicle agile maneuvers." *National Science Foundation, CMMI-0954966*, 4/1/2010-3/31/2016, PI: **J. Yi**. Amount: $423,000. Prorated amount: $423,000. (REU Supplemental Awards: *NSF/CMMI-1228665*: $6,000; *NSF/CMMI-1127240*: $6,000; *NSF/CMMI-1332448*: $6,000; *NSF/CMMI-1417335*: $5,000.)

G9. "Automated nondestructive evaluation and rehabilitation system (ANDERS) for bridge decks." *NIST Technology Innovation Program (TIP) Award - 70NANB10H014*, 2/1/2010-1/31/2014, PI: N. Gucunski, co-PIs: P. N. Balaguru, **J. Yi**, F. Moon, and industrial partners Mala GeoScience USA Inc., PD-LD Inc., and Pennoni Associates Inc. Total project amount: $17.9 millions. Prorated amount: $912,156.

G8. "Vision-based wheel slip estimation of robotic vehicles in global positioning system (GPS)-denied environments". *NASA New Jersey Space Grant Consortium*, 7/1/2009-6/30/2011, PI: **J. Yi**. Amount: $25,000.

G7. "Novel current-activated tip-based sintering (CATS)". *National Science Foundation, CMMI-0826532*, 9/1/2008-8/31/2011, PI: K. Morsi, co-PIs: **J. Yi** (former), K. Moon, and S. Kassegne. Amount: $307,161.

G6. "GOALI: Safety-preserved estimation and control of tire/road interaction". *National Science Foundation, CMMI-0856095*, 7/31/2008-8/1/2012, PI: **J. Yi**, co-PI: H.E. Tseng. Amount: $269,999. Prorated amount: $269,999. (REU Supplemental Awards: *NSF/CMMI-1228664*: $6,000; *NSF/CMMI-1127234*: $6,000; *NSF/CMMI-1025409*: $6,000; *NSF/CMMI-0913254*: $6,000.)

G5. "A batteryless intelligent tire system (BITS) for vehicle safety enhancement", Texas Transportation Institute, 9/1/2006-8/31/2007, PI: **J. Yi**, co-PIs: H. Liang and R. Langari. Amount: $25,000. Prorated amount: $25,000.

- **Internal**

G4. "Development of autonomous high-performance agile aerial vehicle maneuvers for bridge-deck inspection", Rutgers University Strategic Funds, 3/1/2016-12/31/2016, PI: **J. Yi**. Amount: $10,000. Prorated amount: $10,000.

G3. "Micro-UAV swarm for real time 3D monitoring and surveillance", Faculty Research Grant, Rutgers University, 1/1/2012-12/31/2012, PI: A. Elgammmal, co-PI: **J. Yi**. Amount: $48,000. Prorated amount: $24,000.

G2. "Safety-preserved estimation and control of tire/road interaction (SPECTRA)", University Grants Program Award, San Diego State University, 1/1/2008-6/30/2009, PI: **J. Yi**. Amount: $5,850.

G1. Faculty equipment fund, Academic Affair, San Diego State University, 9/1/2006-5/31/2008, PI: **J. Yi**. Amount: $60,000.

