

Curriculum Vitae

Michael Yu Wang, PhD

ASME Fellow, HKIE Fellow, IEEE Fellow

Professor

Department of Mechanical & Aerospace Engineering, and

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Editor-in-Chief (2016-2021)

IEEE Trans. on Automation Science and Engineering, IEEE

<http://www.ieee-ras.org/publications/t-ase>

1. PERSONAL INFORMATION

Education:

Ph.D. May 1989

Carnegie Mellon University, Pittsburgh, Pennsylvania, USA

Mechanical Engineering

Dissertation: Dynamic Analysis and Simulation of Mechanical Systems with Intermittent Constraints

(Advisors: Professor M.T. Mason and Professor F.B. Prinz)

M.E. May 1985

Pennsylvania State University, University Park, Pennsylvania, USA

Engineering Mechanics (Advisor: Professor V.K. Varadan)

B.S. July 1982

Xi'an Jiaotong University, Xi'an, China

Mechanical and Manufacturing Engineering

Employment:

12/2015 –

Professor

Department of Mechanical & Aerospace Engineering, and

Department of Electronic & Computer Engineering

Founding Director, HKUST Robotics Institute

Hong Kong University of Science and Technology

08/2014 – 11/2015

Professor

Department of Mechanical Engineering

National University of Singapore

07/2000 – 07/2014

Professor/Associate Professor

Department of Mechanical & Automation Engineering

The Chinese University of Hong Kong

08/1995 – 06/2000

Associate Professor/Assistant Professor

Department of Mechanical Engineering

University of Maryland, College Park, Maryland, USA

08/1997 – 06/2000

Affiliated Faculty Member

Institute for Systems Research

University of Maryland, College Park, Maryland, USA

08/1990 – 07/1995

Assistant Professor

Department of Mechanical Engineering

06/1989 – 07/1990	University of Maryland Baltimore County, Baltimore, MD, USA Research Scientist, joint appointment at the Engineering Design Research Center of Carnegie Mellon University and Concurrent Engineering Research Center of West Virginia University, USA
01/1985 – 05/1989	Research Assistant Robotics Institute & Department of Mechanical Engineering Carnegie Mellon University, USA

Visiting Positions:

01/2017 – 08/2017	Eminent Visiting Professor Faculty of Science (FOS), Universiti Brunei Darussalam
11/2011 – 12/2011	Distinguished Visiting Scholar University of Technology Sydney, Australia
11/2010 – 12/2010	Professorial Visiting Fellow School of Civil and Environmental Engineering University of New South Wales, Australia
01/2010 – 12/2014	National “Thousand Talents” Distinguished Professor School of Mechanical Engineering Xi’an Jiaotong University, China
07/1999 – 06/2000	Visiting Associate Professor Department of Automation & Computer-Aided Engineering The Chinese University of Hong Kong
01/2008 – 12/2009	Distinguished Overseas Professor Shenyang Institute of Automation, Chinese Academy of Sciences, China
12/2006 – 12/2006	Visiting Professor Department of Mechanical Engineering National University of Singapore, Singapore
09/2006 – 08/2010	Adjunct Professor Shenzhen Graduate School Harbin Institute of Technology, China
03/2005 – 12/2009	Chang Jiang (Cheung Kong) Chair Professor Huazhong University of Science and Technology, China
07/2005 – 08/2005	Overseas Visiting Scholar School of Mechanical Engineering Shanghai Jiaotong University, China
12/2003 – 01/2004	A*STAR OAP Fellow School of Mechanical and Production Engineering Nanyang Technological University, Singapore
07/2003 – 08/2003	Visiting Scholar Department of Mechanical Engineering Stanford University, USA

Adjunct/Guest Positions:

Adjunct Professor, Chinese University of Hong Kong (2014-2016)
 Adjunct Faculty, Engineering Design Research Center, Carnegie Mellon University (1990-1993)
 Adjunct Professor, Xi’an Jiaotong University, China (1999-2003)
 Adjunct Professor, Dalian University of Technology, China (2002-2005)
 Adjunct Professor, South China University of Technology, China (2005-2007)
 Adjunct Professor, Shenyang Institute of Automation, Chinese Academy of Sciences, China (2007-2009)
 Guest Professor, Shanghai Jiaotong University, China (2002-2005)
 Guest Professor, Huazhong University of Science and Technology, China (2001-2005)
 Guest Professor, Xi’an Jiaotong University, China (2008-2009)

Awards and Distinctions:

- 2013 **ASME Design Automation Award**
American Society of Mechanical Engineers (ASME)
(To recognize sustained meritorious contribution to research in Design Automation)
- 2012 **China State Natural Science Prize (Class II)** (with H. Ding, X.Y. Zhu, Z.P. Ying, and L.M. Zhu)
The Ministry of Science and Technology, China
- 2009 **Best Paper Award in Information** (with P. Song and X.J. Wu)
IEEE International Conference on Information and Automation, Zhuhai/Macau, China
- 2008 **Research Excellence Award**
The Chinese University of Hong Kong
- 2008 **Distinguished Overseas Scholar**
Chinese Academy of Sciences, China
- 2007 **Compliant Mechanisms Theory Award** (with S.K. Chen)
ASME 31st Mechanisms and Robotics Conference, Las Vegas, USA
- 2007 **Best Conference Paper Award** (with X. J. Wu and W. J. Liu)
2007 International CAD Conference & Exhibition (CAD'07), Honolulu, USA
- 2007 **Distinguished Alumnus**
School of Mechanical Engineering, Xi'an Jiaotong University, Xi'an, China
- 2007 **Fellow**
Institute of Electrical and Electronics Engineers (IEEE)
- 2006 **Distinguished Lecturer**
IEEE Robotics and Automation Society (2006-2007, 2008-2010)
- 2006 **Fellow**
Hong Kong Institution of Engineers (HKIE)
- 2005 **Fellow**
American Society of Mechanical Engineers (ASME)
- 2005 **Lindbergh Lecturer**
College of Engineering, University of Wisconsin, Madison
- 2004 **Chang Jiang (Cheung Kong) Scholar**
The Ministry of Education (China) and Li Ka Shing Foundation (Hong Kong)
- 2004 **The Science and Technology Development Prize (Class II)**
The Ministry of Education, China
- 2002 **Distinguished Young Investigator Award**
The Natural Science Foundation, China (NSFC)
- 2001 **The Kayamori Best Paper Award** (with D. Pelinescu)
2001 IEEE International Conference on Robotics and Automation, Seoul, Korea
- 1998 **The Boeing-A.D. Welliver Faculty Summer Fellowship**
The Boeing Company, USA
- 1995 **LaRoux K. Gillespie Outstanding Young Manufacturing Engineer Award**
Society of Manufacturing Engineers (SME), USA
- 1994 **Ralph R. Teetor Educational Award**
Society of Automotive Engineers (SAE), USA
- 1993 **Research Initiation Award**
National Science Foundation, USA
- 1983 **The World-Bank Scholarship for Advanced Education Overseas**
The Ministry of Education, China
- 1982 **Graduate with University Honors**
Xi'an Jiaotong University, Xi'an, China

Major Professional Positions:

- Member of Executive Council, Hong Kong Society of Artificial Intelligence and Robotics (HKSAIR) 1/2018-
- Assessment Panel Member, Enterprise Support Scheme (ESS), Innovation and Technology Fund, HKSAR, 7/2017-6/2019
- Editor-in-Chief, IEEE Trans. on Automation Science and Engineering, IEEE, 2016-2021
- Chief Scientist of a "973" Project of the Ministry of Science and Technology of China, 2011-2015

- Associate VP for Publication Activities, IEEE Robotics & Automation Society, 2010-2011
- Pioneer in Robotics and Automation Award Evaluation Panel, IEEE Robotics & Automation Society (2011, 2016-2017); Early Career, Inaba Awards Evaluation Subpanel, Awards Committee (2010), IEEE Robotics & Automation Society Awards Evaluation Panel (2016-2017)
- Fellow Evaluation Committee Member (2007-2010, 2012-2015), Nominations Committee Member (2012, 2013), IEEE Robotics & Automation Society
- Member, Steering Committee for Technical Programs (SCTP), IEEE Robotics & Automation Society, 2014-2015
- Chapter of the Year Nomination Committee Member, IEEE Robotics & Automation Society, 2008, 2009
- Advisory Board member of the IEEE Transactions on Automation Science and Engineering (T-ASE), 2010-2016
- Advisory Committee/Steering Committee Member, IEEE Conference on Automation Science and Engineering (IEEE CASE), 2006-
- IEEE Press Liaison, IEEE Robotics & Automation Society (2008, 2009)
- International Collaborative Partner, Universiti Tunku Abdul Rahman Global Research Network (UTAR-GRN), Kuala Lumpur, Malaysia, 2009-2011
- Academic Advisory Committee Member, State Key Lab of Manufacturing Systems, Xian Jiaotong University, Xian, China, 2008-2012
- Academic Advisory Committee Member, State Key Lab of Digital Manufacturing Equipment & Technology, Huazhong University of Science & Technology, Wuhan, China, 2006-2010, 2011-2016
- Academic Advisory Committee Member, Shen Zhen Municipal Key Laboratory of Advanced Motion Control Technology and Automation Equipment, Harbin Institute of Technology Shenzhen Graduate School, Shenzhen, China, 2013-2015
- Academic Committee Member, Harbin Institute of Technology Shenzhen Graduate School, Shenzhen, China, 2008-2010
- Chief Technology Consultant, China Electronics Technology Group Corporation, Beijing, 2007
- Co-Chair, IEEE Robotics & Automation Society, Standing Committee on Chapters and International Activities, 2006-2007
- Chair, IEEE RAS Manufacturing Automation Technical Committee, 1999-2006
- IEEE Trans. on Automation Science and Engineering (TASE): Member of Publication Planning Committee (2002-2003) and of Publication Steering Committee, 2003-2004
- Member of Design Automation Awards Committee, ASME Design Engineering Division, 2014
- ASME Design Automation Conference International Liaison, 2009-2012
- Member of Design Automation Technical Committee, ASME Design Engineering Division, 2004-2007
- Liaison for Design Engineering, ASME Manufacturing Engineering Division, 1999-2003
- Member of Manufacturing Systems Technical Committee, ASME Manufacturing Engineering Division, 2002-2005
- Chair (2005-2006), Secretary (2004-2005), Executive Committee member (2000-2004), IEEE HK Section Joint Chapter of Robotics & Automation and Control Systems Societies (RACS)
- Treasure (2002-2004) and Executive Committee member (2002-2005) of Hong Kong Society of Theoretical and Applied Mechanics (HKSTAM)

2. ACADEMIC AND SCHOLARLY ACTIVITIES

Research Areas:

Robotics & Automation:

Soft robots with soft sensors & actuators; Autonomous systems; Robot learning; Robotic manipulation; Robotic assembly; Smart manufacturing

Cellular Metallic Materials and Multi-functional Structures:

Topology optimization methods; Generative design; High-strength cellular metallic materials manufactured by additive manufacturing; Cellular scaffolds and implants

Patents:

1. P. K. Choy, C. K. Liu, W. H. Liao, and Y. Wang, "High speed pick and place apparatus," USA Patent No. 6,758,113 B2, July 6, 2004.
2. P. K. Choy, C. K. Liu, W. H. Liao, and Y. Wang, "High speed pick and place apparatus," Taiwan Patent No. 490787, June 11, 2002.

Proceedings Edited:

1. Manufacturing Science and Engineering-1996, Proceedings of 1996 ASME International Mechanical Engineering Congress and Exposition, Contributing Editor (Editor K. Subramanian), ASME, New York, November, 1996.

Editorials:

1. M. Y. Wang and T. Zhang, Guest Editorial for Special Issue on Automation Science and Engineering, *IEEE Robotics & Automation Magazine*, 13(4), 8, December 2006.
2. M. Y. Wang, *et al.*, Guest Editorial for Special Issue on Workholding and Fixturing Systems, *IEEE Trans. on Automation Science and Engineering*, 1(2), 109, October 2004.

Articles in Refereed Journals:

1. P. Wei, Z. Li, X. Li, and M. Y. Wang, "An 88-line MATLAB code for the parameterized level set method based topology optimization using radial basis functions," *Structural and Multidisciplinary Optimization*, February 2018. DOI: [10.1007/s00158-018-1904-8](https://doi.org/10.1007/s00158-018-1904-8)
2. Haoran Song, M. Y. Wang, and Kaiyu Hang, "Fingertip surface optimization for robust grasping on contact primitives," *IEEE Robotics and Automation Letters (RA-L)*, 3(2), 742-749, April 2018. DOI: [10.1109/LRA.2018.2789842](https://doi.org/10.1109/LRA.2018.2789842)
3. L. Zhang, S. Feih, S. Daynes, Y. Wang, M. Y. Wang, J. Wei, W. F. Lu, "Buckling optimization of Kagome lattice cores with free-form trusses," *Materials & Design*, 2018. DOI: [10.1016/j.matdes.2018.02.026](https://doi.org/10.1016/j.matdes.2018.02.026)
4. Y. Wang, L. Zhang, S. Daynes, H. Zhang, S. Feih, and M. Y. Wang, "Design of graded lattice structure with optimized mesostructures for additive manufacturing," *Materials & Design*, 142, 114-123, March 2018. DOI: [10.1016/j.matdes.2018.01.011](https://doi.org/10.1016/j.matdes.2018.01.011)
5. Feifei Chen, Wenjun Xu, Hongying Zhang, Yiqiang Wang, Jiawei Cao, M. Y. Wang, Hongliang Ren, Jian Zhu, Yunfeng Zhang, "Topology optimized design, fabrication and characterization of a soft cable-driven gripper," *IEEE Robotics and Automation Letters (RA-L)*, January 2018. DOI: [10.1109/LRA.2018.2800115](https://doi.org/10.1109/LRA.2018.2800115)
6. F. F. Chen, Y. Wang, M. Y. Wang, and Y. F. Zhang, "Topology optimization of hyperelastic structures using a level set method," *Journal of Computational Physics*, 351, 437-454, December 2017. DOI: [10.1016/j.jcp.2017.09.040](https://doi.org/10.1016/j.jcp.2017.09.040)
7. Y. Wang, L. Zhang, and M. Y. Wang, "Concurrent design with connectable graded microstructures," *Computer Methods in Applied Mechanics and Engineering*, 317, 84-101, April 2017. DOI: [10.1016/j.cma.2016.12.007](https://doi.org/10.1016/j.cma.2016.12.007)
8. Tao Wang, Jinhua Zhang, Jun Hong, and M. Y. Wang, "Dielectric elastomer actuators for soft wave-handling systems," *Soft Robotics*, 4(1), 61-69, March 2017. DOI: [10.1089/soro.2016.0036](https://doi.org/10.1089/soro.2016.0036)
9. J. Cai, M. Y. Wang, Q. Xia, and Y. Luo, "Optimal design of tapping mode atomic force microscopy cantilever probe with resonance harmonics assignment," *Engineering Optimization*, 49(1), 43-59, January 2017. DOI: [10.1080/0305215X.2016.1164852](https://doi.org/10.1080/0305215X.2016.1164852)
10. F. F. Chen, M. Y. Wang, J. Zhu, and Y. F. Zhang, "Interactions between dielectric elastomer actuators and soft bodies," *Soft Robotics*, 3(4), 161-169, December 2016. DOI: [10.1089/soro.2016.0018](https://doi.org/10.1089/soro.2016.0018)
11. Y. Wang, M. Y. Wang, and F. F. Chen, "Structure-material integrated design by level sets," *Structural and Multidisciplinary Optimization*, 54(5), 1145-1156, November 2016. DOI: [10.1007/s00158-016-1430-5](https://doi.org/10.1007/s00158-016-1430-5)
12. Y. Wang, L. Zhang, and M. Y. Wang, "Length scale control for structural optimization by level sets," *Computer Methods in Applied Mechanics and Engineering*, 305, 891-909, June 2016. DOI: [10.1016/j.cma.2016.03.037](https://doi.org/10.1016/j.cma.2016.03.037)
13. H. Zhang and M. Y. Wang, "Multi-axis soft sensors based on dielectric elastomers," *Soft Robotics*, 3(1), 3-12, March 2016. DOI: [10.1089/soro.2015.0017](https://doi.org/10.1089/soro.2015.0017)
14. Fang, Jiwen; Long, Zhili; Wang, M. Y.; Zhang, Lufan; Dai, Xufei, "Multi-mode sliding mode control for

- precision linear stage based on fixed or floating stator,” *Review of Scientific Instruments*, 87(2), 025115, February 2016. DOI: [10.1063/1.4942641](https://doi.org/10.1063/1.4942641)
15. H. Zhang, M. Y. Wang, J. Li, and J. Zhu, “A soft compressive sensor using dielectric elastomers,” *Smart Materials and Structures*, 25(3), 035045, February 2016. DOI: [10.1088/0964-1726/25/3/035045](https://doi.org/10.1088/0964-1726/25/3/035045)
 16. F. F. Chen and M. Y. Wang, “Simulation of networked dielectric elastomer balloon actuators,” *IEEE Robotics and Automation Letters (RA-L)*, 1(1), 221-226, January 2016. DOI: [10.1109/LRA.2016.2514350](https://doi.org/10.1109/LRA.2016.2514350)
 17. X. Wang and M. Y. Wang, “An analysis of flexural wave band gaps of locally resonant beams with continuum beam resonators,” *Meccanica*, 51(1), 171-178, January 2016. DOI: [10.1007/s11012-015-0197-x](https://doi.org/10.1007/s11012-015-0197-x)
 18. J. Cai, M. Y. Wang, and L. Zhang, “Design and optimization of a harmonic probe with step cross section in multifrequency atomic force microscopy,” *Review of Scientific Instruments*, 86, 125007, December 2015. DOI: [10.1063/1.4937358](https://doi.org/10.1063/1.4937358)
 19. F. F. Chen, J. Zhu, and M. Y. Wang, “Dynamic electromechanical instability of a dielectric elastomer balloon,” *EPL (Europhysics Letters)*, 112(4), 47003, November 2015. DOI: [10.1209/0295-5075/112/47003](https://doi.org/10.1209/0295-5075/112/47003)
 20. F. F. Chen and M. Y. Wang, “Dynamic performance of a dielectric elastomer balloon actuator,” *Meccanica*, 50(11), 2731-2739, November 2015. DOI: [10.1007/s11012-015-0206-0](https://doi.org/10.1007/s11012-015-0206-0)
 21. M. Y. Wang, Y. T. Choy, C. W. Wan, and A. S. Zhao, “Wide band-gaps in flexural periodic beams with separated force and moment resonators,” *Journal of Vibration and Acoustics*, 137(6), 064504 (6 pp.), October 2015. DOI: [10.1115/1.4031519](https://doi.org/10.1115/1.4031519)
 22. L. Zhang, Z. Long, J. Cai, Y. Liu, J. Fang, M. Y. Wang, “Active vibration isolation of macro-micro motion stage disturbances using a floating stator platform,” *Journal of Sound and Vibration*, 354, 13-33, October 2015. DOI: [10.1016/j.jsv.2015.06.024](https://doi.org/10.1016/j.jsv.2015.06.024)
 23. Y. Luo, M. Y. Wang, M. D. Zhou, and Z. Deng, “Topology optimization of reinforced concrete structures considering control of shrinkage and strength failure,” *Computers and Structures*, 157, 31-41, September 2015. DOI: [10.1016/j.compstruc.2015.05.009](https://doi.org/10.1016/j.compstruc.2015.05.009)
 24. L. Zhang, Z. Long, J. Cai, F. Luo, J. Fang, M. Y. Wang, “Multi-objective optimization design of a connection frame in macro-micro motion platform,” *Applied Soft Computing*, 32, 369-382, July 2015. DOI: [10.1016/j.asoc.2015.03.044](https://doi.org/10.1016/j.asoc.2015.03.044)
 25. Y. Luo, M. Y. Wang, and Z. Kang, “Topology optimization of geometrically nonlinear structures based on an additive hyper-elasticity technique,” *Computer Methods in Applied Mechanics and Engineering*, 286, 422-441, April 2015. DOI: [10.1016/j.cma.2014.12.023](https://doi.org/10.1016/j.cma.2014.12.023)
 26. Y. Luo, M. Y. Wang, and Z. Kang, “Simultaneous parameter and tolerance optimization of structures via probability-interval mixed reliability model,” *Structural and Multidisciplinary Optimization*, 51(3), 705-719, March 2015. DOI: [10.1007/s00158-014-1167-y](https://doi.org/10.1007/s00158-014-1167-y)
 27. J. Cai, Q. Xia, Y. Luo, L. Zhang, and M. Y. Wang, “A variable-width harmonic probe for multifrequency atomic force microscopy,” *Applied Physics Letters*, 106(7), 071901, February 2015. DOI: [10.1063/1.4909511](https://doi.org/10.1063/1.4909511)
 28. Q. Xia, M. Y. Wang, and T. Shi, “Topology optimization with pressure load through a level set method,” *Computer Methods in Applied Mechanics and Engineering*, 283(1), 177-195, January 2015. DOI: [10.1016/j.cma.2014.09.022](https://doi.org/10.1016/j.cma.2014.09.022)
 29. Y. Luo, M. Y. Wang, and Z. Kang, “Reliability based topology optimization for continuum structures with local failure constraints,” *Computers and Structures*, 143, 73-84, September 2014. DOI: [10.1016/j.compstruc.2014.07.009](https://doi.org/10.1016/j.compstruc.2014.07.009)
 30. L. Li and M. Y. Wang, “Stress isolation through topology optimization,” *Structural and Multidisciplinary Optimization*, 49(5), 761-769, May 2014. DOI: [10.1007/s00158-013-1004-8](https://doi.org/10.1007/s00158-013-1004-8)
 31. P. Wei, H. Ma, and M. Y. Wang, “The stiffness spreading method for layout optimization of truss structures,” *Structural and Multidisciplinary Optimization*, 49(4), 667-682, April 2014. DOI: [10.1007/s00158-013-1005-7](https://doi.org/10.1007/s00158-013-1005-7)
 32. Q. Xia, M. Y. Wang, and T. Shi, “A level set method for shape and topology optimization of both structure and support of continuum structures,” *Computer Methods in Applied Mechanics and Engineering*, 272, 340-353, April 2014. DOI: [10.1016/j.cma.2014.01.014](https://doi.org/10.1016/j.cma.2014.01.014)
 33. Q. Xia, T. Zhou, M. Y. Wang, and T. Shi, “Shape and topology optimization for tailoring the ratio between two flexural eigenfrequencies of atomic force microscopy cantilever probe,” *Frontiers of Mechanical Engineering*, 9(1), 50-57, March 2014. DOI: [10.1007/s11465-014-0286-x](https://doi.org/10.1007/s11465-014-0286-x)
 34. L. Shu, M. Y. Wang, and Z. D. Ma, “Level set based topology optimization of vibrating structures for

- coupled acoustic-structural dynamics” *Computers and Structures*, 132, 34-42, February 2014. DOI: [10.1016/j.compstruc.2013.10.019](https://doi.org/10.1016/j.compstruc.2013.10.019)
35. Z. Liu, M. Y. Wang, K. Wang, and X. Mei, “Fixture performance improvement by an accelerated integral method of fixture layout and clamping force plan,” *Journal of Engineering Manufacture, Proceedings of the Institution of Mechanical Engineers, Part B*, 227(12), 1819-1829, December 2013. DOI: [10.1177/0954405413494194](https://doi.org/10.1177/0954405413494194)
 36. Z. Yang, J. Hong, J. Zhang, M. Y. Wang and Y. Zhu, “Nano-level instrumentation for analyzing the dynamic accuracy of a rolling element bearing,” *Review of Scientific Instruments*, 84(12), 125103, December 2013. DOI: [10.1063/1.4834935](https://doi.org/10.1063/1.4834935)
 37. M. Zhou and M. Y. Wang, “Engineering feature design for level set based structural optimization,” *Computer-Aided Design*, 45(12), 1524-1537, December 2013. DOI: [10.1016/j.cad.2013.06.016](https://doi.org/10.1016/j.cad.2013.06.016)
 38. Q. Xia, T. Shi, S. Liu, and M. Y. Wang, “Optimization of stresses in a local region for the maximization of sensitivity and minimization of cross-sensitivity of piezoresistive sensors,” *Structural and Multidisciplinary Optimization*, 48(5), 927-938, November 2013. DOI: [10.1007/s00158-013-0997-3](https://doi.org/10.1007/s00158-013-0997-3)
 39. Y. Luo, M. Y. Wang, and Z. Deng, “Stress-based topology optimization of concrete structures with prestressing reinforcements,” *Engineering Optimization*, 45(11), 1349-1364, November 2013. DOI: [10.1080/0305215X.2012.734816](https://doi.org/10.1080/0305215X.2012.734816)
 40. Q. Xia, M. Y. Wang, and T. Shi, “A move limit strategy for the level set based structural optimization,” *Engineering Optimization*, 45(9), 1061-1072, September 2013. DOI: [10.1080/0305215X.2012.720681](https://doi.org/10.1080/0305215X.2012.720681)
 41. Z. Liu, M. Y. Wang, K. Wang, and X. Mei, “Multi-objective optimization design of a fixture layout considering locator displacement and force-deformation,” *International Journal of Advanced Manufacturing Technology*, 67(5-8), 1267-1279, July 2013. DOI: [10.1007/s00170-012-4564-7](https://doi.org/10.1007/s00170-012-4564-7)
 42. M. Y. Wang and X. Wang, “Frequency band structure of locally resonant periodic flexural beams suspended with force-moment resonators,” *Journal of Physics D: Applied Physics*, (46)25, 255502, June 2013. DOI: [10.1088/0022-3727/46/25/255502](https://doi.org/10.1088/0022-3727/46/25/255502)
 43. Q. Xia, M. Y. Wang, and T. Shi, “A method for shape and topology optimization of truss-like structure,” *Structural and Multidisciplinary Optimization*, 47(5), 687-697, May 2013. DOI: [10.1007/s00158-012-0844-y](https://doi.org/10.1007/s00158-012-0844-y)
 44. H. S. Ho, M. Y. Wang, and M. Zhou, “Parametric structural optimization with dynamic knot RBFs and partition of unity method,” *Structural and Multidisciplinary Optimization*, 47(3), 353-365, March 2013. DOI: [10.1007/s00158-012-0848-7](https://doi.org/10.1007/s00158-012-0848-7)
 45. M. Y. Wang and L. Li, “Shape equilibrium constraint: A strategy for stress-constrained structural topology optimization,” *Structural and Multidisciplinary Optimization*, 47(3), 335-352, March 2013. DOI: [10.1007/s00158-012-0846-9](https://doi.org/10.1007/s00158-012-0846-9)
 46. W.S. Zhang, X. Guo, M. Y. Wang, and P. Wei, “Optimal topology design of continuum structures with stress concentration alleviation via level set method,” *International Journal for Numerical Methods in Engineering*, 93(9), 942-959, March 2013. DOI: [10.1002/nme.4416](https://doi.org/10.1002/nme.4416)
 47. Y. Luo, M. Y. Wang, and Z. Kang, “An enhanced aggregation method for topology optimization with local stress constraints,” *Computer Methods in Applied Mechanics and Engineering*, 254, 31-41, February 2013. DOI: [10.1016/j.cma.2012.10.019](https://doi.org/10.1016/j.cma.2012.10.019)
 48. J. Chen, X. J. Wu, M. Y. Wang, and X. Li, “3D shape modeling using a self-developed hand-held 3D laser scanner and an efficient HT-ICP point cloud registration algorithm,” *Optics and Laser Technology*, 45(1), 414-423, February 2013. DOI: [10.1016/j.optlastec.2012.06.015](https://doi.org/10.1016/j.optlastec.2012.06.015)
 49. H. Lv, X. Tian, M. Y. Wang, D. Li and M. Yin, “Vibration energy harvesting using a phononic crystal with point defect states,” *Applied Physics Letters*, 102, 034103, January 2013. DOI: [10.1063/1.4788810](https://doi.org/10.1063/1.4788810)
 50. Q. Xia, T. Shi, S. Liu, and M. Y. Wang, “Shape and topology optimization for tailoring stress in a local region to enhance performance of piezoresistive sensors,” *Computers and Structures*, 114-115, 98-105, January 2013. DOI: [10.1016/j.compstruc.2012.10.020](https://doi.org/10.1016/j.compstruc.2012.10.020)
 51. L. Li, M. Y. Wang, and P. Wei, “XFEM schemes for level set based structural optimization,” *Frontiers of Mechanical Engineering*, 7(4), 335-356, December 2012. DOI: [10.1007/s11465-012-0351-2](https://doi.org/10.1007/s11465-012-0351-2)
 52. Y. Luo, M. Y. Wang, M. Zhou, and Z. Deng, “Optimal topology design of steel-concrete composite structures under stiffness and strength constraints,” *Computers and Structures*, 112-113:433-444, December 2012. DOI: [10.1016/j.compstruc.2012.09.007](https://doi.org/10.1016/j.compstruc.2012.09.007)
 53. M. Zhou and M. Y. Wang, “A semi-Lagrangian level set method for structural optimization,” *Structural and Multidisciplinary Optimization*, 46(4), 487-501, October 2012. DOI: [10.1007/s00158-012-0842-0](https://doi.org/10.1007/s00158-012-0842-0)

54. J. Ma, M. Y. Wang, and X.Y. Zhu, "On the analysis of force closure and force optimization in fixtures and robotic manipulation," *Journal of Engineering Manufacture, Proceedings of the Institution of Mechanical Engineers, Part B*, 226(2), 290-299, February 2012. DOI: [10.1177/0954405411413008](https://doi.org/10.1177/0954405411413008)
55. M. Zhou and M. Y. Wang, "Engineering model simplification for simulation based structural design," *Computer-Aided Design & Applications*, 9(1), 87-94, January 2012. DOI: [10.3722/cadaps.2012.87-94](https://doi.org/10.3722/cadaps.2012.87-94)
56. Q. Xia, T. Shi, S. Liu, and M. Y. Wang, "A level set solution to the stress-based structural shape and topology optimization," *Computers and Structures*, 90-91(1), 55-64, January 2012. DOI: [10.1016/j.compstruc.2011.10.009](https://doi.org/10.1016/j.compstruc.2011.10.009)
57. Q. Xia, T. Shi, M. Y. Wang, and S. Liu, "Simultaneous optimization of cast part and parting direction using level set method," *Structural and Multidisciplinary Optimization*, 44(6), 751-759, December 2011. DOI: 10.1007/s00158-011-0690-3
58. X. Guo, W.S. Zhang, M. Y. Wang, and P. Wei, "Stress-related topology optimization via level set approach," *Computer Methods in Applied Mechanics and Engineering*, 200(47-48), 3439-3452, November 2011. DOI: 10.1016/j.cma.2011.08.016
59. L. Shu, M. Y. Wang, Z. D. Fang, Z. D. Ma, and P. Wei, "Level set based structural topology optimization for minimizing frequency response" *Journal of Sound and Vibration*, 330(24), 5820-5834, November 2011. DOI: 10.1016/j.jsv.2011.07.026
60. H. S. Ho, B. F. Y. Lui, and M. Y. Wang, "Parametric shape and topology optimization with radial basis functions and partition of unity method," *Optimization Methods and Software*, 26(4-5), 533-553, October 2011. DOI: 10.1080/10556788.2010.546399
61. Q. Xia, T. Shi, and M. Y. Wang, "A level set based shape and topology optimization method for maximizing the simple or repeated first eigenvalue of structure vibration," *Structural and Multidisciplinary Optimization*, 43(4), 473-485, April 2011. DOI: 10.1007/s00158-010-0595-6
62. P. Song, X. J. Wu, and M. Y. Wang, "Volumetric stereo and silhouette fusion for image-based modeling," *The Visual Computer*, 26(12), 1435-1450, December 2010. DOI: 10.1007/s00371-010-0429-y
63. P. Wei, M. Y. Wang, and X. Xing, "A study on X-FEM in continuum structural optimization using a level set model," *Computer-Aided Design*, 42(8), 708-719, August 2010. DOI: 10.1016/j.cad.2009.12.001
64. Q. Xia, T. Shi, M. Y. Wang, and S. Liu, "A level set based method for the optimization of cast part," *Structural and Multidisciplinary Optimization*, 41(5), 735-747, May 2010. DOI: 10.1007/s00158-009-0444-7
65. X. Xin, P. Wei, and M. Y. Wang, "A finite element-based level set method for structural optimization," *International Journal for Numerical Methods in Engineering*, 82(7), 805-842, May 2010. DOI: 10.1002/nme.2785
66. T. Liu, M. Y. Wang, and K. H. Low, "Non-jamming conditions in multi-contact constrained rigid-body dynamics," *Multibody System Dynamics*, 22(3), 269-295, October 2009. DOI: 10.1007/s11044-009-9165-3
67. M. Y. Wang, "Mechanical and geometric advantages in compliant mechanism optimization," *Frontiers of Mechanical Engineering in China*, 4(3), 229-241, September 2009. DOI: 10.1007/s11465-009-0066-1
68. X. J. Wu, M. Y. Wang, and W. J. Liu, "Heterogeneous object slicing with geometric contour constraint," *Computer-Aided Design & Applications*, 6(1), 137-145, June 2009. DOI: 10.3722/cadaps.2009.137-145
69. M. Y. Wang, "A kinetoelastic formulation of compliant mechanism optimization," *Journal of Mechanisms and Robotics, Trans. of ASME*, 1(2), 021011 (1-10), May 2009. DOI: 10.1115/1.3056476
70. M. Y. Wang and S. K. Chen, "Compliant mechanism optimization: analysis and design with intrinsic characteristic stiffness," *Mechanics Based Design of Structures and Machines*, 37(2), 183-200, April 2009. DOI: 10.1080/15397730902761932
71. Z. Luo, L. Tong, J. Luo, P. Wei, and M. Y. Wang "Design of piezoelectric actuators using a multiphase level set method of piecewise constants," *Journal of Computational Physics*, 228(7), 2643-2659, April 2009. DOI:10.1016/j.jcp.2008.12.019.
72. P. Wei and M. Y. Wang, "Piecewise constant level set method for structural topology optimization," *International Journal for Numerical Methods in Engineering*, 78(4), 379-504, April 2009. DOI: 10.1002/nme.2478
73. J. Luo, Z. Luo, S. K. Chen, L. Y. Tong, and M. Y. Wang, "A new level set method for systematic design of hinge-free compliant mechanisms," *Computer Methods in Applied Mechanics and Engineering*, 198(2), 318-331, December 2008. DOI: 10.1016/j.cma.2008.08.003

74. H. Wang, K. H. Low, and M. Y. Wang, "A bilateral teleoperation controller considering the transition between the free space motion and the constrained motion," *Robotica*, 26(6), 781-790, November 2008. DOI: 10.1017/S0263574708004372
75. Z. Luo, L. Y. Tong, and M. Y. Wang, "Design of distributed compliant micromechanisms with an implicit free boundary representation," *Structural and Multidisciplinary Optimization*, 36(6), 607-621, November 2008. DOI: 10.1007/s00158-007-0198-z
76. Q. Xia and M. Y. Wang, "Topology optimization of thermoelastic structures using level set method," *Computational Mechanics*, 42(6), 837-857, November 2008. DOI: 10.1007/s00466-008-0287-x
77. Z. Luo, M. Y. Wang, S. Y. Wang, and P. Wei, "A level set-based parameterization method for structural shape and topology optimization," *International Journal for Numerical Methods in Engineering*, 76(1), 1-26, October 2008. DOI: 10.1002/nme.2092
78. S. K. Chen, M. Y. Wang, and A. Q. Liu, "Shape feature control in structural topology optimization," *Computer-Aided Design*, 40(9), 951-962, September 2008. DOI: 10.1016/j.cad.2008.07.004 (*Elsevier ScienceDirect Top 25 Hottest Articles in October-December 2008*)
79. C. H. Xiong, M. Y. Wang, and Y. L. Xiong, "On clamping planning in workpiece-fixture systems," *IEEE Trans. on Automation Science and Engineering*, 5(3), 407-419, July 2008. DOI: 10.1109/TASE.2008.921483
80. Q. Xia and M. Y. Wang, "Simultaneous optimization of material property and topology of functionally graded structures," *Computer-Aided Design*, 40(6), 660-675, June 2008. DOI: 10.1016/j.cad.2008.01.014 (*Elsevier ScienceDirect Top 25 Hottest Articles in July-September 2008*)
81. X. J. Wu, M. Y. Wang, and B. Han, "An automatic hole-filling algorithm for polygon meshes," *Computer-Aided Design & Applications*, 5(6), 889-899, June 2008. DOI: 10.3722/cadaps.2008.889-899
82. Liang Sen, Liang Lei, Yi Chuijie, and Wang M. Y., "Topology optimization of composite laminated structure with shape derivative and level set," *Acta Materiae Compositae Sinica*, 25(3), 174-181, June 2008.
83. J. Luo, Z. Luo, L. Chen, L. Y. Tong, and M. Y. Wang, "A semi-implicit level set method for structural shape and topology optimization," *Journal of Computational Physics*, 227(11), 5561-5581, May 2008. DOI: 10.1016/j.jcp.2008.02.003
84. X. J. Wu, W. J. Liu, and M. Y. Wang, "A CAD modeling system for heterogeneous object," *Advances in Engineering Software*, 39(5), 444-453, May 2008. DOI: 10.1016/j.advengsoft.2007.03.002
85. S. Y. Wang, K. M. Lim, B. C. Khoo, and M. Y. Wang, "A hybrid sensitivity filtering method for topology optimization," *CMES: Computer Modeling in Engineering & Science*, 24(1), 21-50, 2008.
86. Z. Luo, L. Y. Tong, M. Y. Wang, and S. Y. Wang, "Shape and topology optimization of compliant mechanisms using a parameterization level set method," *Journal of Computational Physics*, 227(1), 680-705, November 2007. DOI: 10.1016/j.jcp.2007.08.011
87. S. Y. Wang, K. M. Lim, B. C. Khoo, and M. Y. Wang, "On hole nucleation in topology optimization using the level set methods," *CMES: Computer Modeling in Engineering & Science*, 21(3), 219-238, October 2007.
88. S. Y. Wang, K. M. Lim, B. C. Khoo, and M. Y. Wang, "An unconditionally time-stable level set method and its application to shape and topology optimization," *CMES: Computer Modeling in Engineering & Science*, 21(1), 1-40, September 2007.
89. S. Liang, H. L. Chen, T. N. Chen, and M. Y. Wang, "The natural vibration of a symmetric cross-ply laminated composite conical-plate shell," *Composite Structures*, 80(2), 265-278, September 2007. DOI: 10.1016/j.compstruct.2006.05.014
90. X. J. Wu, W. J. Liu, and M. Y. Wang, "Modeling heterogeneous objects in CAD," *Computer-Aided Design & Applications*, 4(6), 731-740, July 2007. DOI: 10.3722/cadaps.2007.731-740
91. S. Y. Wang, K. M. Lim, B. C. Khoo, and M. Y. Wang, "A geometric deformation constrained level set method for structural shape and topology optimization," *CMES: Computer Modeling in Engineering & Science*, 18(3), 155-181, April 2007.
92. H. Wang, K. H. Low, and M. Y. Wang, "Virtual circle mapping for master-slave hand systems," *Advanced Robotics*, 21(1-2), 183-208, February 2007. DOI: 10.1163/156855307779293706
93. S. W. Zhou and M. Y. Wang, "Multimaterial structural topology optimization with a generalized Cahn-Hilliard model of multiphase transition," *Structural and Multidisciplinary Optimization*, 33(2), 89-111, February 2007. DOI: 10.1007/s00158-006-0035-9
94. S. Y. Wang, K. M. Lim, B. C. Khoo, and M. Y. Wang, "An extended level set method for shape and topology optimization," *Journal of Computational Physics*, 221(1), 395-421, January 2007. DOI: 10.1016/j.jcp.2006.06.029

95. A.-Q. Liu, J. Li, Z. Liu, C. Lu, X. M. Zhang, and M. Y. Wang, "Self-latched micromachined mechanism with large displacement ratio," *Journal of Microelectromechanical Systems*, 15(6), 1576-1585, December 2006. DOI: 10.1109/JMEMS.2006.883574
96. S. W. Zhou and M. Y. Wang, "3D multi-material structural topology optimization with the generalized Cahn-Hilliard equations," *CMES: Computer Modeling in Engineering & Sciences*, 16(2), 83-102, 2006.
97. S. Y. Wang and M. Y. Wang, "Structural shape and topology optimization using an implicit free boundary parameterization method," *CMES: Computer Modeling in Engineering & Sciences*, 13(2), 119-148, 2006.
98. Q. Xia, M. Y. Wang, S. Y. Wang and S. K. Chen, "Semi-Lagrange method for level-set based structural topology and shape optimization," *Structural and Multidisciplinary Optimization*, 31(6), 419-429, June 2006. DOI: 10.1007/s00158-005-0597-y
99. X. J. Wu, M. Y. Wang, and Q. Xia, "3D reconstruction methods based on radial basis functions for laser scanned data point sets," *Computer-Aided Design & Applications*, 3(1-4), 145-153, June 2006. ISSN 1686-4360.
100. S. K. Chen and M. Y. Wang, "Conceptual design of compliant mechanisms using level set method," *Frontiers of Mechanical Engineering in China*, 1(2), 131-145, June 2006. DOI: 10.1007/s11465-006-0018-y
101. M. Y. Wang, "Structural topology optimisation using level set method," *Hong Kong Engineer, The Journal of Hong Kong Institution of Engineers*, 34(5), 21-22, May 2006.
102. K. W. Chan, W. H. Liao, M. Y. Wang, and P. K. Choy, "Experimental studies for particle damping on a bond arm," *Journal of Vibration and Control*, 12(3), 297-312, March 2006. DOI: 10.1177/1077546306063257
103. S. Y. Wang and M. Y. Wang, "Radial basis functions and level set method for structural topology optimization," *International Journal for Numerical Methods in Engineering*, 65(12), 2060-2090, March 2006. DOI: 10.1002/nme.1536
104. S. Y. Wang and M. Y. Wang, "A moving superimposed finite element method for structural topology optimization," *International Journal for Numerical Methods in Engineering*, 65(11), 1892-1922, March 2006. DOI: 10.1002/nme.1527
105. S. Y. Wang, K. Tai, and M. Y. Wang, "An enhanced genetic algorithm for structural topology optimization," *International Journal for Numerical Methods in Engineering*, 65(1), 18-44, January 2006. DOI: 10.1002/nme.1435
106. X. Wu, W. Liu, and M. Y. Wang, "Feature based modeling of heterogeneous objects," *Multidiscipline Modeling in Materials and Structures*, 1(4), 341-366, October 2005. DOI: 10.1163/157361105774501656
107. M. Y. Wang, S. K. Chen, X. Wang, and Y. Mei, "Design of multimaterial compliant mechanisms using level-set methods," *Journal of Mechanical Design, Trans. of ASME*, (127)5, 941-956, September 2005. DOI: 10.1115/1.1909206
108. M. Y. Wang and S. Y. Wang, "Bilateral filtering for structural topology optimization," *International Journal for Numerical Methods in Engineering*, 63(13), 1911-1938, August 2005. DOI: 10.1002/nme.1347
109. C. H. Xiong, M. Y. Wang, Y. Tang, and Y. L. Xiong, "Compliant grasping with passive forces," *Journal of Robotic Systems*, 22(5), 271-285, May 2005. DOI: 10.1002/rob.20064
110. X. Guo, K. Zhao, and M. Y. Wang, "Simultaneous shape and topology optimization with implicit topology description functions," *Control and Cybernetics*, 34(1), 255-282, April 2005. A special issue on "Shape Optimization."
111. C. H. Xiong, M. Y. Wang, Y. Tang, and Y. L. Xiong, "On the prediction of passive contact forces in workpiece-fixture systems," *Journal of Engineering Manufacture, Proceedings of Institution of Mechanical Engineers Part B*, 219(3), 309-324, March 2005. DOI: 10.1243/095440505X30159
112. M. Y. Wang and X. Wang, "A level-set based variational method for design and optimization of heterogeneous objects," *Computer-Aided Design*, special issue on "Heterogeneous object models and their applications," 37(3), 321-337, March 2005. DOI:10.1016/j.cad.2004.03.007 (*Elsevier CAD Computer Aided Design Top Cited Article 2005-2010*)
113. T. Liu and M. Y. Wang, "Computation of three-dimensional rigid-body dynamics with multiple unilateral contacts using time-stepping and Gauss-Seidel methods," *IEEE Trans. on Automation Science and Engineering*, 2(1), 19-31, January 2005. DOI: 10.1109/TASE.2004.840074

114. Z. W. Xu, M. Y. Wang, and T. N. Chen, "Particle damping for passive vibration suppression: Numerical modeling and experimental investigation," *Journal of Sound and Vibration*, 279(3-5), 1097-1120, January 2005. DOI: 10.1016/j.jsv.2003.11.023
115. M. Y. Wang and S. W. Zhou, "Phase field: a variational method for structural topology optimization," *CMES: Computer Modeling in Engineering & Sciences*, 6(6), 547-566, December 2004.
116. M. Y. Wang and X. M. Wang, "PDE-driven level sets, shape sensitivity, and curvature flow for structural topology optimization," *CMES: Computer Modeling in Engineering & Sciences*, 6(4), 373-395, October 2004.
117. M. Y. Wang, S. W. Zhou, and H. Ding, "Nonlinear diffusions in topology optimization," *Structural and Multidisciplinary Optimization*, 28(4), 262-276, October 2004. DOI: 10.1007/s00158-004-0436-6
118. X. Wang, Y. Mei, and M. Y. Wang, "Level set method for design of multi-phase elastic and thermoelastic materials," *International Journal of Mechanics and Materials in Design*, 1(3), 213-239, September 2004. DOI: 10.1007/s10999-005-0221-8
119. R. K. Kaza, S. Saikumar, and M. Y. Wang, "A system approach to solid free-form design of optimal structures," *International Journal of Computational Engineering Science*, 5(3), 509-534, September 2004. DOI:10.1142/S146587630400254X
120. X. Y. Zhu, H. Ding, and M. Y. Wang, "Form error evaluation: An iterative re-weighted least squares algorithm," *Journal of Manufacturing Science and Engineering, Trans. of ASME*, 126(3), 535-541, August 2004. DOI: 10.1115/1.1765144
121. Z. H. Xiong, M. Y. Wang, and Z. Li, "A near-optimal probing strategy for workpiece localization," *IEEE Trans. on Robotics*, 20(4), 668-676, August 2004. DOI: 10.1109/TRO.2004.829474
122. X. Y. Zhu, H. Ding, and M. Y. Wang, "A numerical test for the closure properties of 3D grasps," *IEEE Trans. on Robotics and Automation*, 20(3), 543-549, June 2004. DOI: 10.1109/TRA.2004.825514
123. X. Wang, M. Y. Wang, and D. Guo, "Structural shape and topology optimization in a level-set based framework of region representation," *Structural and Multidisciplinary Optimization*, 27(1-2), 1-19, May 2004. DOI: 10.1007/s00158-003-0363-y
124. K. M. Mao, M. Y. Wang, Z. W. Xu, and T. N. Chen, "DEM simulation of particle damping," *Powder Technology*, 142(2-3), 154-165, April 2004. DOI: 10.1016/j.powtec.2004.04.031
125. K. M. Mao, M. Y. Wang, Z. W. Xu, and T. N. Chen, "Simulation and characterization of particle damping in transient vibrations," *Journal of Vibration and Acoustics, Trans. of ASME*, 126(2), 202-211, April 2004. DOI: 10.1115/1.1687401
126. C. J. Wu, W. H. Liao, and M. Y. Wang, "Modeling of granular particle damping using *multiphase flow theory of gas-particle*," *Journal of Vibration and Acoustics, Trans. of ASME*, 126(2), 196-201, April 2004. DOI: 10.1115/1.1688763
127. M. Y. Wang and X. M. Wang, "'Color' level sets: A multi-phase level set method for structural topology optimization with multiple materials," *Computer Methods in Applied Mechanics and Engineering*, 193(6-8), 469-496, February 2004. DOI: 10.1016/j.cma.2003.10.008
128. Z. W. Xu, M. Y. Wang, and T. N. Chen, "A particle damper for vibration and noise reduction," *Journal of Sound and Vibration*, 270(4-5), 1033-1040, February 2004. DOI: 10.1016/S0022-460X(03)00503-0
129. Z. W. Xu, M. Y. Wang, and T. N. Chen, "An experimental study of particle damping for beams and plates," *Journal of Vibration and Acoustics, Trans. of ASME*, 126(1), 141-148, January 2004. DOI: 10.1115/1.1640354
130. M. Y. Wang and S. W. Zhou, "Synthesis of shape and topology of multi-material structures with a phase-field method," *Journal of Computer-Aided Materials Design*, a special issue on "Design of heterogeneous materials," 11(2-3), 117-138, January 2004 (printed in January 2005). DOI: 10.1007/s10820-005-3169-y
131. M. Y. Wang, T. Liu, and D. M. Pelinescu, "Fixture kinematic analysis based on the full contact model of rigid bodies," *Journal of Manufacturing Science and Engineering, Trans. of ASME*, 125(2), 316-324, May 2003. DOI: 10.1115/1.1557293
132. M. Y. Wang and D. M. Pelinescu, "Contact force prediction and force closure analysis of a fixtured rigid workpiece with friction," *Journal of Manufacturing Science and Engineering, Trans. of ASME*, 125(2), 325-332, May 2003. DOI: 10.1115/1.1557298
133. M. Y. Wang, X. M. Wang, and D. M. Guo, "A level set method for structural topology optimization," *Computer Methods in Applied Mechanics and Engineering*, 192(1-2), 227-246, January 2003. DOI: 10.1016/S0045-7825(02)00559-5
134. M. Y. Wang, "Characterizations of localization accuracy of fixtures," *IEEE Trans. on Robotics and Automation*, 18(6), 976-981, December 2002. DOI: 10.1109/TRA.2002.805652

135. M. Y. Wang, W. Zhao, and R. Manoj, "Numerical modeling and analysis of automotive transmission rattle," *Journal of Vibration and Control*, 8(7), 921-943, October 2002. DOI: 10.1177/10775402029594
136. D. M. Pelinescu and M. Y. Wang, "Multi-objective optimal fixture layout design," *Robotics and Computer-Integrated Manufacturing*, 18(5-6), 365-372, October-December 2002. DOI: 10.1016/S0736-5845(02)00027-3
137. S. J. Qin, W. J. Li, and M. Y. Wang, "Fabrication of submicron channels in quartz cubes using laser-induced splitting," *International Journal of Nonlinear Sciences and Numerical Simulation*, 3(3-4), 763-768, 2002.
138. Y. L. Xiong, H. Ding, and M. Y. Wang, "Quantitative analysis of inner force distribution and load capacity of grasps and fixtures," *Journal of Manufacturing Science and Engineering, Trans. of ASME*, 124(2), 444-455, May 2002. DOI: 10.1115/1.1459089
139. M. Y. Wang, "The fixturing pyramid," *Assembly Automation*, 22(2), 103-104, April 2002.
140. M. Y. Wang, "Tolerance analysis for fixture layout design," *Assembly Automation*, a special issue on "Automated fixturing," 22(2), 153-162, April 2002. DOI: 10.1108/01445150210423198
141. D. Ding, Y. H. Liu, M. Y. Wang, and S. Wang, "Automatic selection of fixturing surfaces and fixturing points for polyhedral workpieces," *IEEE Trans. on Robotics and Automation*, 17(6), 833-841, December 2001. DOI: 10.1109/70.976003
142. M. Y. Wang and D. M. Pelinescu, "Optimizing fixture layout in a point set domain," *IEEE Trans. on Robotics and Automation*, 17(3), 312-323, June 2001. DOI: 10.1109/70.938388
143. Y. (M.) Wang, R. Manoj, and W. Zhao, "Gear rattle modeling and analysis for automotive manual transmissions," *Journal of Automobile Engineering, Proceedings of Institution of Mechanical Engineers Part D*, 215(D2), 241-258, 2001.
144. Y. (M.) Wang and Z. Wang, "A time finite element method for dynamic analysis of elastic mechanisms in link coordinate systems," *Computers and Structures*, 79(2), 223-230, January 2001. DOI: 10.1007/s10999-005-0221-8
145. M. E. Gorman, *et al.* (Y. (M.) Wang), "Transforming the engineering curriculum: Lessons learned from a summer at Boeing," *Journal of Engineering Education*, 90(1), 143-149, January 2001.
146. M. Y. Wang, "An optimum design for 3D fixture synthesis in a point set domain," *IEEE Trans. on Robotics and Automation*, 16(6), 539-546, December 2000. DOI: 10.1109/70.897795
147. M. Y. Wang and S. Shabeer, "Modeling and optimization of sequential brakeforming processes," *Journal of Materials Processing Technology*, 102(1-3), 153-163, May 2000. DOI: 10.1016/S0924-0136(00)00501-X
148. S. Shabeer and M. Y. Wang, "Multi-objective optimization of sequential brakeforming processes," *Journal of Materials Processing Technology*, 102(1-3), 266-276, May 2000. DOI: 10.1016/S0924-0136(00)00491-1
149. Y. (M.) Wang and S. Nagarkar, "Locator and sensor placement for automated coordinate checking fixtures," *Journal of Manufacturing Science and Engineering, Trans. of ASME*, 121(4), 709-719, 1999.
150. Y. (M.) Wang, "An optimum design approach to fixture synthesis for 3D workpieces," *Trans. of North American Manufacturing Research Institution of SME (NAMRI/SME)*, 27, 209-214, 1999.
151. Y. (M.) Wang and X. Tang, "Five-axis NC machining of sculptured surfaces," *International Journal of Advanced Manufacturing Technology*, 15(1), 7-14, 1999.
152. C. Lu, K. Tsai, J. Yang, and Y. (M.) Wang, "A virtual testbed for the life-cycle design of automated manufacturing facilities," *International Journal of Advanced Manufacturing Technology*, 14(8), 608-615, 1998.
153. Y. (M.) Wang, S. Gupta, F. Hulting, and P. Fussell, "Manufactured part modeling (MPM) for characterization of geometric variations of automotive spaceframe extrusions," *Journal of Manufacturing Science and Engineering, Trans. of ASME*, 120(3), 523-531, 1998.
154. Y. (M.) Wang and S. Shabeer, "Modeling, simulation, and optimization of the sequential bending process," *Trans. of North American Manufacturing Research Institution of SME (NAMRI/SME)*, 26, 31-36, 1998.
155. Y. Wang and Z. Zhang, "A temporal finite element method for dynamic analysis of flexible mechanisms," *Journal of Sound and Vibration*, 213(3), 569-576, 1998.
156. Y. Wang, "Prediction of periodic response of flexible rotor systems with nonlinear supports," *Journal of Vibration and Acoustics, Trans. of ASME*, 119(3), 346-353, 1997.
157. Y. Wang, "Stick-slip motion of frictionally damped turbine airfoils: A finite element in time approach," *Journal of Vibration and Acoustics, Trans. of ASME*, 119(2), 236-242, 1997.

158. Y. Wang, "An analytical solution of periodic response of elastic-friction damped systems," *Journal of Sound and Vibration*, 189(3), 299-313, 1996.
159. Y. Wang, "Intersection of offsets of parametric surfaces," *Computer Aided Geometric Design*, 20(1), 1-13, 1996.
160. Y. Wang and Z. Wang, "Dynamic analysis of flexible mechanisms with clearances," *Journal of Mechanical Design, Trans. of ASME*, 118(4), 592-594, 1996.
161. C. Lu, K. Tsai, and Y. Wang, "Real-time operation plan control optimization using accelerated simulation modeling," *International Journal of Modeling and Simulation, Special issue on Simulation and Modeling for Manufacturing Reliability*, 16(3), 184-191, 1996.
162. Y. Wang, "Dynamics of unsymmetric piecewise-linear/nonlinear systems using finite elements in time," *Journal of Sound and Vibration*, 185(1), 155-170, 1995.
163. Y. Wang and Z. Wang, "Periodic response of piecewise-linear oscillators using trigonometric collocation," *Journal of Sound and Vibration*, 177(4), 573-576, 1994.
164. Y. Wang, "Dynamic modeling and stability analysis of mechanical systems with time-varying topologies," *Journal of Mechanical Design, Trans. of ASME*, 115(4), 808-816, 1993.
165. Y. Wang, "Global analysis and simulation of mechanical systems with time-varying topologies," *Journal of Mechanical Design, Trans. of ASME*, 115(4), 817-821, 1993.
166. Y. Wang and M. T. Mason, "Two-dimensional rigid body collisions with friction – Closure," *Journal of Applied Mechanics, Trans. of ASME*, 60(2), 566, 1993.
167. Y. Wang, "Minimum zone evaluation of form tolerances," *Manufacturing Review*, 5(3), 213-220, September 1992.
168. Y. Wang and M. T. Mason, "Two-dimensional rigid body collisions with friction," *Journal of Applied Mechanics, Trans. of ASME*, 59(3), 635-642, 1992.

Articles in Refereed Conference Proceedings:

169. H. Zhang, M. Y. Wang, F. F. Chen, Y. Wang, A. S. Kumar, and J. Y. H. Fuh, "Design and development of a soft gripper with topology optimization," IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Vancouver, Canada, September 2017.
170. H. Zhang, Y. Wang, M. Y. Wang, J. Y. H. Fuh, and A. S. Kumar, "Design and analysis of soft grippers for hand rehabilitation," ASME 12th Manufacturing Science and Engineering Conference, Los Angeles, CA, June 2017.
171. Feifei Chen, Jiawei Cao, Lei Zhang, Hongying Zhang, Michael Y Wang, Jian Zhu, Yunfeng Zhang, "Networked soft actuators with large deformations," IEEE International Conference on Robotics and Automation (ICRA), Singapore, May/June 2017.
172. Chen, X., Zhou, J., Peng, J., Wang, Z., Chen, YH, & Wang, MY, "A robotic manipulator design with novel soft actuators" IEEE International Conference of Robotics and Automation (ICRA), Singapore, Singapore, May/June 2017.
173. F. Chen and M. Y. Wang, "Actuation capability of a dielectric elastomer balloon actuator," in Proc. of 12th IEEE International Conference on Control and Automation, Kathmandu, Nepal, June 2016.
174. H. Y. Lv and M. Y. Wang, "Numerical and experimental study of flexural wave band gaps in periodical locally-resonant beams with separated force and moment resonators," Paper No. DETC2015-46033, 27th ASME Conference on Mechanical Vibration and Noise, Boston, August 2015.
175. H. Zhang, M. Y. Wang, and J. Zhu, "Soft compression sensor design and analysis," in Proc. of 7th IEEE International Conference on Cybernetics and Intelligent Systems (CIS-RAM), Angkor Wat, Cambodia, July 2015.
176. Q. Xia, M. Y. Wang, and T. Shi, "A level set method for the representation of multiple types of boundaries and its application in structural shape and topology optimization," in Proc. of 11th World Congress of Structural and Multidisciplinary Optimization (WCSMO11), Sydney, USA, June 2015.
177. J. Cai, Q. Xia, Y. Luo, M. Y. Wang, and L. Zhang, "Optimal design and evaluation of cantilever probe for multifrequency atomic force microscopy," in Proc. of 11th World Congress of Structural and Multidisciplinary Optimization (WCSMO11), Sydney, USA, June 2015.
178. Y. Liu and M. Y. Wang, "Topology design of a conforming gripper with distributed compliance via a level set method," IEEE International Conference on Robotics and Biomimetics (ROBIO), Bali, December 2014.

179. J. Cai, M. Y. Wang, Q. Xia and Y. Luo, "Structural design and optimization of a three-layer probe for tapping mode atomic force microscopy higher harmonic imaging," in Proc. of 8th China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems, Gyeongju, Korea, May 2014.
180. Y. Luo and M. Y. Wang, "Topology optimization of geometrically nonlinear structures based on an element reinforcing technique," in Proc. of 8th China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems, Gyeongju, Korea, May 2014.
181. Y. Liu and M. Y. Wang, "Optimal design of remote center compliance devices of rotational symmetry," in Proc. of 7th International Precision Assembly Seminar (IPAS), Chamonix, France, February 2014.
182. J. Cai, M. Y. Wang, and Q. Xia, "Tailoring the ratios between eigenfrequencies of tapping mode atomic force microscope probe using concentrated masses," in Proc. of 6th IEEE International Conference on Robotics, Automation and Mechatronics (CIS-RAM), Manila, Philippines, November 2013.
183. M. Y. Wang and X. Wang, "Broadband wave attenuation in locally resonant flexural beams with force-moment periodic resonators," in Proc. of 25th ASME Conference on Mechanical Vibration and Noise, Portland, OR, USA, August 2013.
184. Y.J. Luo and M. Y. Wang, "An enhanced aggregation method for stress-constrained topology optimization problems," in Proc. of 10th World Congress of Structural and Multidisciplinary Optimization (WCSMO10), Orlando, USA, May 2013.
185. X. Tian and M. Y. Wang, "H-adaptive extended finite element method for structural optimization," in Proc. of 10th World Congress of Structural and Multidisciplinary Optimization (WCSMO10), Orlando, USA, May 2013.
186. Z. Yang, J. Hong, J. Zhang, M. Y. Wang, and J. Liu, "A new high-precision bearing measuring system for non-repetitive run-out (NRRO)," in Proc. of ASME 2012 International Mechanical Engineering Congress & Exposition, No. IMECE2012-88810, Huston, USA, November 2012.
187. M. D. Zhou, M. Y. Wang, and L. Li, "Structural optimization using adaptive level set method," in Proc. of ASME/ISCIE International Symposium on Flexible Automation, St. Louis, USA, June 2012.
188. Z. Liu, M. Y. Wang, *et al.*, "A fast fixture layout and clamping force optimization method based on finite element method," in Proc. of ASME/ISCIE International Symposium on Flexible Automation, St. Louis, USA, June 2012.
189. L. Li and M. Y. Wang, "Stress isolation through topology optimization," in Proc. of 7th China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems, Huangshan, China, June 2012.
190. Q. Xia, M. Y. Wang, and T. L. Shi, "A move limit strategy for the level set based structural optimization," in Proc. of 7th China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems, Huangshan, China, June 2012.
191. X. J. Wu, J. Chen, M. Y. Wang, and X. Wang, "Shape prior based foreground segmentation with local rotation and structural changes," in Proc. of 9th IEEE International Conference on Control & Automation, Santiago, Chile, December, 2011.
192. X. J. Wu, J. Chen, M. Y. Wang, X. Li, and P. Wen, "Hong-Tan based ICP registration for partially overlapping range images," in Proc. of 10th International Conference on Virtual Reality Continuum and Its Applications in Industry (ACM SIGGRAPH VRCAI), Hong Kong, December 2011.
193. L. Shu, M. Y. Wang, Z. Fang, and Z. Ma, "Level set based structural topology optimization for coupled acoustic-structural system," in Proc. of 9th World Congress of Structural and Multidisciplinary Optimization (WCSMO9), Shizuoka, Japan, June 2011.
194. X. Guo, W. Zhang, and M. Y. Wang, "Stress-related topology optimization via level set approach," in Proc. of 9th World Congress of Structural and Multidisciplinary Optimization (WCSMO9), Shizuoka, Japan, June 2011.
195. Z. Yang, J. Hong, J. Liu, Y. Ding, and M. Y. Wang, "Theoretical method to reduce the non-repetitive run-out (NRRO) of angular contact ball bearings," in Proc. of IEEE Int'l Symposium on Assembly and Manufacturing (ISAM), Tampere, Finland, May 2011.
196. J. Ma, M. Y. Wang, and X. Zhu, "Compliant fixture layout design using topology optimization method," in Proc. of IEEE Conference on Robotics and Automation (ICRA), Shanghai, China, May 2011.
197. P. Song, X. J. Wu, M. Y. Wang, and J. Wu, "Expansion-based depth map estimation for multi-view stereo," in Proc. of 2010 IEEE/RSJ International Conference on Intelligent Robots and Systems, Taipei, Taiwan, October 2010.
198. J. Ma, M. Y. Wang, and X. Zhu, "Closure problem and force optimization in fixtures and robotic manipulation," in Proc. of IEEE Conference on Automation Science and Engineering (CASE), Toronto, Canada, August 2010.

199. G. Guo, X. Wu, M.Y. Wang, and J. Wu, "Fast implicit surface reconstruction method based on normal constraints," in Proc. of IEEE International Conference on Mechatronics and Automation (ICMA), Xian, China, August, 2010.
200. J. Zhang, M. Y. Wang, and X. Wu, "Variational geometry with algebraic level set model," in Proc. of 10th ASME Conf. on Engineering Systems Design and Analysis, Istanbul, Turkey, July 2010.
201. X. Guo, W. S. Zhang, and M. Y. Wang, "Stress-constrained topology optimization via level set approach," in Proc. of 6th China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems, Kyoto, Japan, June 2010.
202. P. Wei, H. T. Ma, T. Chen, and M. Y. Wang, "Stiffness spreading method for layout optimization of truss structures," in Proc. of 6th China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems, Kyoto, Japan, June 2010.
203. Q. Xia, T. L. Shi, and M. Y. Wang, "A level set based method for topology optimization of continuum structures with stress constraint," in Proc. of 6th China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems, Kyoto, Japan, June 2010.
204. Q. Xia, T. L. Shi, S. Liu, and M. Y. Wang, "A level set based method for optimization of cast part," in Proc. of 6th China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems, Kyoto, Japan, June 2010.
205. Y. Lou, F. Feng, and M. Y. Wang, "Dynamics based trajectory planning and control for parallel manipulators," in Proc. of 7th IEEE International Conference on Control and Automation, Christchurch, New Zealand, December 2009.
206. S. H. Ho, B. Lui, X.H. Xing, and M. Y. Wang, "Parametric shape and topology optimization with radial basis functions and partition of unity method," in Proc. of Second International Symposium on Computational Mechanics (ISCM II) in conjunction with Twelfth International Conference on the Enhancement and Promotion of Computational Methods in Engineering and Science (EPMESC XII), Hong Kong and Macau, November-December, 2009.
207. P. Song, X. J. Wu, and M. Y. Wang, "A robust and accurate method for virtual hull computation," in Proc. of 2009 IEEE International Conference on Information and Automation, Zhuhai/Macau, China, June 2009. (Received *the Best Paper Award in Information*)
208. M. Y. Wang, "An analysis of the compliant mechanism models," in Proc. of ASME/IFTOMM International Conference on Reconfigurable Mechanisms and Robots (ReMAR 2009), London, June 2009.
209. X. H. Xing and M. Y. Wang, "Structural topology optimization using finite element based level set methods," in Proc. of NEFEMS World Congress, Crete, Greece, June 2009.
210. P. Wei and M. Y. Wang, "Continuum structural optimization with level set model and X-FEM," in Proc. of 8th World Congress of Structural and Multidisciplinary Optimization (WCSMO8), Lisbon, June 2009.
211. X. H. Xing and M. Y. Wang, "Topology optimization with level set method based on streamline diffusion finite element method," in Proc. of 8th World Congress of Structural and Multidisciplinary Optimization (WCSMO8), Lisbon, June 2009.
212. T. Liu and M. Y. Wang, "Passive force analysis with elastic contacts for fixturing and grasping," in Proc. of IEEE Conference on Robotics and Automation (ICRA), Kobe, Japan, May 2009.
213. M. Y. Wang, "A kinetoelastic approach to continuum compliant mechanism optimization," in Proc. of ASME 32nd Mechanisms and Robotics Conference, Brooklyn, New York, USA, August 2008.
214. X. J. Wu, M. Y. Wang, and B. Han, "An automatic hole-filling algorithm for polygon meshes," in Proc. of CAD'08-2008 International CAD Conference & Exhibition, Orlando, USA, June 2008.
215. F. Y. Lui, M. Y. Wang, and Q. Xia, "Parametric shape and topology optimization via radial basis functions, partition of unity and level set method," in Proc. of 5th China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems, Jeju, South Korea, June 2008.
216. H. S. Ho, J. Z. Luo, M. Y. Wang, J. Huang, and P.K. Choy, "Structural optimization for high dynamic performance in electronics manufacturing equipment," in Proc. of 5th China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems, Jeju, South Korea, June 2008.
217. Q. Xia and M. Y. Wang, "Topology optimization of thermoelastic structures using level set method," in Proc. of International Conference on Engineering Optimization, Rio de Janeiro, Brazil, June 2008.
218. P. Wei and M. Y. Wang, "A structural optimization method with XFEM and level set models," in Proc. of 7th International Symposium on Tools and Methods of Competitive Engineering (TMCE2008), Izmir, Turkey, April 2008.

219. S. K. Chen and M. Y. Wang, "Designing distributed compliant mechanisms with characteristic stiffness," in Proc. of ASME 31st Mechanisms and Robotics Conference, Las Vegas, USA, September 2007. (Received *the Compliant Mechanisms Award-Theory*)
220. Z. W. Xu, M. Y. Wang, and T. N. Chen, "Particle damping for vibration and noise reduction," in Proc. of 14th International Congress on Sound and Vibration, Cairns, Australia, July, 2007.
221. X. J. Wu, W. J. Liu, and M. Y. Wang, "Modeling heterogeneous objects in CAD," in Proc. of CAD'07 – 2007 International CAD Conference & Exhibition, Honolulu, Hawaii, June 2007. (Received *the Best Conference Paper Award*)
222. M. Y. Wang and Z. Luo, "Shape and topology optimization of compliant mechanisms using level set-based parameterization method," in Proc. of 12th World Congress in Mechanism and Machine Science (IFTOMM2007), Besancon, France, June 2007.
223. Q. Xia and M. Y. Wang, "Level set based method for simultaneous optimization of material property and topology of functionally graded structures," in Proc. of 12th ACM Solid and Physical Modeling Symposium, Beijing, June 2007.
224. X. H. Xing, M. Y. Wang, and F. Y. Lui, "Parametric shape and topology optimization with moving knots radial basis functions and level set method," in Proc. of 7th World Congress of Structural and Multidisciplinary Optimization (WCSMO7), Seoul, May 2007.
225. S. Y. Wang and M. Y. Wang, "A density filtering method for topology optimization," in Proc. of 7th World Congress of Structural and Multidisciplinary Optimization (WCSMO7), Seoul, May 2007.
226. P. Wei and M. Y. Wang, "A piecewise density function method for structural shape and topology optimization," in Proc. of 7th World Congress of Structural and Multidisciplinary Optimization (WCSMO7), Seoul, May 2007.
227. J. Xu, M. Y. Wang, H. Wang, and Z. Li, "Force analysis of whole hand grasp by multifingered robotic hand," in Proc. of IEEE International Conference on Robotics and Automation, Rome, April 2007.
228. H. Wang, K. H. Low, and M. Y. Wang, "A transparent bilateral controller for teleoperation considering transition of motion," in Proc. of IEEE International Conference on Robotics and Automation, Rome, April 2007.
229. X. P. Ji, X. J. Wu, and M. Y. Wang, "Algorithm of scattered data reduction for surface reconstruction using radial basis function," in Proc. of 16th International Conference on Artificial Reality and Tele-existence (ICAT2006), Hangzhou, China, November-December 2006.
230. P. Wei and M. Y. Wang, "The augmented Lagrangian method in structural shape and topology optimization with RBF based level set method," in Proc. of 4th China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems, pp. 191-196, Kunming, China, November 2006.
231. X. J. Wu, M. Y. Wang, and Q. Xia, "Orthogonal least square RBF based implicit surface reconstruction methods," in Proc. of 12th International Conference Virtual Systems and Multimedia (VSMM2006), Xi'an, China, October 2006.
232. H. Wang, K. H. Low, and M. Y. Wang, "Combined impedance/direct control of robot manipulators," in Proc. of IEEE/RSJ International Conference on Intelligent Robotics and Systems (IROS), Beijing, China, October 2006.
233. T. Liu and M. Y. Wang, "Haptic simulation of multibody contact dynamics for fixture loading planning," in Proc. of IEEE Conference on Automation Science and Engineering (CASE), Shanghai, China, October 2006.
234. S. K. Chen and M. Y. Wang, "Geometric width control in topology optimization using level set method and a quadratic energy functional," in Proc. of ASME 30th Mechanisms and Robotics Conference, Philadelphia, September 2006.
235. P. Wei and M. Y. Wang, "Parametric structural topology and shape optimization with level set method and radial basis functions," in Proc. of ASME 32nd Design Automation Conference, Philadelphia, September 2006.
236. Q. Xia, M. Y. Wang, and X. J. Wu, "Orthogonal least squares in partition of unity surface reconstruction with radial basis functions," in Geometric Modeling and Imaging – New Trends: Proc. of International Conference on Geometric Modeling & Imaging (GMAI2006), pp. 28-33, London, July 2006.
237. X. J. Wu, M. Y. Wang, and Q. Xia, "3D reconstruction methods based on radial basis functions for laser scanned data point sets," in Proc. of CAD'06 - International CAD Conference & Exhibition, Phuket, Thailand, June 2006.
238. H. Wang, K. H. Low, and M. Y. Wang, "On the position/force control of robot manipulators with model uncertainty and random disturbances," in Proc. of IEEE International Conference on Robotics, Automation and Mechatronics, Bangkok, June 2006.

- 239. H. Wang, K. H. Low, and M. Y. Wang, "Reference trajectory generation for force tracking impedance control by using neural network-based environment estimation," in Proc. of IEEE International Conference on Robotics, Automation and Mechatronics, Bangkok, June 2006.
- 240. X. J. Wu, M. Y. Wang, and Q. Xia, "Implicit fitting and smoothing using radial basis functions and partition of unity," in Proc. of 9th International Computer-Aided-Design and Computer Graphics Conference (CAD/Graphics'05), Hong Kong, December 2005.
- 241. M. Y. Wang and S. Y. Wang, "Parameter shape and topology optimization with radial basis functions," in Proc. of IUTAM Symposium on Topological Design Optimization of Structures, Machines and Materials—Status and Perspectives, Rungstedgaard, Denmark, October, 2005. (Invited paper)
- 242. S. K. Chen, M. Y. Wang, and S. Y. Wang, "Optimal synthesis of compliant mechanisms using a connectivity preserving level set method," in Proc. of ASME 31st Design Automation Conference, Long Beach, CA, September 2005.
- 243. S. W. Zhou and M. Y. Wang, "The generalized Cahn-Hilliard equations of multiphase transition for structure topology optimization," in Proc. of ASME 31st Design Automation Conference, Long Beach, CA, September 2005.
- 244. T. Liu and M. Y. Wang, "Non-jamming conditions in multi-contact constrained rigid-body dynamics," in Proc. of ASME Fifth International Conference on Multibody Systems, Nonlinear Dynamics and Controls, Long Beach, CA, September 2005.
- 245. K. H. Low, H. Wang, and M. Y. Wang, "On the development of a real time control system by using x-PC target: solution to robotic system control," in Proc. of IEEE Conference on Automation Science and Engineering, Edmonton, Canada, August 2005.
- 246. T. Liu and M. Y. Wang, "Haptic simulation for fixture loading planning," in Proc. of IEEE International Conference on Robotics and Biomimetics (ROBIO2005), pp. 190-194, Hong Kong and Macau, China, June-July 2005.
- 247. M. Y. Wang and P. Wei, "Topology optimization with level set method incorporating topological derivative," in Proc. of 6th World Congress of Structural and Multidisciplinary Optimization (WCSMO6), Rio de Janeiro, Brazil, May 2005.
- 248. H. Wang, K. H. Low, F. Gong, and M. Y. Wang, "A mapping method for telemanipulation of the non-anthropomorphic robotic hands with initial experimental validation," in Proc. of IEEE International Conference on Robotics and Automation, Barcelona, Spain, April 2005.
- 249. X. M. Wang, Y. L. Mei, and M. Y. Wang, "Design of multiphase elastic and thermoelastic materials with level set method," in Proc. of First International Conference on Modeling, Simulation & Applied Optimization (ICMSAO/05), American University of Sharjah, UAE, February 2005.
- 250. H. Wang, K. H. Low, F. Gong, and M. Y. Wang, "A virtual circle method for kinematic mapping from human hand to a non-anthropomorphic robot hand," in Proc. of 8th International Conference on Control, Automation, Robotics and Vision (ICARCV 2004), Kunming, China, December 2004.
- 251. H. Wang, K. H. Low, F. Gong, and M. Y. Wang, "Relative position based mapping for telemanipulation of dexterous robot hands," in Proc. of 2004 IEEE Conference on Robotics, Automation and Mechatronics (RAM 2004), Singapore, December 2004.
- 252. M. Y. Wang and X. M. Wang, "PDE-driven level sets and shape sensitivity for structural topology optimization," in Proc. of ASME 30th Design Automation Conference, Salt Lake City, Utah, September 2004.
- 253. X. Guo, K. Zhao, and M. Y. Wang, "A new approach for simultaneous shape and topology optimization based on implicit topology description functions," in Proc. of ASME 30th Design Automation Conference, Salt Lake City, Utah, September 2004.
- 254. X. Wang, Y. Mei, and M. Y. Wang, "Incorporating topology derivatives into level set methods for structural topology optimization," in Proc. of 10th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference, Albany, NY, September, 2004.
- 255. M. Y. Wang and S. W. Zhou, "A phase-filed method for structural topology optimization with three material phases," in Proc. of 10th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference, Albany, NY, September, 2004.
- 256. T. Liu and M. Y. Wang, "No jamming condition for force planning in fixture inserting," in Proc. of IEEE International Conference on Robotics and Biomimetics (ROBIO2004), Shenyang, China, August 2004.
- 257. M. Y. Wang and S. W. Zhou, "A variational method for structural topology optimization," in Proc. of Second International Conference on Structural Engineering, Mechanics and Computation, Cape Town, South Africa, July 2004.

258. M. Y. Wang and X. M. Wang, "Design and optimization of heterogeneous objects with Mumford-Shah and level-set models," in Proc. of International CAD Conference and Exhibition (CAD'04), Patayya Beach, Thailand, May 2004.
259. T. Liu and M. Y. Wang, "Computation of multi-rigid-body contact dynamics," in Proc. of IEEE International Conference on Robotics and Automation, New Orleans, USA, April 2004.
260. T. Liu and M. Y. Wang, "Multi-body dynamics with contacts: theory, method and applications," in Proc. of 2003 Chinese Intelligent Automation Conference, Hong Kong, December 2003.
261. K. W. Chan, W. H. Liao, M. Y. Wang, and P. K. Choy, "Experimental studies for particle damping on a bond arm," in Proc. of 2003 Chinese Intelligent Automation Conference, Hong Kong, December 2003.
262. C. H. Xiong, Y. L. Xiong, and M. Y. Wang, "Clamping planning in workpiece-fixturing systems," in Proc. of Symposium on Advances in Tooling and Work Holding Systems, 2003 ASME International Mechanical Engineering Congress and Exposition, Washington, DC, November 2003.
263. M. Y. Wang and Y. H. Liu, "Force passivity in hybrid active/passive manipulation," in Proc. of IEEE International Conference on Robotics, Intelligent Systems and Signal Processing, Changsha, China, October 2003.
264. C. H. Xiong, M. Y. Wang, and Y. L. Xiong, "On prediction of passive contact forces in workpiece-fixturing systems," in Proc. of ASME 8th Design for Manufacturing Conference, Chicago, September 2003.
265. M. Y. Wang and X. M. Wang, "A level set method for shape and topology optimization," in Proc. of ASME 29th Design Automation Conference, Chicago, September 2003.
266. Z. W. Xu, M. Y. Wang, and T. N. Chen, "Particle damping for vibration suppression," in Proc. of ASME 19th Biennial Conference on Mechanical Vibration and Noise, Chicago, September 2003.
267. M. Y. Wang and Y. H. Liu, "Force passivity in fixturing and grasping," in Proc. of IEEE International Conference on Robotics and Automation, pp. 2236-2241, Taipei, Taiwan, September 2003.
268. Z. H. Xiong, M. Y. Wang, and Z. Li, "A computer-aided probing strategy for workpiece localization," in Proc. of IEEE International Conference on Robotics and Automation, pp. 3941-3946, Taipei, Taiwan, September 2003.
269. T. Liu and M. Y. Wang, "An approximate quadratic analysis for fixture locating schemes," in Proc. of 7th International Conference on Automation Technology, Chia-Yi, Taiwan, September 2003.
270. C. H. Xiong, M. Y. Wang, K. Y. Rong, and Y. L. Xiong, "Force closure of fixturing/grasping with passive contacts," in Proc. of 11th International Conference on Advanced Robotics, Vol. 3, pp. 1352-1357, Coimbra, Portugal, June 2003.
271. M. Y. Wang and X. M. Wang, "A multi-phase level set model for multi-material structural optimization," in Proc. of 5th World Congress of Structural and Multidisciplinary Optimization (WCSMO5), Lido di Jesolo, Italy, May 2003.
272. K. M. Mao, Z. W. Xu, M. Y. Wang, and T. N. Chen, "Efficient computation of particle motions in discrete element modeling of particle damping," in Proceeding of Eighth International Symposium on Plasticity and Impact Mechanics (IMPLAST 2003), pp. 994-1005, New Delhi, India, March 2003.
273. M. Y. Wang and T. Liu, "A full contact model for fixture kinematic analysis," in Proc. of IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), pp. 1602-1607, Lausanne, Switzerland, October 2002.
274. M. Y. Wang and D. M. Pelinescu, "Prediction of workpiece-fixturing contact forces using the rigid body model," in Proc. of ASME 7th Design for Manufacture Conference, Montreal, September 2002.
275. M. Y. Wang, "Passive forces in fixturing and grasping," in Proc. of 9th IEEE Conf. on Mechatronics and Machine Vision in Practice, Chiang Mai, Thailand, September 2002.
276. M. Y. Wang, "Tolerance analysis and characterizations in workpiece fixturing," in Proc. of Japan-US Symposium on Flexible Automation, Hiroshima, Japan, July 2002.
277. M. Y. Wang and D. M. Pelinescu, "Efficient prediction of workpiece-fixturing contact forces using the rigid body model," in Proc. of 5th International Conference on Frontiers of Design and Manufacturing, pp. 403-408, Dalian, China, July 2002.
278. R. K. Kaza, S. Saikumar, and M. Y. Wang, "Solid free form design for structural optimization," in Proc. of 6th ASME Conf. on Engineering Systems Design and Analysis, Istanbul, Turkey, July 2002.
279. M. Y. Wang, "Efficient prediction of workpiece-fixturing contact forces," In Proc. of WSEAS International Conference on Signal Processing, Robotics and Automation, pp. 1041-1047, Cadiz, Spain, June 2002.
280. M. Y. Wang, "Characterizations of positioning accuracy of deterministic localization of fixtures," in Proc. of IEEE International Conference on Robotics and Automation, pp. 2894-2899, Washington DC, May 2002.

281. D. Ding, G.L. Xiang, Y.H. Liu, and M. Y. Wang, "Fixture layout design for curved workpieces," in Proc. of IEEE International Conference on Robotics and Automation, pp. 2906-2911, Washington DC, May 2002.
282. P. Hui, S. Qin, W. J. Li, and M. Y. Wang, "High aspect ratio nano fluidic channels by laser-controlled fracturing," in Proc. of IEEE International MEMS Conference, pp. 156-159, Las Vegas, January 2002.
283. M. Y. Wang, "A full-kinematic model of fixtures for precision locating applications," in Proc. of IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), vol. 2, pp. 1135-1140, Maui, Hawaii, October 2001.
284. D. Ding, Y. H. Liu, and M. Y. Wang, "Automatic selection of fixturing surfaces and fixturing points for polyhedral workpieces," in Proc. of IEEE International Conference on Intelligent Robotics and Systems (IROS), vol. 2, pp. 1147-1152, Maui, Hawaii, October 2001.
285. D. Ding, Y.H. Liu, and M. Y. Wang, "On computing immobilizing grasps of 3-D curved objects," in Proc. of 2001 IEEE International Symposium on Computational Intelligence in Robotics and Automation, pp. 11-16, Banff, Canada, July 2001.
286. D. Pelinescu and M. Y. Wang, "Multi-Objective optimal fixture layout design in a discrete domain," in Proceedings of 2001 IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM'01), vol.1, pp. 201-206, Como, Italy, July 2001.
287. M. Y. Wang and D. Pelinescu, "Optimal fixture layout design in a discrete domain," in Proceedings of 2001 IEEE International Conference on Robotics and Automation, vol. 1, pp. 792-798, Seoul, South Korea, May 2001. (Received the *Kayamori Best Paper Award*)
288. M. Y. Wang, "An accurate fixture model for precision fixturing," in Proceedings of 7th CIRP International Seminar on Computer Aided Tolerancing, ENS Cachan, France, pp. 163-172, April 2001.
289. T. Chen, K. Mao, X. Huang, and M. Y. Wang, "Dissipation mechanisms of non-obstructive particle damping using discrete element method," in Proceedings of SPIE International Symposium on Smart Structures and Materials, Vol. 4331, Damping and Isolation, Newport Beach, CA, pp. 294-301, March 2001.
290. M. Y. Wang, "Optimum 3D fixture layout design," in Proceedings of the 3rd World Congress on Intelligent Control and Automation, vol. 1, pp. 79-84, Hefei, China, June 2000.
291. M. Y. Wang and D. Pelinescu, "Precision localization and robust force closure in fixture layout design for 3D workpieces," in Proceedings of 2000 IEEE International Conference on Robotics and Automation, San Francisco, vol. 4, pp. 3585-3590, May 2000.
292. M. Y. Wang and D. Pelinescu, "Precision and force consideration in fixture layout design," in Proceedings of 5th International Conference on Computer Integrated Manufacturing, Singapore, pp. 1012-1022, March 2000.
293. Y. Wang, M. Radhakrishnan, and W. Zhao, "Transmission modeling for gear rattle analysis," Proceedings of 1999 ASME Mechanical Vibration and Noise Conference, Las Vegas, NV, September 1999.
294. Y. Wang, "Precision workpiece fixturing and localization," Proceedings of International Conference on Advanced Manufacturing Technology (ICAMT'99), Xi'an, China, pp. 150-153, June 1999.
295. Y. Wang, "Automated fixture layout design for 3D workpieces," Proceedings of 1999 IEEE Conference on Robotics and Automation, Detroit, vol. 2, pp. 1577-1582, May 1999.
296. Y. Wang and S. Nagarkar, "Locator and sensor placement for automated coordinate checking fixtures," in Manufacturing Science and Engineering—Proceedings of 1998 ASME IMECE, MED-Vol. 8, pp. 293-302, Anaheim, CA, November 1998.
297. Y. Wang and Z. Wang, "A time finite element method for dynamic analysis of elastic mechanisms in link coordinate systems," in Proceedings of ASME 25th Mechanisms Conference, Atlanta, September 1998.
298. Y. Wang and S. Gupta, "Optimal CMM measurement locations for manufactured part modeling," in Proceedings of Third S. M. Wu Symposium on Manufacturing Science, Wuhan, P.R. China, pp. 424 - 428, June 10-12, 1998.
299. Y. Wang and S. Nagarkar, "Optimal sensor location design in automated coordinate checking fixtures," in Proceedings of 1997 IEEE Symposium on Assembly and Task Planning (ISATP'97), pp. 140 - 145, Marina del Rey, CA, August 6-9, 1997.
300. Y. Wang and X. Tang, "Iso-parametric five-axis NC machining of sculptured surfaces," in Proceedings of Fifth IASTED International Conference on Robotics and Manufacturing, Cancun, Mexico, May 29-31, 1997.
301. Y. Wang, "Modeling and analysis of automotive transmission rattle," in Proceedings of SAE Noise and Vibration Conference, Traverse City, MI, Vol. 3, pp. 1457-1462, SAE Technical Paper 972054, 1997.

302. C. J. Lu, J. K. H. Tsai, Yang, and Y. (M.) Wang, "The design architecture of developing life-cycle virtual prototyping systems," in Proceedings of ASME Computers in Engineering Conference, Irvine, CA, August 18-22, 1996.
303. Y. Wang and Z. Wang, "Dynamic analysis of flexible mechanisms with clearances," in Proc. of ASME Mechanisms Conference, Irvine, CA, August 1996.
304. Y. Wang and S. Gupta, "Sensitivity analysis in manufactured part modeling (MPM) for automotive space-frames," in Proc. of 2nd S. M. Wu Symposium on Manufacturing Science, Ann Arbor, MI, May 1996.
305. C. Lu, K. Tsai, J. Yang, and Y. Wang, "Optimal layout design of automated systems using topology connectivity method," in Proceedings of IEEE Conference on Robotics and Automation, vol. 1, pp. 870-877, Minneapolis, Minnesota, April 1996.
306. Y. Wang, "Biomechanical stability of multi-joint posture," in 1995 Advances in Bioengineering, M. Hull (ed.), pp. 293-294, ASME, November 1995.
307. Y. Wang, S. Gupta, F. Hulting, and P. Fussell, "Manufactured part modeling (MPM) for characterization of geometric errors of aluminum automotive space-frames," in Manufacturing Science and Engineering-1995, vol. 2, pp. 1051-1063, ASME, 1995.
308. Y. Wang, S. Gupta, and S. Rao, "Slicing: A procedure for tolerance evaluation of manufactured parts using CMM measurement data," in Advances in Design Automation-1995, v. 1, pp. 293-300, ASME Design Automation Conference, Boston, September 1995.
309. C. Lu, K. Tsai, J. Yang, and Y. Wang, "Quantitative design of material handling system using predictive simulation modeling," Proceeding of EUROSIM' 95 on Software Tools and Products, pp. 45-48, Vienna, Austria, September 1995.
310. Y. Wang, "Stick-slip motion of frictionally damped turbine airfoils," in Vibration of Nonlinear, Random, and Time-Varying Systems, pp. 1071-1082, ASME 15th Conference on Mechanical Vibration and Noise, Boston, September 1995.
311. Y. Wang, "Prediction of periodic response of flexible rotor systems with nonlinear supports," ASME 15th Conference on Mechanical Vibration and Noise, Boston, September 1995.
312. Y. Wang and Z. Zhang, "A spatial and temporal finite element method for dynamic analysis of flexible mechanisms," in Proc. of IFToMM 9th World Congress on the Theory of Machines and Mechanisms, v. 1, pp. 28-32, Milan, Italy, August 1995.
313. U. Tasch, S., Mittal, and Y. Wang, "A redundant actuation scheme for independent modulations of stiffness and position of a robotic joint: design, implementation, and experimental evaluation," in Advances in Robotics, Mechatronics and Haptic Interfaces, ASME Winter Annual Meeting, DSC-49, pp. 247-256, December 1993.
314. Y. Wang, "Frequency response characteristics of a revolute impact pair," in R. A. Ibrahim (ed.), Nonlinear Vibration, pp. 171-178, ASME, New York, September 1993.
315. Y. Wang, "Minimum zone evaluation of form tolerances," in Quality Assurance Through Integration of Manufacturing Processes and Systems, A. R. Thangaraj, et al. (ed.), ASME, New York, pp. 15-28, 1992.
316. Y. Wang, "Intersection of offset surfaces of parametric patches," in D.A. Hoeltzel (ed.), Advances in Design Automation-1992, Vol. 2, ASME Design Automation Conference, Scottsdale, Arizona, pp. 215-221, September 1992.
317. J.-M. Chen, Y. Wang, and F. B. Prinz, "Parametric surface intersection for geometric modeling," in D.A. Hoeltzel (ed.), Advances in Design Automation-1992, Vol. 2, ASME Design Automation Conference, Scottsdale, Arizona, pp. 207-213, September 1992.
318. Y. Wang, "Applications of optimization techniques for minimum zone evaluation," 1992 US-Japan Symposium on Flexible Automation, San Francisco, CA, pp. 1035-1039, 1992.
319. Y. Wang, "Dynamic analysis of mechanical systems with time-varying topologies, Part 1: Dynamic model and stability analysis," in B. Ravani (ed.), Advances in Design Automation-1990, Vol. 2, pp. 173-179, ASME, 1990.
320. Y. Wang, "Dynamic analysis of mechanical systems with time-varying topologies, Part 2: Global analysis and simulation results," in B. Ravani (ed.), Advances in Design Automation - 1990, Vol. 2, pp. 181-186, ASME, 1990.
321. Y. Wang, "A new method for analysis of mechanical systems with intermittent constraints," Proceedings of Symposium on Mechanical Systems With Time-Varying Topologies, Toronto, Canada, June 1989.
322. Y. Wang, "Dynamics and planning of collisions in robotic manipulation," Proceedings of IEEE International Conference on Robotics and Automation, pp. 478-483, Scottsdale, Arizona, May 1989.

323. M. T. Mason, K. Y. Goldberg, and Y. Wang, "Progress in robotic manipulation," Proceedings of 15th Conference on Production Research and Technologies, pp. 9-13, SME, Berkeley, CA, 1989.
324. M. T. Mason and Y. Wang, "On the inconsistency of rigid-body frictional planar mechanics," Proceedings of IEEE International Conference on Robotics and Automation, pp 524-528, Philadelphia, PA, April 1988.
325. Y. Wang and M. T. Mason, "Modeling impact dynamics for robotic operations," Proceedings of IEEE International Conference on Robotics and Automation, pp. 678-685, Raleigh, NC, April 1987.

Chapters in Books and Collections:

326. J. Chen, X. J. Wu, M. Y. Wang, and F. Deng, "Human body shape and motion tracking by hierarchical weighted ICP," in Advances in Visual Computing, G. Bebis *et al.* (Eds.), Lecture Notes in Computer Science, Vol. 6939, Springer, Berlin, pp. 408-417, 2011. DOI: 10.1007/978-3-642-24031-7_41
327. M. Y. Wang, "An analysis of the compliant mechanism models," in Reconfigurable Mechanisms and Robots, Dai JS; Zoppi M; Kong XW (Eds.), KC EDIZIONI, Italy, pp. 380-388, 2009. ISBN: 978-88-89007-37-2
328. X. J. Wu, M. Y. Wang, and J. Chen, "Narrow-band based radial basis functions implicit surface reconstruction," in Advances in Geometric Modeling and Processing, Falai Chen and Bert Juttler (Eds.), Lecture Notes in Computer Science, Vol. 4975, Springer, Berlin, pp. 519-525, 2008. ISBN: 13978-3-540-79245-1
329. X. J. Wu, M. Y. Wang, and Q. Xia, "Orthogonal least square RBF based implicit surface reconstruction methods," in Interactive Technologies and Sociotechnical Systems, Zha, H, *et al.* (Eds.), Lecture Notes in Computer Science, Vol. 4270, Springer, Dordrecht, Netherlands, pp. 232-241, 2006. ISBN: 978-3-540-46304-7
330. M. Y. Wang and S. W. Zhou, "The Cahn-Hilliard phase-field model for topology optimization of solids," in IUTAM Symposium on Size Effects on Material and Structural Behavior at Micron- and Nano-Scales, Q. P. Sun and P. Tong (Eds.), Springer, Dordrecht, Netherlands, pp. 133-141, 2006. ISBN: 1-4020-4945-5
331. M. Y. Wang and S. Y. Wang, "Parametric shape and topology optimization with radial basis functions," in Topological Design Optimization of Structures, Machines and Materials: Status and Perspectives, M. P. Bendsoe, N. Olhoff, and O. Sigmund (Eds.), Springer, Dordrecht, Netherlands, pp. 13-22, 2006. ISBN: 1-4020-4729-0
332. X. Wang, Y. Mei, and M.Y. Wang, "Incorporating topology/phase derivatives into level set methods for optimization of solids," in Optimal Shape Design and Modeling, T. Lewinski, O. Sigmund, J. Sokolowski, and A. Zochowski (Eds.), Akademicka Oficyna Wydawnicza EXIT, Warsaw, pp. 145-157, 2004.
333. M. Y. Wang, "An accurate model for precision fixturing," in Geometric Product Specification and Verification: Integration of Functionality, P. Bourdet and L. Mathieu (Eds.), Kluwer Academic Publishers, Dordrecht, Netherlands, pp. 165-174, 2003.
334. M. Y. Wang, "Efficient prediction of workpiece-fixture contact forces," in Advances in Systems Engineering, Signal Processing and Communications, N. Mastorakis (Ed.), WSEAS Press, pp. 121-127, 2002.
335. Y. Wang, S. Gupta, and S. Rao, "Slicing: A procedure for tolerance evaluation of manufactured parts using CMM measurement data," in Advanced Tolerancing Techniques, H. Zhang (Ed.), John Wiley, New York, pp. 283-299, 1997.
336. M. Anjanappa and Y. Wang, "Design for automated manufacturing," Chapter 9, Handbook of Design, Manufacturing and Automation, R. C. Dorf and A. Kusiak (Eds.), John Wiley, New York, pp. 139-154, 1994.
337. Y. Wang, E. Gursoz, J. Chen, F. Prinz, and N. Patrikalakis, "Intersection of parametric surfaces for next generation geometric modelers," in Product Modeling for Computer-Aided Design and Manufacturing, J. Turner, J. Pegna, and M. Wozny (Eds.), North-Holland, New York, pp. 75-96, 1991.

Abstracts, Non-Refereed Papers and Technical Reports:

338. F. Chen, J. Cao, M. Y. Wang, J. Zhu, and Y. Zhang, "Networked soft actuators with programmable deformations," 2017 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Vancouver, Canada, September 2017.

- 339. ZHANG, Lei; FEIH, Stefanie; DAYNES, Stephen; LU, Wen Feng; WANG, Michael Yu; WEI, Jun, "Design optimization of cellular materials with shellular cores fabricated by selective laser melting," 9th International Conference on Materials for Advanced Technologies, Singapore, June 2017.
- 340. Y. Wang and M. Y. Wang, "Novel cellular structural design method for additive manufacturing," Proc. of 12th World Congress of Structural and Multidisciplinary Optimization (WCSMO12), Braunschweig, Germany, June 2017.
- 341. Y. Wang and M. Y. Wang, "Structural size control using level sets," Asian Congress of Structural and Multidisciplinary Optimization 2016 (ACSMO 2016), Nagasaki, Japan, May 2016.
- 342. Q. Xia, M. Y. Wang, and T. L. Shi, "A level set method for the representation of multiple types of boundary and its application in structural shape and topology optimization," Proc. of 8th China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems, Gyeongju, Korea, May 2014.
- 343. M.Y. Wang and X. Wang, "Wide-band low frequency gaps in periodic flexural beams with nonlinear local resonators," Proc. of 2nd International Conference on Phononic Crystals/Metamaterials, Phonon Transport and Optomechanics, Sharm El-Sheikh, Egypt, June 2013.
- 344. X. Wang and M. Y. Wang, "Band gaps in periodic flexural beams with multi-DOF/continuum local resonators," Proc. of 2nd International Conference on Phononic Crystals/Metamaterials, Phonon Transport and Optomechanics, Sharm El-Sheikh, Egypt, June 2013.
- 345. W. Zhang, X. Guo, and M. Y. Wang, "Topology optimization of continuum structures considering stress measures," Proc. of 7th China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems, Huangshan, China, June 2012.
- 346. X. J. Wu, M. Y. Wang, and W. J. Liu, "A new method to slice a heterogeneous object," Proc. of International CAD Conference & Exhibition, Reno, Nevada, USA, June 2009.
- 347. M.Y. Wang, "Recent advances in level set methods for structural topology optimization," Proc. of 3rd Asia-Pacific Congress on Computational Mechanics (APCOM'07), Kyoto, Japan, December, 2007.
- 348. S. Y. Wang and M. Y. Wang, "S-FEM method for structural topology optimization," Proc. of 6th European Solid Mechanics Conference (Abstracts), Budapest, August-September 2006.
- 349. S. Y. Wang and M. Y. Wang, "A moving S-FEM method for structural topology optimization," Proc. of Third M.I.T. Conference on Computational Fluid and Solid Mechanics (Abstracts), Cambridge, MA, June 2005.
- 350. S. W. Zhou and M. Y. Wang, "The generalized Chan-Hilliard equations for structural topological optimization," Proc. of Annual Conference of Hong Kong Society of Theoretical and Applied Mechanics (Abstracts), Hong Kong, March 2005.
- 351. M.Y. Wang, "A phase field method for structural topology optimization," Symposium on Integration of Materials Microstructure and Chemistry in Multidisciplinary Design Optimization, in Proc. of 2004 ASME International Design Engineering Technical Conferences, Salt Lake City, Utah, USA, September, 2004.
- 352. M. Y. Wang and S. W. Zhou, "A phase field method for optimization of solid structures: Chan-Hilliard model," Proc. of IUTAM Symposium on Size Effects on Material and Structural Behavior at Micron- and Nano-Scales (Abstracts), Hong Kong, May 2004.
- 353. M. Y. Wang and S. W. Zhou, "A phase-field method for structural topological optimization with three material phases," Proc. of Annual Conference of Hong Kong Society of Theoretical and Applied Mechanics (Abstracts), Hong Kong, March 2004.
- 354. M.Y. Wang, with X. M. Wang and D. M. Guo, "PDE-drive level set methods for structural and material optimization," Proc. of 7th U.S. National Congress on Computational Mechanics (Abstracts), Symposium on Structural Optimization, Albuquerque, NM, July 2003.
- 355. M.Y. Wang, X. M. Wang, and D. M. Guo, "Structural shape and topology optimization using level set methods," Proc. of EUROMECH Colloquium on Computer-Aided Optimization of Mechanical Systems (Abstracts), Erlangen-Nuremberg, Germany, February 2003.
- 356. S. Saikumar and M. Y. Wang, "Topological optimization of structures for static and dynamic loading employing the density method of optimal material distribution," Proc. of Annual Conference of Hong Kong Society of Theoretical and Applied Mechanics (Abstracts), p. 27, Hong Kong, March 2001.
- 357. Y. Wang, "Optimal CMM measurement locations," NSF Design and Manufacturing Grantees Conference, Long Beach, CA, January 1999.
- 358. Y. Wang, S. Nagarkar, and P. Fussell, "Design of automated coordinate checking fixtures," NSF Design and Manufacturing Grantees Conference, pp. 391-392, Monterrey, Mexico, January 1998.

359. Y. Wang and S. Nagarkar, "Locator and sensor placement for automated coordinate checking fixtures," Technical Report 97-75, The Institute for Systems Research, University of Maryland, College Park, MD 20742, October 1997.
360. Y. Wang and P. Fussell, "Characterization of geometric shape with manufactured part modeling approach," NSF Design, Manufacturing and Industrial Innovation Grantees Conference, pp. 271-218, Seattle, January 1997.
361. Y. Wang, "Manufactured part models for aluminum automotive space-frames," Proceedings of the 1996 NSF Design and Manufacturing Grantees Conference, Albuquerque, New Mexico, pp. 323-324, January 1996.
362. J. Towles, Y. Wang, and P. Charalambides, "A material distribution approach to structural optimization," Technical report, Department of Mechanical Engineering, University of Maryland, 1995.
363. Y. Wang, S. Gupta, and P. Fussell, "Manufactured part models for automotive space-frame structures," The Institute of Mathematical Statistics (IMS) Bulletin, vol. 24, June 1995.
364. Y. Wang, F. Hulting, and P. Fussell, "Discovery of part shape from surface measurement data," Proceedings of 1995 NSF Design and Manufacturing Grantees Conference, La Jolla, California, pp. 377-378, January 1995.
365. Y. Wang, et al., "Non-manifold boundary representation with parametric geometric entities for geometric modeling," Technical Report EDRC 24-37-90, Engineering Design Research Center, Carnegie Mellon University, Pittsburgh, PA, October 1990.
366. M. T. Mason and Y. Wang, "On the inconsistency of rigid-body frictional planar mechanics," Technical Report CMU-CS-87-130, Computer Science Department, Carnegie Mellon University, June 1987.
367. Y. Wang, "On impact dynamics of robotic operations," Technical Report CMU-RI-TR-86-14, The Robotics Institute, Carnegie Mellon University, September 1986.

Keynote/Invited Speeches and Lectures:

1. **Conference Keynote:** "Complexity is Free, But How Can We Benefit from It?" ECCOMAS Thematic Conference on Simulation for Additive Manufacturing, Munich, October 12, 2017.
2. **Conference Plenary Talk:** "Compliant Mechanisms and Soft Robotics," 2017 IEEE International Conference on Advanced Robotics and Mechatronics (ICARM2017), August 28, 2017, Hefei, China.
3. **Conference Invited Talk:** "A New Era in Robotics," AI and Robotics Forum, 4th China Robotop Summit, The Provincial Government of Zhejiang Province, Ningbo, China, May 17, 2017.
4. **Conference Invited Talk:** "Innovation and Entrepreneurship in Robotics," World Robotics Conference, The Ministry of Industry and Information of China, Beijing, October 21, 2016.
5. **Keynote:** "A New Era in Robotics: Now and Future," HKUST Science-for-Lunch, a 25th Anniversary Special Series, Hong Kong University of Science and Technology, Hong Kong, March 10, 2016.
6. **Keynote:** "HKUST Robotics Institute: Leading the Way for a Robotic Industry in the Region," The World Robotics Conference, Ministry of Industry and Information of China, Beijing, Nov. 24, 2015.
7. **Keynote:** "HKUST Robotics Institute: Leading the Way for a Robotic Industry in the Region," The IoT and Robotics Forum, Center for Industrial Engagement and Internship, HKUST, November 21, 2015.
8. **Frank W. Otto Distinguished Lecture:** "Multi-Functional Structures and Materials: Topology Optimization and Additive Manufacturing," College of Engineering & Applied Sciences/Department of Mechanical Engineering, Stony Brook University, New York, July 31, 2015.
9. **Conference Keynote:** "Structural Topology Optimization: Boundless Benefits and Potential," Altair Technology Conference, Singapore, July 21, 2015.
10. **Dean's Leadership In Innovation Seminar:** "From Compliant Mechanisms to Hyper-Elastic Soft Robots," Faculty of Engineering and Information Technology, University of Technology Sydney, Australia, June 10, 2015.
11. **Conference Keynote Talk:** "Multi-Functional Structures and Materials: Topology Optimization and Additive Manufacturing," 11th Cross-Strait Manufacturing Workshop, Yinchuan, China, Sep. 25, 2014.
12. **Distinguished Lecture Series:** "Generative Design – Creativity through Simulation and Optimization," Engineering Product Development, Singapore University of Technology and Design, Singapore, December 4, 2013.
13. **Invited Lecture:** "Spatially-Distributed Constraints in Topology Optimization," Science Forum on Mathematical Issues in Topology Optimization of Materials and Structures, Natural Science Foundation of China, Dalian, China, November 16, 2013.

14. ***Distinguished Lecture In Centennial Celebration of Mechanical Engineering Education of Xian Jiaotong University:*** “Generative Design,” Xian Jiaotong University, Xian, China, April 5, 2013.
15. ***Invited Presentation:*** “Generative Design,” Taishan Academic Forum on Advanced Manufacturing Technology, Qingdao, China, December 28, 2012.
16. ***Conference Plenary Lecture:*** “Stress Constraints and Stress Isolation in Topology Optimization,” 7th China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems, Huangshan, China, June 18, 2012.
17. ***Dean’s Leadership In Innovation Seminar:*** “Generative Design: Unleashing Human and “Machine” Creativity through Simulation and Optimization,” Faculty of Engineering and Information Technology, University of Technology Sydney, Australia, November 28, 2011.
18. ***Conference Keynote Talk:*** “Generative Design and Optimization,” International Conference on Advanced Design and Manufacturing Engineering, Guangzhou, China, September 17, 2011.
19. ***Invited Presentation:*** “Generative Design,” Sino Manufacturing Science Forum, Harbin, China, August 14, 2011.
20. ***Conference Keynote Talk:*** “Compliant Mechanisms for MEMS and Flexonics,” 6th IEEE International Conference on Industrial Electronics and Applications (ICIEA), Beijing, China, June 22, 2011.
21. ***Distinguished Lecture In Celebration of 115th Anniversary of Xian Jiaotong University:*** “Generative Design and Optimization,” Xian Jiaotong University, Xian, China, April 7, 2011.
22. ***Conference Plenary Talk:*** “Compliant Mechanisms for MEMS and Flexonics,” IEEE International Conference on Mechatronics and Automation (ICMA), Xian, China, August 7, 2010.
23. ***Conference Invited Lecture:*** “Optimization Driven Design,” 2nd International Workshops on Advances in Computational Mechanics (IWACOM-II), Yokohama, Japan, March 31, 2010.
24. ***Invited Presentation:*** “A Kinetoelastic Model for Compliant Mechanism Optimization,” 1st International Symposium on Geometric Methods in Robotics and Mechanism Research, Hong Kong, December 15, 2009.
25. ***Conference Plenary Talk:*** “Direct Generative Design: CAD/CAE/Optimization Integration,” 1st Conference on Structural and Multidisciplinary Optimization – Theory and Applications, Dalian, China, September 3, 2009.
26. ***Conference Plenary Talk:*** “Direct Generative Design: CAD/CAE/Optimization Integration,” 5th China Annual CAE Conference, Lanzhou, China, July 28, 2009.
27. ***Conference Keynote Talk:*** “Optimization Driven Design: Unleashing Human and ‘Machine’ Creativity,” 2009 International CAD Conference and Exhibition (CAD’09), Reno, Nevada, USA, June 10, 2009.
28. ***Conference Keynote Lecture:*** “Compliant Mechanisms for MEMS and Flexonics,” 2nd International and 23rd All India Manufacturing Technology, Design and Research Conference (AIMTDR), Indian Institute of Technology Madras, Chennai, India, December 15, 2008.
29. ***Conference Keynote Lecture:*** “Compliant Mechanisms for MEMS and Flexonics,” International Conference on Fascinating Advancement in Mechanical Engineering (FAME’08), Mepco Schlenk Engineering College, Mudarai, Tamilnadu, India, December 12, 2008.
30. ***Conference Invited Talk:*** “Topology Optimization - A Research Perspective,” Altair 2008 HyperWorks Technology Conference (HTC’08), Beijing, China, October 25, 2008.
31. ***Conference Keynote Talk:*** “Flexonics: Design and Manufacturing,” 3rd CAS Symposium on Robotics and Manufacturing Technology (CAS-R&M), Shenyang Institute of Automation, Chinese Academy of Sciences, Shenyang, China, October 11, 2008.
32. ***Conference Invited Talk:*** “Recent Advances in Level Set Methods for Structural Topology Optimization,” International Workshop on Advances in Shape and Topology Optimization: Theory, