Miao Li

Associate Professor
The Institute of Technological Sciences
School of Microelectronics
Wuhan University, China
miao.li@whu.edu.cn •(086)180-8601-4539
https://miaoli.github.io/

Research Interests

My research interests are in robotics, machine learning and applied nonlinear control. They encompass **robot learning and control, dexterous grasping and manipulation, human-robot interaction, robotic hands and tactile sensing, and neuroscience**. I am particularly interested in finding the deep connections between the dynamics of intelligent systems and the advanced learning algorithms (learning from demonstrations or from optimizations), which enables adaptive, efficient and robust control design for complex systems with applications to medical robots and advanced manufacturing. The goal of my research is to enable robots to perform skills with the level of dexterity and flexibility as (beyond) humans.

Education

2011-2015.12	Ph.D, École Polytechnique Fédérale de Lausanne (EPFL), Switzerland. *Thesis*:**Dynamic grasp adaptation-from humans to robots**. (**ABB Award, EPFL**) Supervisor: Prof. Aude Billard Jury member: Alberto Rodriguez (MIT), Kenji Tahara (Kyushu University), Jose del R. Millan (EPFL), Jamie Paik (EPFL).
2008-2011	M.S. ME, Huazhong University of Science and Technology, China *Thesis:* Grasping force distribution and its uncertainty analysis.
2004-2008	B.S. ME, Huazhong University of Science and Technology, China *Thesis:* A compliant end-effector for robot polishing.

Professional Experience

2021 - now	Associate Professor, Wuhan University, The Institute of Technological Sciences, China
2021 - now	Associate Professor, Wuhan University, School of Microelectronics, China
2021 - 2025	Academia Professor, HONG YI HONOR COLLEGE of Wuhan University, China
Dec 2021 - Nov 2023	Alumni Mentor of School of Mechanical Science and Engineering, HUST, China
2017-2020	Assistant Professor, Wuhan University, School of Power and Mechanical Engineering, China
Jan 2017	Visiting Researcher Human-Centered Robotics Laboratory (Prof. Kenji Tahara), Kyushu University, Japan
2016	Postdoctoral fellow at LASA, EPFL

2013-2015	Lecturer for Robotic Practicals (Master Course), EPFL *Topic:* Teaching robots to accomplish a manipulation task
2011-2015	Research Assistant at LASA, EPFL, working on EU project RoboHow *Topic:* Planning, control and learning on robotic grasping and manipulation
20010-2011	Researcher on National Basic Research Program of China (973 Program) – Large-scale heavy component stable clamping principle and its driven strategy *Topic:* Actuator force analysis for a heavy-duty manipulator in forging * Fixture layout design for industrial workpiece * Grasping force optimization
June 2008	Research Intern, HUAHENG WELDING, China *Topic:* Stiffness identification and calibration for an industrial robot * Developed a joint stiffness identification method for the FANUC painting robot

Award

2023	Finalist of Best Paper Award, IEEE-RCAR 2023.
2023	Finalist of Best Paper Award, IEEE-ICIRA 2023.
2023	Outstanding Young Teacher, Wuhan University. (20 persons per year)
2022	Invention Innovation Award, China Association of Inventions, Second Prize. (Tele-operated Ultrasound Robots)
2022	Finalist of Best Paper Award, IEEE-CYBER 2022.
2022	ICRA 2022: Open Cloud Robot Table Organization Challenge (OCRTOC), Team: Wuhan & Chalmers, Rank: 4th, PyBullet Track: 1st
2022	Industry-Academia-Research Craftsman Spirit Award, China, 2022
2021	Finalist of T. J. Tarn Best Paper Award, ROBIO 2021.
2021	Robot Innovation Design Competition for Chinese Graduate, Second Prize. (Ultrasound Robots)
2020	Innovation and Entrepreneurship Talents Award, China. (10 persons in China per year)
2020	Hundred-Talent Program Award, Hubei Province.
2020	China Railway Construction Science and Technology Award, First Prize.
2019	Hubei May 1st labor medal, Hubei Province.
2018	Best Paper Award, The 11th International Workshop on Human-Friendly Robotics.
2018	Internet Innovation and Entrepreneurship Competition, Golden Award, China.
2018	ABB Award 2018, EPFL, Switzerland.
2016	Finalist of T. J. Tarn Best Paper Award, ROBIO 2016.
2016	IROS Competition on Grasping and Manipulation, Team: Dorabot & Cobot, Autonomous Track: 2nd, Simulation Track: 2nd.

2016	3551 Talent Program Award, Wuhan, China.
2015	PhD thesis, nominated for EPFL thesis prize and ABB automation award.
2010	Excellent Master Paper Award, HUST.
2008	Scholarship for Distinguished Graduate Student, HUST.
2008	Outstanding Graduation of HUST.
2005, 2006	Scholarship for Distinguished Students.

Publications(Google Scholar)

Journal Articles

1 J. Jiang, Z. Fu, **M. Li**, Enhancing Robotic Grasping Ability through Deep Shape Generation, submitted to *Science China-Information Science*, 2023.

2 Y. Gong, **M. Li**, C. Sheng, S. Wang, S. Liu, Structural health monitoring of smart cantilever beam combining theory and simulation, submitted to Structural Health Monitoring, 2023.

3 M. Li, C. Huang, F. Zhao, M. Li, Y. Li, S. Liu, **M. Li**, Learning Auto-navigation Skills for Miniature Helical Robots from Human Demonstrations, submitted to *Robots and Automation Letter*, 2023.

4 X. Deng, J. Jiang, W. Cheng, C. Yang, **M. Li**, Learning Autonomous Ultrasound through Latent Representation and Skills Adaptation, submitted to *IEEE Transactions on Cybernectics*, 2023.

5 J. Lin, R. Xiao, **M. Li**, X. Xiao, Z. Guo, A Bioinspired Bidirectional Stiffening Soft Actuator for Multimodal, Compliant, and Robust Grasping, submitted to *Soft Robotics*, 2023.

6 C. Li, R. Huang, J. Liu, S. Wang, **M. Li** and F. Chen, Whole-Body Impedance Control of a Humanoid Robot Based on Human-Human Demonstration for Human-Robot Collaboration, submitted to *IEEE Transactions on Mechatronics*, 2023.

7 Y. Zhuang, B. Wang, J. Huai, **M. Li**, 4D iRIOM: 4D Imaging Radar Inertial Odometry and Mapping, *Robots and Automation Letter*, 2023.

8 X. Lei, Z. Fu, J. Pan, S. Emmanouil, **M. Li** and X. Chen, IHUVS: Infinite Homography-Based Uncalibrated Methodology for Robotic Visual Servoing, *IEEE Transactions on Industrial Electronics*, 2023.

9 Q. Li, Y. Zhuang, Y. Chen, J. Huai, **Miao Li**, T. Ma, Y. Xu, Y. Tang, X. Liang, 3D-SeqMOS: A Sequential 3D Moving Object Segmentation Neural Network in Autonomous Driving, submitted to *IEEE Transactions on Neural Networks and Learning Systems*, 2022.

10 Z. Lei, X. Deng, Y. Wang, X. Xiao, D. Han, Fei Chen, **Miao Li**, A biomimetic tactile palm for robotic object manipulation, *Robots and Automation Letter*, 2022.

11 W. Qian, J. Liao, L. Ai, L. Lu, **Miao Li**, X. Xiao, Z. Guo, CURER: A Lightweight Cable-driven Compliant Upper-limb Rehabilitation Exoskeleton Robot, *IEEE Transactions on Mechatronics*, 2022.

12 J. Pan, Z. Fu, H. Yue, X. Lei, **Miao Li**, X. Chen, Towards Simultaneous Coordinate Calibrations of AX=YB Problem by the LMI-SDP Optimization, *IEEE Transactions on Automation Science and Engineering*, 2022.

13 Darong Huang, Chenguang Yang, **Miao Li**, Yanan Li, Motion Regulation for Single-Leader-Dual-Follower Teleoperation in Deformable Objects Manipulation, *IEEE Transactions on Industrial Informatics*, 2022.

14 J. Liu, Y. Chen, Z. Dong, S. Wang, S. Calinon, **M. Li**, F. Chen, Robot Cooking with Stir-fry: Bimanual Non-prehensile Manipulation of Semi-fluid Objects, *Robots and Automation Letter*, 2022. (Featured by TechXplore)

15 Z. Lu, N. Wang, **M. Li** and C. Yang, Incremental Motor Skill Learning and Generalization from Human Dynamic Reactions based on Dynamic Movement Primitives and Fuzzy Logic System, *Transactions on Fuzzy Systems*, 2021.

16 X. Gao, J. Silvério, S. Calinon, **M. Li** and X. Xiao, Bilateral teleoperation with object-adaptive mapping, Complex & Intelligent Systems, 2021.

17 X. Deng, Z. Lei, Y. Wang, W. Cheng, C. Yang and **M. Li**, Learning Ultrasound Scanning Skills from Human Demonstrations, *Science China Information Sciences*, 2021.

18 Y. Zhang, **M. Li** and C. Yang, Robot learning system based on Dynamic Movement Primitives and Neural Network, *Neurocomputing*, 2021.

19 X. Gao, J. Silvério, E. Pignat, S. Calinon, **M. Li** and X. Xiao, Motion Mappings for Continuous Bilateral Teleoperation, *Robots and Automation Letter*, 2021.

20 Z. Deng, **M. Li**, Learning Optimal Fin-ray Finger Design for Soft Grasping, *Frontier in Robotics and AI*, 2021.

21 Y. Lee, S. Zhang, **M. Li**, and X. He, Blind Inverse Gamma Correction with Maximized Differential Entropy, Signal Processing, 2021.

22 Z. Fu, J. Pan, Emmanouil Spyrakos-Papastavridis, X. Chen and **M. Li**, A Dual Quaternion-based Approach for Coordinate Calibration of Dual Robots in Collaborative Motion, *Robots and Automation Letter*, 2020.

23 J. Zhang, **M. Li**, Y. Feng, and C. Yang, Robotic Grasp Detection based on Image Processing and Random Forest, *Multimedia Tools and Applications*, 2020.

24 X. Gao, J. Ling, X. Xiao and **M. Li**, Learning Force-relevant Skills from Human Demonstration, *Complexity*, 2019. https://doi.org/10.1155/2019/5262859

25 C. Yang, J. Luo, C. Lin, **M. Li** and S. Dai, A Haptics-Electromyogrphy Perception and Learning Enhanced Intelligence for Teleoperated Robot, *IEEE Transactions on Automation Science and Engineering*, 2018.

26 Andrea Maria Zanchettin, Elizabeth Croft, Hao Ding, and **Miao Li**, Collaborative robots in the workplace, *IEEE Robotics and Automation Magazine*, 2018.

27 **M. Li**, K. Tahara and A. Billard, Learning task manifold for constrained object manipulation, *Autonomous Robots*, 2017, DOI: 10.1007/s10514-017-9643-z.

28 K. Hang **M. Li**, J. A. Stork, Y. Bekiroglu, F. T. Pokorny, A. Billard and D. Kragic. Hierarchical fingertip space: a unified framework for grasp planning and in-hand grasp adaptation. *IEEE Transactions on Robotics*, 32(4), 960-972, 2016. **Selected for oral presentation (15 papers per year) at IEEE ICRA, Singapore, 2017**

29 **M. Li**, K. Hang, D. Kragic, A. Billard. Dexterous grasping under shape uncertainty. *Robotics and Autonomous Systems*, 2015.

30 B. Huang, **M. Li**, R. D. Souza, J. J. Bryson and A. Billard. A modular approach to learning manipulation strategies from human demonstration. *Autonomous Robots*, 2015.

31 S. El-Khoury, **M. Li**, A. Billard. On the generation of a variety of grasps. *Robotics and Autonomous Systems*, 61(12), 1335-1349, 2013.

32 **M. Li**, W. Yang, X. Zhang. Robust actuator force analysis of a heavy-duty manipulator using GMM/GMR. *International Journal of Robotics and Automation*, 28(4), 349-356, 2013.

Conference Proceedings

1 Mengde Li, Fuqiang Zhao, Xiangli Li, Mingchang Li, Sheng Liu, **M. Li**, Design and Fabrication of a Novel Miniature Magnetic Gripper, submitted to ICRA 2024.

2 Yuanyuan He, Weihong Pan, Ruijia Zhang, **M. Li**, Towards Understanding Of Human Cervical Spine With EMG Signal, submitted to ICRA 2024.

3 Bolei Chen, Yongzheng Cui, Haonan Yang, Ping Zhong, Sheng Yu, **M. Li**, Jianxin Wang, SHOTS: Semantic-Heuristic Object Target Search with Object Belief Field and Flexible Vision, submitted to ICRA 2024.

4 Jicheng Tang, Yuxin Shao, Yuan Zhuang, **M. Li** and Jianzhu Huai, Efficient 2D Motion Planning by using Local Octomaps, submitted to ICMRA 2023.

5 F. Zhao, B. Huang, M. Li, Z. Fu, Z. Lei, **M. Li**, A novel tactile palm for robotic object manipulation, ICIRA 2023 (accepted). **Finalist of Best Paper Award**

6 F. Zhao, B. Huang, M. Li, Z. Fu, **M. Li**, Fast Calibration for Ultrasound Imaging Guidance based on Depth Camera, ICIRA 2023.

7 Y. Tu, J. Jiang, S. Li, N. Hendrich, **M. Li**, J. Zhang, PoseFusion: Robust Object-in-Hand Pose Estimation with SelectRNN, IROS 2023.

8 X. Lei, Z. Fu, X. Chen, C. Zhang, **M. Li**, T. Huang, Homography Matrix Based Trajectory Planning Methodology for Robot Uncalibrated Visual Servoing, RCAR 2023. **Finalist of Best Paper Award**

9 Y. Chen, J. Jiang, R. Lei, Y. Bekiroglu, F. Chen, **M. Li**, GraspAda: Deep Grasp Adaptation through Domain Transfer, ICRA 2023.

10 Z. Lei, X. Deng, Y. Wang, X. Xiao, D. Han, Fei Chen, **Miao Li**, A biomimetic tactile palm for robotic object manipulation, *Humanoids* 2022.

11 Zheng Sun, Zhiqi Wang, Junjia Liu, **M. Li**, Fei Chen Mixline: A Hybrid Reinforcement Learning Framework for Long-Horizon Bimanual Coffee Stirring Task, ICIRA 2022.

12 Junnan Jiang, Xiaohui Xiao, Fei Chen, **M. Li**, Learning Grasp Ability Enhancement Through Deep Shape Generation, ICIRA 2022.

13 Z. Li, S. Zheng, Z. Dong, **M. Li** and F. Chen, Robot Learning to Search Objects in Cluttered Environments Using Maximum Information-based Method, IEEE Cyber 2022. **Finalist of Best Paper Award**

14 Z. Lu, N. Wang, **M. Li**, C. Yang, A Novel Approach to Dynamic Movement Primitives-based Multi-tools Using Skills Learning, ICCA 2022.

15 Yi Wang, Yuyang Tu, Yuchen He, Xutian Deng, Ziwei Lei, Jianwei Zhang and **M. Li**, Learning Friction Model for Magnet-actuated Tethered Capsule Robot, ICRA 2022.

16 Xutian Deng, Yiting Chen, Fei Chen and **M. Li**, Learning Robotic Ultrasound Scanning Skills via Human Demonstration and Guided Exploration, ROBIO 2021. **Finalist of T. J. Tarn Best Paper**

17 Yi Wang, Yuchen He, Xutian Deng, Ziwei Lei, Yiting Chen and **M. Li**, Learning Friction Model for Tethered Capsule Robot, ICRAE 2021.

18 Y. Chen, C. Yang, **M. Li** and S. Dai, Learning to Predict Action Based on B-ultrasound Image Information, The 6th IEEE International Conference on Advanced Robotics and Mechatronics (ICARM), 2021.

19 Y. Chen, C. Yang and **M. Li**, Sim-to-Real:Unknown Object Segmentation by Domain Adaptation in a Bin-picking Scenario, ICoIAS 2021.

20 J. Xiong, Z. Fu, **M. Li**, Z. Gao, X. Zhang and X. Chen, Trajectory-Smooth Optimization and Simulation of Dual-Robot Collaborative Welding, In *International conference on Intelligent Robotics and Applications (ICIRA)*, 2021.

21 J. Zhang, **M. Li** and C. Yang, Robotic grasp detection using effective graspable feature selection and precise classification, In *International Joint Conference on Neural Networks (IJCNN)*, 2020.

22 D. Carter-Davies, J. Chen, F. Chen, **M. Li** and C. Yang, Mechatronic design and control of a 3D printed low cost robotic upper limb, In *The 11th International Workshop on Human-Friendly Robotics*, 2018. **Best Paper Award**

23 J. Zhang, C. Yang, **M. Li** and Y. Feng, Grasping novel objects with real-time obstacle avoidance,In *International Conference on Social Robotics (ICSR)*, 2018.

24 Y. Liu, S. Zhang, X. Xiao, and **M. Li**, A Robotized data collection approach for convolutional neural networks. In *International conference on Intelligent Robotics and Applications (ICIRA)*, 2017.

25 **M. Li**, Learning partial power grasp with task-specific contact, *IEEE International Conference on Robotics and Biomimetics (ROBIO)*, 2016. **Finalist of T. J. Tarn Best Paper**

26 K. Hang, J.A. Haustein, **M. Li**, A. Billard, C. Smith and D. Kragic, On the evolution of fingertip grasping manifolds, In *IEEE International Conference on Robotics and Automation (ICRA)*, 2016.

27 **M. Li**, Y. Bekiroglu, D. Kragic, A. Billard. Learning of grasp adaptation through experience and tactile sensing. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2014.

28 **M. Li**, H. Yin, K. Tahara, A. Billard. Learning object-level impedance control for robust grasping and dexterous manipulation. In *IEEE International Conference on Robotics and Automation (ICRA)*, 2014.

29 N. Sommer, **M. Li**, A. Billard. Bimanual compliant tactile exploration for grasping unknown objects. In *IEEE International Conference on Robotics and Automation (ICRA)*, 2014.

30 B. Huang, S. El-Khoury, **M. Li**, J. J Bryson, A. Billard. Learning a real time grasping strategy. In *IEEE International Conference on Robotics and Automation (ICRA)*, 2013.

31 S. El Khoury, **M. Li**, A. Billard. Bridging the gap: one shot grasp synthesis approach. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2012.

32 **M. Li**, W. Yang, X. Zhang. Analysis of indeterminate force in multi-contact friction grasp based on potential energy minimization. In *International Conference on Modelling, Identification and Control (ICMIC)*, 2010.

33 W. Yang, **M. Li**, X. Zhang. Robust robotic grasping force optimization with uncertainty. In *International conference on Intelligent Robotics and Applications (ICIRA)*, 2010.

34 **M. Li**, W. Yang, X. Zhang. Projection on convex set and its application in testing force closure properties of robotic grasping. In *International conference on Intelligent Robotics and Applications (ICIRA)*, 2010.

35 X. Zhang, W. Yang, **M. Li**. An uncertainty approach for fixture layout optimization using Monte Carlo method. In *International conference on Intelligent Robotics and Applications (ICIRA)*, 2010.

36 X. Zhang, W. Yang, **M. Li**. Fixture layout and clamping force optimization for large-scale workpiece using augmented Lagrangian method. Applied Mechanics and Materials, page 560-565, 2010.

Edited Book

1 **M. Li**, X. Deng, Learning robotic ultrasound skills from human demonstrations, Cognitive Robotics, IntechOpen, 2022.

Workshop

1 X. Deng, J. Jiang, **M. Li**, Learning Autonomous Ultrasound via Latent Task Representation and Robotic Skills Adaptation, workshop on Interdisciplinary Exploration of Generalizable Manipulation Policy Learning:Paradigms and Debates, RSS 2023.

2 Y. Zhou, **M. Li**, A. Billard, Learning to organise objects in cluttered environments, Workshop on Dynamic Locomotion and Manipulation With Complex Robotic Systems in the Real World, 2016.

3 K. Hang, **M. Li**, J. A Stork, Y. Bekiroglu, A. Billard, D. Kragic. Hierarchical fingertip space for synthesizing adaptable fingertip grasps. *Autonomous Grasping and Manipulation: An Open Challenge.* ICRA, 2014.

4 **M. Li**, S. El Khoury, A. Billard. Synergy-level grasp synthesis learning. *Hand synergies - how to tame the complexity of grasping.* ICRA, 2013.

Organized Workshops

1 Multi-Object Grasping: Progress and Prospects, ICRA 2014, submitted (Kunpeng Yao, **Miao Li**, Weiwei Wan, Aude Billard)

2 Bimanual Manipulation: On Kitchen Challenges, ICRA 2024, submitted (Tao Teng, Fei Chen, **Miao Li**, Sylvain Calinon, Yi Guo)

3 The role of uncertainty and how it is tackled in robotic grasping and manipulation, IROS 2022 (Yasemin Bekiroglu, Marc Deisenroth, Dimitrios Kanoulas, Florian Pokorny, **Miao Li**, Lorenzo Jamone, Roberto Calandra)

4 Bimanual Manipulation: Addressing Real-World Challenges, workshop at ICRA, USA, 2022 (Fei Chen, **Miao Li**, Sylvain Calinon, Nadia Figueroa and Jihong Zhu)

5 Bridging the Gap between Data-driven and Analytical Physics-based Grasping and Manipulation II, workshop at ICRA, China, 2021 (Yasemin Bekiroglu, Naresh Marturi, Marc Peter Deisenroth, Yiannis Karayiannidis, **Miao Li**, Florian T. Pokorny, Robert Platt)

6 Bimanual manipulation: learning, planning and control, workshop at ICRA, China, 2021 (Fei Chen, **Miao Li**, Sylvain Calinon, Huan Tan, Yasuhisa Hasegawa, Yunhui Liu)

7 Examining Sensing Modalities for Robust and Dexterous Object Manipulation, workshop at IROS, Spain, 2018 (Kaiyu Hang, Hao Ding, **Miao Li**, Danica Kragic, Aaron Dollar)

8 Sensor-Based Object Manipulation for Collaborative Assembly, workshop at ICRA, Singapore, 2017 (**Miao Li**, Hao Ding, Qiang Li, Zhaopeng Chen).

9 Closed-loop Grasping and Manipulation: Challenges and Progress, workshop at IROS, Korea, 2016 (Yasemin Bekiroglu, **Miao Li**, Robert Krug, Florian Pokorny, Aude Billard).

10 The 1st Collaborative Robots Workshop, Guangzhou, China, August, 2016.

Invited Talks

1 Robust Robotic Grasping - From Hundreds to Millions, Workshop of robotics and AI for future factory, Detroit, IROS, 2023.

2 Deep Imitation Learning for Robust Grasping and Manipulation, 2023 Intel China Academic Excellence Program, Shenzhen, Hosted by Dr. Yimin Zhang, 2023.

3 Deep Imitation Learning for Robust Grasping and Manipulation, Hubei University of Arts and Science, Hubei, Hosted by Prof. Zhongren Wang, 2023.

4 Deep Imitation Learning for Robust Grasping and Manipulation, The Chinese University of Hong Kong, Shenzhen, 2022.

5 Deep Imitation Learning for Robust Grasping and Manipulation, Fudan University, 2022.

6 Robot Learning for Robust Grasping and Manipulation, HIT, 2022.

7 Robot Learning for Robust Grasping and Manipulation, Wuhan University, 2021.

8 Lesson Learned from Robotic Grasping - More is Different, Workshop of Manipulation through Contact, Macau, IROS, 2019.

9 Robotic Vision - From Research to Application, Hubei University of Arts and Science, Hubei, Hosted by Prof. Zhongren Wang, 2019.

10 Lesson Learned from Robotic Grasping - More is Different, Southern University of Science and Technology, Shenzhen, May, 2019.

11 Collaborative Robots - From Hand, Arm to Brain, Tsinghua University, Beijing, Nov. 2018.

12 Robotics and AI: Opportunities and Challenges, Wuhan University of Technology, Wuhan, Hosted by Prof. Kui Xiang, Oct. 2018.

13 Future Challenges of Robotic Grasping - More is Different!, LASA, EPFL, Lausanne, Switzerland, 2018.

14 Collaborative Robots - From Hand, Arm to Brain, China Mechanical Engineering Forum, Xiangtan, 2018.

15 Collaborative Automation for Flexible Manufacturing, Siemens-Tsinghua Qingdao Innovation Forum, Qingdao, 2018.

16 Machine Intelligence in Manufacturing, China University of Geosciences, Wuhan, 2018.

17 Learning Force-dominant Skills from Human Demonstrations, South China University of Technology, Hosted by Prof. Chenguang Yang, 2018.

18 Close the Loop for Robotic Grasping with Learning-based Approach, Cross Modal Learning summer school at Hamburg University, Germany, Aug. 2017.

19 Bridge The Gap - From Humans To Robots, **keynote speaker** at the 49th International Symposium on Robotics (ISR), Shanghai, 2017

20 Dynamic Grasp Adaptation - From Humans To Robots, Tsinghua University, Beijing, Oct. 2016

21 Machine Intelligence in Manufacturing, Wuhan University of Science and Technology, Host by Huasong Min, Wuhan, Oct. 2016

22 Sensor-Based Object Manipulation for Collaborative Applications, workshop of Safety-Related Sensing for Collaborative Applications, Korea, IROS 2016

23 Dynamic Grasp Adaptation - From Humans To Robots, Hebei University of Technology, Tianjin, Oct. 2016

24 Next Generation Robots - Advance and Challenges, Hubei Robot Innovation Forum, Wuhan, Sept. 2016

25 Dynamic Grasp Adaptation - From Humans To Robots, Wuhan University, Wuhan, Sept. 2016

26 Collaborative Robots and Flexible Manufacturing, Huawei Automation Department, Dongguan, August 2016

27 A Learning-Based Approach for Dynamic Grasp Adaptation, workshop on Robotic Hand Technologies and Performance Benchmarking, organized by NIST, CASE, USA, August 2016

28 Dynamic Grasp Adaptation with Simulated Database and Human-guided Demonstration, The 1st China-Germany Robotics Forum, Bad Herrenalb, Germany, 2016

29 Sensor-based Object Manipulation for Collaborative Tasks – Design, Control and Learning, The 1st Collaborative Robots Workshop, Guangzhou, China, August 2016.

30 Robotic Grasping and Manipulation in Human-centered Environments, Huazhong University of Science and Technology, China, December, 2015.

31 Vision and Haptic-Guided Fine Manipulation of Objects, Bath University, UK, July, 2014.

32 Vision and Haptic-Guided Fine Manipulation of Objects, workshop of the British Machine Vision Association (BMVA) on Vision for Language and Manipulation, UK, July, 2014.

Professional Service

Session Chair of ICIRA 2023

Technical Program Committee of Grand Challenge 2021 Indoor Robot Learning.

Technical Program Committee of International Conference on Intelligent Autonomous Systems(ICoIAS) 2021, 2022, 2023.

Technical Program Committee of IEEE ROBIO 2021.

Co-Chair of Technical Program Committee - ICRAE & ICRAI 2021.

Founding Co-Chair of IEEE Technical Committee - Collaborative Automation for Flexible Manufacturing. (Hao Ding, Chengguang Yang, Andrea Maria Zanchettin, **Miao Li**, Julie Shah)

Editor

1 Associate Editor for Robotics and Automation Letter, starting from 2022.

2 Guest Editor for Focused Session on IEEE/ASME TRANSACTIONS ON MECHATRONICS (TMECH)(Design, Modeling, Learning and Control for Bimanual Manipulation Mechatronics), 2022.

3 Guest Editor for Special Issue on Robotics and Automation Letter (Learning and Control for Robot Compliant Manipulation with Human in the Loop), 2021.

4 Associate Editor for Ubiquitous Robots (UR 2020, 2021, 2022, 2023)

5 Associate Editor for ICRA 2020, 2021, 2023, 2024

6 Topic Editor for Research Topic on Bridging the Gap Between Data-Driven and Analytical Physics-Based Grasping and Manipulation, Frontiers in Robotics and AI, 2021.

7 Guest Editor for Special Issue on Robotics & Automation Magazine, 2017.

8 Guest Editor for International Journal of Robotics, 2017.

Reviewer and Program Committee
Science Robotics, Advanced Intelligent Systems, IEEE Transactions on Robotics, IEEE Transactions on Automation Science and Engineering, IEEE Transactions on Systems, Man and Cybernetics: Systems, IEEE Transactions on Cognitive and Developmental Systems, Microsystems & Nanoengineering, Autonomous Robots, Transactions on Mechatronics, Robotics and Autonomous Systems, Journal of Mechanisms and Robotics, Industrial Robot, Robotica, International Journal of Intelligent Robotics and Applications, RSS, ICRA, RAL, IROS, CoRL, ISRR, Humanoids, Ubiquitous Robot, International Journal of Humanoid Robots, IEEE Sensors Journal, Journal of Intelligent and Robotic Systems, International Journal of Advanced Robotic Systems, Journal of Robotics, Information Science.

Teaching Courses
Introduction to Robotics, Design and Manufacturing, Mechatronics, Advanced Robotics, Self-driving Cars, Robotic Practicals.

Membership
IEEE Senior Member, IEEE RAS Technical Committee of Robot Hand, Grasping and Manipulation, Committee of Robots in China (CMES), China Computer Federation (CCF).

References

Aude Billard, professor at EPFL, Switzerland, Email: aude.billard@epfl.ch
— Supervisor of my PhD thesis

Jianwei Zhang, professor at Department of Informatics, University of Hamburg, Email: zhang@informatik.uni-hamburg.de
— Supervisor on transferring robotics technology from academia to real-world problems

Kenji Tahara, professor at Kyushu University, Japan, Email: tahara@mech.kyushu-u.ac.jp
— Long-term collaboration on design and control of robotic hands