PROFESSIONAL ACTIVITIES

- Fellow of American Society of Mechanical Engineers (ASME), 2016–present, Member (2002-2016)
- Senior Member of the Institute of Electrical and Electronic Engineers (IEEE), 2007–present,
- ASME Dynamic Systems and Control Division (DSCD) Secretary (2016–2020)
- ASME Dynamic Systems and Control Division (DSCD) Mechatronics Technical Committee, Primary member (2005–Present); Secretary (2012); Conference chair (2013); Vice-Chair (2014); Chair (2015); Award Chair (2016)
- Editorial Advisory Board, *Advanced Intelligent Systems* (August 2019 –)
- Senior Editor, *IEEE Robotics and Automation Letters* (September 2019 –)
- Associate Editor
  - *IEEE Robotics and Automation Letters* (September 2017 – September 2019)
  - *IFAC Journal Mechatronics* (August 2016 –)
  - *IEEE/ASME Trans. on Mechatronics* (July 2016 –)
  - *International Journal of Intelligent Robotics and Applications* (April 2016 –)
  - *ASME Journal of Dynamic Systems, Measurement and Control* (June 2014 – June 2018)
  - *IFAC Journal Control Engineering Practice* (November 2013 – November 2017)
  - *IEEE Trans. on Automation Science and Engineering* (Jan. 2012 – Dec. 2015, Jan. 2017 –)
  - *International Journal of Intelligent Robotics and Applications*, Focused Section on Intelligent Robotics for Rehabilitation and Human Assistance (2016) as a Lead Guest Editor
  - *IEEE Trans. on Automation Science and Engineering*, Special Issue on Equipment and Operations Automation in the Semiconductor Industry (2009) as a Guest Editor.
  - *ASME Dynamic Systems and Control Division Conference Editorial Board* (2008-2010,2014)
  - *IEEE International Conference on Robotics and Automation, Conference Editorial Board* (2008-2016)
  - *IEEE International Conference on Automation Science and Engineering, Conference Editorial Board* (2007-2016)
  - *IEEE/RSJ Int. Conf. on Intelligent Robots and Systems, Conference Editorial Board* (2008-2011,2014-2016)
  - *IEEE International Conference on Intelligent Transportation Systems* (2010,2011,2014-2016)
- Organizing/operating committee member
  - Program Chair of the *2022 IEEE International Conference on Automation Science and Engineering*
  - General Chair of the *2020 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*
  - General Co-Chair of the *2019 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*
  - Finance Chair of the *2018 American Control Conference*
  - Program Chair of the *2017 1st International Symposium on Applied Abstraction and Integrated Design*
  - Best Paper Award Committee Chair, *2017 International Conference on Intelligent Robotics and Application*
  - Program Chair of the *2016 IEEE International Conference on Advanced Intelligent Mechatronics*
  - Member of the best paper award committee, *2016 IEEE Int. Conf. on Automation Science and Engineering*
  - Member of the best paper award committee, *2016 IEEE Int. Conf. on Advanced Intelligent Mechatronics*
  - Chair of Publications for the *2014 ASME Dynamic Systems and Control Conference*
  - Chair of Workshops and Special Lectures for the *2013 ASME Dynamic Systems and Control Conference*
  - Vice-Chair, Invited/Organized Sessions for the *2012 Motion and Vibration Control Conference*
  - Member, 2010 American Control Conference Best Student Paper Award committee
  - Co-Chair of Optomechatronic Systems Control Conference of the *2008 SPIE International Symposium on Optomechatronic Technologies*
- Program committee member
  - *American Control Conference* (2010,2014,2017)
  - *ASME Dynamic Systems and Control Conference* (2010,2012)
  - *IEEE/ASME International Conference on Advanced Intelligent Mechatronics* (2010-2012,2014)
  - *IEEE International Conference on Advanced Robotics* (2011)

- *IEEE International Conference on Automation and Logistics* (2007-2009)
- *IEEE International Conference on Automation Science and Engineering* (2007-2010,2013,2014)
- *IEEE International Conference on Complex Systems Engineering* (2015)
- *IEEE/RSJ International Conference on Intelligent Robots and Systems* (2008-2010)
- *IEEE International Conference on Intelligent Transportation Systems* (2010,2011,2013,2014)
- *IEEE International Conference on Mechatronics and Automation* (2005-2007,2009)
- *International Symposium on Flexible Automation* (2016,2018)
- *IFAC International Conference on Intelligent Control and Automation Science* (2013)
- *Motion and Vibration Control Conference* (2012)
- *Robotics: Science and Systems* (2015)

- Chair/co-Chair/Organizer of sessions in conferences
  - "Sensor-based Control" in *2019 IEEE International Conference on Automation Science and Engineering*
  - "Mobile Robots 3" in *2019 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*
  - "Tracking Control Systems" in *2018 ASME Dynamic Systems and Control Conference*
  - "Physical Human-Robot Interactions and Human Assistive Systems" (Co-Organizer and Co-Chair) in *2018 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*
  - "Mechanical Systems and Robotics I" and "Mechanical Systems and Robotics II" in *2018 American Control Conference*
  - "Bio-Mechatronics and Physical Human Robot Interaction" in *2017 ASME Dynamic Systems and Control Conference*
  - "Service Robots" and "Big Data for Automation I" in *2017 IEEE International Conference on Automation Science and Engineering*
  - "Legged Robots" in *2017 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*
  - "Automation at Micro-Nano Scales - II" in *2016 IEEE International Conference on Automation Science and Engineering*
  - "Vehicle Dynamics and Control" in *2016 IEEE International Conference on Advanced Intelligent Mechatronics*
  - "Multiagent Network Systems 2" in *2015 ASME Dynamic Systems and Control Conference*
  - "Robotics for Rehabilitation and Assistance" in *2015 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*
  - "Bipedal Robotic Gaits" in *2015 IEEE International Conference on Robotics and Automation*
  - "Control Applications II" in *2015 American Control Conference*
  - "Physical Human-Robot Interactions" in *2014 ASME Dynamic Systems and Control Conference*
  - "Civil Infrastructure and Construction Automation" (also Co-Organizer) and "Micro/Nano Manufacturing and Automation" in *2013 IEEE International Conference on Automation Science and Engineering*
  - "Human-Machine Interfaces II" in *2013 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*
  - "Control of Vehicle Dynamics II" in *2013 American Control Conference*
  - "Tire and Suspension Systems Model" in *2012 ASME Dynamic Systems and Control Conference/11th Motion and Vibration Control Conference*
  - "Human-in-the-loop Control" in *2012 American Control Conference*
  - "HCCI Engines Modeling and Control" and "Vehicle Dynamics and Control 1" in *2011 ASME Dynamic Systems and Control Conference*
  - "Modeling and Diagnostics in Diesel Engines", "HCCI Engines Modeling and Control", "Alternative Propulsion Systems Modeling and Control 1", "Powertrain Systems Modeling and Control", "Vehicle Dynamics and Control 1", "Engine Modeling and System Identification", and "Modeling and Estimation for Automotive & Energy Systems" (Co-Organizer) in *2011 ASME Dynamic Systems and Control Conference*
  - "Advanced Vehicle Dynamics and Safety Control" and "Bio-Systems and Health Care 3" in *2010 ASME Dynamic Systems and Control Conference*

- "Advanced Vehicle Dynamics and Safety Control", "Advanced Automotive Powertrain Control", "Advanced Engine Dynamics and Control", and "Mobile Robot and Locomotion Control" (Co-Organizer) in *2010 ASME Dynamic Systems and Control Conference*
- "Control of Robotic Systems" in *2010 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*
- "Integrated Vehicle Dynamics and Control II" in *2009 IEEE International Conference on Decision and Control*
- "Vehicle Dynamics" in *2009 ASME Dynamic Systems and Control Conference*
- "Motion Control - I" in *2009 IEEE International Conference on Robotics and Automation*
- "Vehicle Dynamics" in *2008 ASME Dynamic Systems and Control Conference*
- "Information-Based and Reconfigurable Manufacturing" in *2008 IEEE International Conference on Automation Science and Engineering*
- "Micro/Nano Robots II" in *2007 IEEE/RSJ International Conference on Intelligent Robots and Systems*
- "Service/Home Automation 2" and "Sensors, Instrumentation, and Measurement 2" in *2007 IEEE International Conference on Automation Science and Engineering*
- "Innovative Sensing Systems" in *2007 World Forum on Smart Materials and Smart Structures Technology*
- "Mechanical Vibration Control II" and "System Modeling" in *2007 ASME International Mechanical Engineering Congress & Exposition*
- "Semiconductor Manufacturing" in *2006 IEEE Conference on Automation Science and Engineering*
- "Cooperative Control of Multi-Agent Systems" in *2006 American Control Conference*

- Reviewer for

Journals: *Advances in Mechanical Engineering* (2013), *ASCE Journal of Aerospace Engineering* (2010),*Asian Journal of Control* (2007,2013,2014,2016), *ASME Journal of Applied Mechanics Review* (2010), *ASME Journal of Computational and Nonlinear Dynamics* (2018), *ASME Journal of Dynamic Systems, Measurement, and Control* (2006-2017), *ASME Journal of Manufacturing Science and Engineering* (2015), *Journal of Motor Behavior* (2019), *Assembly Automation* (2018), *Automatica* (2003,2017), *Automation in Construction* (2012,2017), *Autonomous Robots* (2009,2015,2017), *Bioinspiration & Biomimetics* (2013), *Control Engineering Practice* (2005-2016), *Entropy* (2013), *European Physical Journal B* (2009), *IEEE Access* (2016,2019), *IEEE Journal of Biomedical and Health Informatics* (2014), *IEEE Robotics and Automation Letters* (2015-2017), *IEEE Robotics and Automation Magazine* (2006,2014), *IEEE Sensors Journal* (2008,2010-2012,2014,2017,2018), *IEEE Trans. on Automatic Control* (2008,2009,2013,2015,2016), *IEEE Trans. on Automation Science and Engineering* (2006-2014,2019), *IEEE Control Systems Magazine* (2007), *IEEE Trans. on Control Systems Technology* (2001-2003,2010-2014), *IEEE Trans. on Fuzzy Systems* (2011), *IEEE Trans. on Human-Machine Systems* (2014,2015), *IEEE Trans. on Industrial Electronics* (2002,2009,2010,2012,2013,2015), *IEEE Trans. on Industrial Informatics* (2012), *IEEE Trans. on Instrumentation and Measurement* (2009), *IEEE Trans. on Intelligent Transportation Systems* (2007,2008,2010-2013,2015), *IEEE/ASME Trans. on Mechatronics* (2000,2006-2017), *IEEE Trans. on Neural Systems and Rehabilitation Engineering* (2016), *IEEE Trans. on Systems, Man and Cybernetics: Systems* (2017), *IEEE Trans. on Robotics* (2008-2011,2014,2015,2017), *IEEE Trans. on Semiconductor Manufacturing* (2004-2013), *IEEE Trans. on Vehicular Technology* (2009-2013,2016), *Instrumentation, Systems and Automation (ISA) Trans.* (2007), *Journal of Intelligent Service Robotics* (2009,2018), *International Journal of Advanced Robotic Systems* (2015), *International Journal of Aerospace Engineering* (2014), *International Journal of Control* (2005), *International Journal of Mechatronics and Manufacturing Systems* (2009,2011), *International Journal of Modeling Identification and Control* (2007), *International Journal of Precision Engineering and Manufacturing* (2014,2015), *International Journal of Production Research* (2014), *International Journal of Robotics Research* (2011,2012), *International Journal of Vehicle Autonomous Systems* (2009,2010), *International Journal of Vehicle Design* (2007,2011,2015,2018), *International Journal of Vehicular Technology* (2010), *Journal of Applied Mathematics* (2014), *Journal of Bionic Engineering* (2012), *Journal of Engineering* (2014), *Journal of Mechanical Science and Technology* (2014), *Journal Mechatronics* (2009,2010), *Journal of Zhejiang University - Computers & Elecrtonics* (2014), *Mathmatical Problem in Engineering* (2013,2015,2016), *Measurement Science and Technology* (2014), *Micromachines* (2014), *Multibody System Dynamics* (2013), *National Science Review* (2017), *Proc. the Inst. Mechanical Engineers, Part D, Journal of Automobile Engineering* (2009-2011), *Proc. the Inst. Mechanical Engineers, Part C, Journal of Mechanical Engineering Science* (2010,2011), *Proc. the Inst. Mechanical Engineers, Part I, Journal of Systems and Control Engineering* (2012-2014), *Proc. of the Royal Society A* (2012), *Journal of Optomechatronics*

(2007), *Review of Scientific Instruments* (2014), *Journal of Robotics and Computer Integrated Manufacturing* (2010), *Journal of Vibration and Control* (2010), *OR Spectrum* (2005), *PLOS One* (2016,2017), *Robotica* (2013-2017), *Robotics and Autonomous Systems* (2011,2012,2016,2017), *Sensors* (2009,2012,2013,2015,2017,2018), *Shock and Vibration* (2013), *Transportation Research, Part B* (2006,2007,2009), *Transportation Research, Part C* (2017), *Tribology International* (2017), *Vehicle Systems Dynamics* (2007,2008,2014).

Conferences: *American Control Conference (ACC)* (2000-2018), *ASME Dynamic Systems and Control Conference (DSCC)* (2009-2015), *ASME International Design Engineering Technical Conferences (IDETC)* (2011), *ASME International Mechanical Engineering Congress & Exposition (IMECE)* (2002,2004,2006,2007,2009,2011), *IEEE Intelligent Vehicles Symposium* (2015), *IEEE/ASME International Conference Advanced Intelligent Mechatronics (AIM)* (2010-2018), *IEEE International Conference on Automation Science and Engineering (CASE)* (2007-2018), *IEEE International Conference Control Applications (CCA)* (1999,2005), *IEEE International Conference on Complex Systems Engineering* (2015), *IEEE International Conference on Decision and Control (CDC)* (2002-2015), *IEEE International Symposium on Industrial Electronics (ISIE)* (2007), *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)* (2005-2015,2017,2018), *IEEE International Conference on Intelligent Transportation Systems (ITSC)* (2001,2010,2011,2016), *IEEE International Conference on Mechatronics and Automation (ICMA)* (2005-2007), *IEEE International Conference on Robotics and Automation (ICRA)* (2005-2018), *IEEE International Conference on Robotics and Biomimetics (ROBIO)* (2008), *IEEE Multi-Conference on Systems and Control (MSC)* (2007,2011-2013), *IFAC Symposium on Mechatronic Systems* (2013), *IFAC Symposium on Information Control Problems in Manufacturing (INCOM)* (2006), *IFAC World Congress* (2008,2011,2014,2017), *International Workshop on the Algorithmic Foundations of Robotics (WAFR)* (2006,2010), *Robotics: Science and Systems (RSS)* (2006,2007,2015), *SAE World Congress* (2009).

Books/Book Chapters: *Elsevier* (2009), *Pearson Education* (2010), *Springer-Verlag* (2006-2010), *John Wiley & Sons* (2014).

Proposals: *US National Science Foundation (NSF)*: *OSIE* (2010,2011), *CMMI* (2009); *National Research Foundation of Korea* (2016), *Israeli Ministry of Science, Technology and Space* (2015), *University of Southern California METRANS* (2004); *Research Grant Council (RGC) of Hong Kong* (2013); *Portuguese Foundation for Science and Technology (FCT)* (2012)

- Panelist for

Proposals: *US National Science Foundation (NSF)*: *ARI* (2008), *CAREER* (2014), *CBET* (2016,2018), *CISE* (2011, 2012,2015,2017-2019), *CMMI* (2008-2010,2012,2014,2015,2018), *ENG* (2009)

Membership: *IEEE Admission & Advancement (A&A) Committee* Senior Member Review Panel (2009)

INVITED SEMINARS/TALKS

- *University of Victoria*, Dept. of Mechanical Engineering, Victoria, BC, Canada, August 2019
- *University of Strathclyde*, Dept. of Design, Manufacture & Eng. Management, Glasgow, UK, August 2019
- *University of the West of England*, Bristol Robotics Laboratory, Bristol, UK, August 2019
- *Tianjin University*, School of Automation and Electrical Engineering, Tianjin, China, July 2019
- *Huazhong University of Science and Technology*, Sch. of Mechanical Sci. & Eng., Wuhan, China, July 2019
- *Westlake University*, Inst. of Advanced Technology, Hangzhou, China, January 2019
- *West Virginia University*, Dept. of Mechanical and Aerospace Engineering, Morgantown, WV, November 2018
- *University of Kansas*, Dept. of Mechanical Engineering, Lawrence, KS, November 2018
- *Villanova University*, Dept. of Mechanical Engineering, Villanova, PA, October 2018
- *Tohoku University*, Department of Robotics, Sendai, Japan, August 2018
- *Hiroshima University*, Dept. of Mechanical Systems and Engineering, Hiroshima, Japan, August 2018
- *University of Sydney*, Australian Centre for Field Robotics, Sydney, Australia, July 2018
- *Texas A&M University*, Dept. of Mechanical Engineering, College Station, TX, April 2018
- *University of Connecticut*, UTC Inst. for Adv. Syst. Eng. (Distinguished Lect. Series), Storrs, CT, April 2018
- *City University of Hong Kong*, Dept. of Mechanical and Biomedical Eng., Hong Kong, China, August 2017
- *Chinese Academy of Sciences*, Shenzhen Institute of Advanced Technology, Shenzhen, China, August 2017

- *Chinese University of Hong Kong, Shenzhen*, School of Science and Engineering, Shenzhen, China, August 2017
- *Zhejiang University*, Ocean College, Zhoushan, China, August 2017
- *Beihang University*, School of Transportation Science and Engineering, Beijing, China, August 2017
- *CSIC-UPC*, Institut de Robòtica i Informàtica Industrial, Barcelona, Spain, July 2017
- *New York University*, Dept. of Electrical and Computer Eng., Brooklyn, NY, March 2017
- *University of Alberta*, Dept. of Electrical and Computer Eng., Edmonton, AB, Canada, July 2016
- *Chinese Academy of Sciences*, Institute of Automation, Beijing, China, June 2016
- *Northwestern Polytechnical University*, School of Aerospace Engineering, Xi'an, China, June 2016
- *Zhejiang University*, School of Mechanical Engineering, Hangzhou, China, April 2016
- *Jilin University*, School of Automotive Engineering, Changchun, China, April 2016
- *Huazhong University of Science and Technology*, Sch. of Mechanical Sci. & Eng., Wuhan, China, April 2016
- *Beijing University of Post and Telecommunication*, School of Automation, Beijing, China, July 2015
- *Tianjin University*, School of Automation and Electrical Engineernig, Tianjin, China, July 2015
- *Beijing Institute of Technology*, Department of Mechanical and Vehicle Engineering, Beijing, China, July 2015
- *Kyoto University*, Department of Mechanical Engineering, Kyoto, Japan, June 2015
- *Keio University*, Department of System Design Engineering, Yokohama, Japan, June 2015
- *University of Michigan*, Control Systems Seminar series, Ann Arbor, Michigan, April 2015
- *University of Wollongong*, Sch. of Mech., Materials and Mechatronic Eng., Wollongong, Australia, March 2015
- *Australia National University*, College of Engineering and Computer Science, Canberra, Australia, March 2015
- *University of Newcastle*, Sch. of Electrical Eng. and Computer Science, Callaghan, Australia, March 2015
- *University of Technology, Sydney*, Faculty of Engineering and Information Tech., Sydney, Australia, March 2015
- *Villanova University*, Dept. of Mechanical Engineering, Villanova, PA, November 2014
- *Northwestern Polytechnical University*, Dept. of Control and Information, Xi'an, China, August 2014
- *Hangzhou Dianzi University*, School of Automation, Hangzhou, China, August 2014
- *Zhejiang University*, Depts. of Mechanical Engineering and Control Engineering, Hangzhou, China, July 2014
- *Shanghai University*, School of Mechatronic Engineering, Shanghai, China, May 2014
- *University of Technology, Sydney*, Centre for Autonomous Systems, Sydney, Australia, July 2013
- *Chinese Academy of Sciences*, Shenyang Institute of Automation, Shenyang, China, May 2013
- *Suzhou University*, Robotics and Microsystems Center, Suzhou, China, May 2013
- *Huazhong University of Science and Technology*, Sch. of Mechanical Sci. & Eng., Wuhan, China, May 2013
- *Hubei University of Technology*, School of Mechanical Engineering, Wuhan, China, May 2013
- *Shanghai Jiaotong University*, Dept. of Automation, Shanghai, China, July 2012
- *National Taiwan University*, Dept. of Mechanical Engineering, Taipei, Taiwan, July 2012
- *Tsinghua University*, Dept. of Precision Instruments and Mechanology, Beijing, China, June 2012
- *University of Pittsburgh*, Dept. of Mechanical Engineering and Materials Science, Pittsburgh, PA, March 2012
- *Arizona State University*, School of Engineering of Matter, Transport and Energy, Tempe, AZ, February 2012
- *Iowa State University*, Dept. of Mechanical Engineering, Ames, IA, December 2011
- *University of Toronto*, Dept. of Mechanical and Industrial Engineering, Toronto, Canada, November 2011
- *Stevens Institute of Technology*, Dept. of Electrical and Computer Engineering, Hoboken, NJ, November 2011
- *Chinese Academy of Sciences*, Shenzhen Institute of Advanced Technology, Shenzhen, China, August 2011
- *Chinese University of Hong Kong*, Dept. of Mechanical and Automation Eng., Hong Kong, China, July 2011
- *SUNY at Stony Brook*, Dept. of Mechanical Engineering, Stony Brook, NY, February 2011
- *IEEE Circuits and Systems Princeton/Central Jersey Section*, Piscataway, NJ, December 2010
- *University of Kentucky*, Dept. of Electrical and Computer Engineering, Lexington, KY, April 2010

- *New Jersey Institute of Technology*, Dept. of Mechanical and Industrial Engineering, Newark, NJ, March 2010
- *Zhejiang University*, Inst. of Mechatronics and Control Engineering, Hangzhou, China, December 2009
- *Nankai University*, Inst. of Robotics and Automatic Information System, Tianjin, China, December 2009
- *Rutgers University*, Dept. of Mechanical and Aerospace Engineering, Piscataway, NJ, May/September, 2008
- *Santa Clara University*, Dept. of Mechanical Engineering, Santa Clara, CA, March 2008
- *San Diego State University*, Computational Science Research Center, San Diego, CA, October 2007
- *University of Arizona*, Dept. of Aerospace and Mechanical Engineering, Tucson, AZ, May, 2007
- *University of Texas at San Antonio*, Dept. of Mechanical Engineering, San Antonio, TX, April, 2007
- *San Diego State University*, Department of Mechanical Engineering, San Diego, CA, April 2006
- *Michigan State University*, Dept. of Mechanical Engineering, East Lansing, MI, March 2006
- *Texas A&M University*, Dept. of Computer Science, College Station, TX, March 2006
- *Texas A&M University*, Dept. of Mechanical Engineering, College Station, TX, February 2005
- *Oregon State University*, Dept. of Mechanical Engineering, Corvallis, OR, May 2004
- *Purdue University at Indianapolis*, Dept. of Mechanical Engineering, Indianapolis, IN, March 2004
- *Washington University in St. Louis*, Dept. of Civil Engineering, St. Louis, MS, April 2003
- *Clemson University*, Dept. of Mechanical Engineering, Clemson, SC, March 2003
- *University of South Carolina*, Dept. of Mechanical Engineering, Columbia, SC, November 2002
- *Lam Research Corporation*, CMP/Cleaning Division, Fremont, CA, May 2003 and October 2002
- *University of California at Davis*, Dept. of Aeronautical and Mechanical Engineering, Davis, CA, March 2002
- *Boston University*, Dept. of Mechanical and Aerospace Engineering, Boston, MA, March 2002
- *Delphi Automotive Research Center*, Warren, MI, April 2002
- *California PATH Program*, Richmond, CA, March 2002
- *Southern Illinois University*, Dept. of Mechanical Engineering, Edwardsville, IL, November 2001

Student Supervision and Mentoring

- **Current graduate students**

  Merrill Edmonds (Ph.D. student, *MAE, Rutgers*, 2014-), Siyu Chen (Ph.D. student, *MAE, Rutgers*, 2014-), Feng Han (Ph.D. student, *MAE, Rutgers*, 2019-), Yongbin Gong (Ph.D. student, *MAE, Rutgers*, 2016-), Ali Arab (Ph.D. student, *MAE, Rutgers*, 2016-), Kyle Hunte (Ph.D. student, *ECE, Rutgers*, 2018-), Marko Mihalec (Ph.D. student, *MAE, Rutgers*, 2016-)

- **Graduate students alumni/alumna**
  - Fei Liu, Ph.D., *Development of robotic systems for bridge deck inspection and rehabilitation*, *Rutgers University*, May 2019 (Current position: Software engineer, Nvidia Corporation)
  - Kuo Chen, Ph.D., *Learning-based modeling and control of underactuated balancing robots*, *Rutgers University*, January 2019 (Current position: Software engineer, Optimus Ride Inc.)
  - Pengcheng Wang, Ph.D., *Dynamics and control of rider-bikebot systems*, *Rutgers University*, October 2018. (Current position: Research engineer, Innovation Academy for Microsatellite, Chinese Academy of Sciences)
  - Kaiyan Yu, Ph.D., *Motion control, planning and manipulation of nanowires under electric-fields in fluid suspension*, *Rutgers University*, October 2017. (Current position: Assistant Professor, SUNY at Binghamton)
  - Mitja Trkov, Ph.D., *Modeling, sensing, and control of human bipedal walking with foot slip*, *Rutgers University*, May 2016. (Current position: Assistant Professor, Rowan University)
  - Yizhai Zhang, Ph.D., *Modeling and control of single-track vehicles: A human-machine-environment interactions perspective*, *Rutgers University*, Jan. 2014. (Current position: Full Professor, Northwestern Polytechnical University, China)
  - Jingliang Li, Ph.D. (Co-Advise), *Research on technology of integrated ABS/ASR/ACC system for motor vehicles system*, *Beijing Institute of Technology, China*, Oct. 2011. (Current position: CAE engineer, Dongfeng Peugeot Citroen Automobile Company, China)

- Chaoke Guo, M.Eng., *Optimal motion planning and control of a crack filling robot for civil infrastructure automation*, *Rutgers University*, March 2019
- Yongbin Gong, M.Eng., *Coordination control of ground and aerial vehicles*, *Rutgers University*, March 2018
- Shashank Thaker, M.Eng., *Development of tire force sensor systems*, *Rutgers University*, March 2018
- Neil Chheda, M.Eng., *Design of press bend for gas tubes*, *Rutgers University*, April 2017
- Juanjuan Sun, M.Eng., *Vision-based localization for real-time motion control of mobile robots*, *Rutgers University*, December 2016
- Moiz Ezzy, M.S. (MAE), *Design and testing of equipment for non-destructive rehabilitation of bridge deck delaminations*, *Rutgers University*, May 2015
- Pratul K. Singh, M.S. (ECE), *Design of robotic bio-sampler and localization improvement for autonomous underwater gliders*, *Rutgers University*, May 2014
- Joseph O'Connor, M.Eng., *Development of a test setup to study ground-shoe interaction during walking*, *Rutgers University*, December 2013
- Yang Zhang, M.Eng., *Stability boundary generation of vehicle maneuver*, *Rutgers University*, August 2013
- Andrew Lansey, M.Eng., *Bridge repair robotic components: Design and prototyping*, *Rutgers University*, December 2011
- Tim W. Matlack, M.Eng., *Dynamic load analysis on a bicycle pedal*, *Rutgers University*, April 2011
- Siddhant Shah, M.Eng., *Development of "Smart tire" testbed*, *Rutgers University*, April 2010

- **Post-docs/Research associate**
  - Dr. Damoon Soudbakhsh, *Rutgers*, 2011, (First job after postdoc: Research associate, MIT)
  - Dr. Hung M. La, *Rutgers*, 2011-2012, (First job after postdoc: Assistant Professor, University of Nevada, Reno)

- **Visiting scholars/students**

  Mr. J. Yu (*Wuhan University of Technology, China*, 2019-2021); Dr. S. Luo (*Zhenyuan Hospital of Luyi, China*, 2019-2021); Prof. H. Xiang (*Tianjin University of Science and Technology, China*, 2016-2017); Mr. Y. Abe (*Keio University, Japan*, 2016-2017); Prof. Y. Liu (*Tianjin University, China*, 2016-2017); Prof. S. Wu (*China Jiliang University, China*, 2015-2016); Prof. S. Lu (*China Jiliang University, China*, 2015); Prof. Y. Liu (*Harbin Institute of Technology, China*, 2014); Mr. H. Han (*Harbin Institute of Technology, China*, 2013-2015); Mr. B. Cai (*Shanghai Jiaotong University, School of Medicine, China*, 2012-2013); Mr. X. Lu (*Nankai University, China*, 2012-2013); Prof. L. Sun (*Nankai University, China*, 2012-2013); Mr. X. Pei (*Beijing Institute of Technology, China*, 2011-2012); Ms. Jeannete Aguilar (*Universidad Nacional Autónoma de México, Mexico*, 2011-2012); Mr. J. Li (*Beijing Institute of Technology, China*, 2009-2010); Prof. X. Yao (*Xi'an Jiaotong University, China*, 2009-2010)

- **Undergraduate research assistant mentoring**

  J. J. Slade Scholar: J. Ballance (2016-2017), I. Abraham (2013-2014), A. Allen (2010-2012), S. Kumar (2008-2010), S. Indyk Jr. (2009-2010)

  NSF REU students: I. Abraham (2012), A. Allen (2010-2011), G. Azaceta (2011-2012), S. H. Baijnath (2013-), N. Baruh (2010-2011), N. A. Boyko (2011), A. Carretta (2013-2014), Dimitri Duma (2019-), D. Friedeborn (2011), M. Ganesh (2010), C. Garlow (2013), A. Garrison (2008-2009), Gregory Geueke (2018-2019), A. Ho (2013-2014), K. Jian (2012, *Duke University*), B. Kim (2014-2015), A. Kumar (2016-2017), S. Kumar (2009), S. Indyk Jr. (2010), E. Lee (2010), D. Makovkin (2010), D. Meck (2010), S. Mingay (2008-2009), P. Musto (2009), V. Skidelsky (2010-2011), J. Wu (2017-2018)

  Rutgers Project SUPER: Meghan McSpiritt (Spring 2019), Sarah Selim (Spring 2018), Cloie Mungcal (Spring 2017), Dorota Jazwinska (Spring 2016), N. Srouji (Spring 2014), A. Baghel (Spring 2013)

- **Senior design faculty advisor**

  Rutgers University
  - "Autonomous robotic grinder 2.0" (F. R. Guarda, J. Cevallos, I. Dresdner, J. Xiong, and E. Na), *2018/2019*
  - "Autonomous agile bikebot" (H. Agiz, K. Memon, B. Carey, and P. Laskowska), *2018/2019*
  - "GEC: Goose Excrement collector" (N. Elsayed, B. Reyes, N. Sasso, and A. Yong, *ISE Dept.*), *2018*
  - "Autonomous robotic grinder" (J. Dong, C. Guevara, M. Chen, J. Yang, K. Yang, and Y. Lin), *2017/2018*

- "Surgical grasping tool development" (B. Janota, C. Ciummo, M. Joseph, and J. Munning), *2013/2014*
- "Autonomous underwater glider" (I. Abraham, C. Budzan, and G. Blanco), *2013/2014*
- "Autonomous crack filling robot" (C. Garlow, S. Sambamoorthi, S. Chang, J. Gliatto and J. Zuber), *2013/2014*
- "Robotic hand" (G. Azaceta, D. Chiriboga, J. Dahabsu, G. Diaz Colon,and T. Strombers), *2012/2013*
- "Smart chair" (X. Liu, H. Patel, S. Sharma, and I. Turan), *2012/2013*
- "Gyrocycle" (E. Engler, A. Metz, and S. Zdziebkowski), *2011/2012*
- "DiWheel robot" (C. Bulacan, J. Shively, and P. Vasilnak), *2011/2012*
- "Smart bicycle rehabilitation system" (S. Derechailo, D. Makovkin, V. Skidelsky, and D. Szurick), *2010/2011*
- "Human body weight support system" (J. Hanhart, A. Mikita, C. Qiu, and Y. Zheng), *2010/2011*
- "Turnable motorcycle headlight" (A. Gromyko, P. Mathews, H. Patel, and P. Scarcella), *2010/2011*
- "Balance master 2.0" (S. Kumar, C. Dyson, S. Desai, K. Arora, and D. Chin), *2009/2010*
- "Autonomous motorcycle" (A. Garrison, C. Kennedy, J. Eng, and P. Arvey), *2008/2009*
- "Smart tire sensor test bed" (A. Kropilak, E. G. Evdokimoff, J. Burley, P. Musto, and S. Horvath), *2008/2009*

San Diego State University

- "Tire sensor test bed" (S. Kirby, R. Sampson, and E. Corwin), *2007/2008*

- **Dissertation/Thesis/Qualifying exam committee**

Ph.D. students: Y. Ding (*CEE, Rutgers*, 2018), A. Tran (*EIT, University of Technology, Sydney, Australia*, 2018), A. Lebbad (*ME, Villanova University*, 2018), L. Han (*MAE, Chinese University of Hong Kong*, 2018), S. Li (*MAE, Chinese University of Hong Kong*, 2018), H. Yoo (*ECE, Rutgers*, 2017), K. Kodra (*ECE, Rutgers*, 2017), D. Grek (*CEE, Rutgers*, 2017), B. Kim (*ISE, Rutgers*, 2014), J. McGarvey (*ECE, Rutgers*, 2012), S. Sehajpal (*ECE, Rutgers*, 2012), Y. Huang (*ECE, Rutgers*, 2012), Y. Yang (*ECE, Rutgers*, 2012), H. Wang (*MAE, Rutgers*, 2011), M. Klein (*CEE, Rutgers*, 2011), N. Bansal (*ECE, Rutgers*, 2011), M. Skataric (*ECE, Rutgers*, 2011,2014), G.-H. Park (*ECE, Rutgers*, 2010)

M.S. students: Y. Zhang (*MAE, Rutgers*, 2011), K. Xu (*MAE, Rutgers*, 2010), A. Mathers (*ME, SDSU*, 2007)

UNIVERSITY/DEPARTMENTAL SERVICES

- *Institute of Marine and Coastal Sciences (IMCS), Rutgers University*
  - Faculty Search Committee (2012)
- *School of Engineering (SOE), Rutgers University*
  - SOE Control/Robotics Seminar series coordinator (2010/2011, 2011/2012)
  - SAE Formula Racing Team faculty advisor (2012-present)
- *Department of Mechanical and Aerospace Engineering, Rutgers University*
  - Faculty search committee (2014-2016)
  - Curriculum & Course Study Committee (2011)
  - Accreditation Committee (2011,2016)
  - Infrastructure Development Committee (2011,)
  - Experimental Lab Committee (2008-2010, 2016)
  - Graduate Study Committee (2008/2009, 2010/2011)
  - Faculty secretary (2008/2009)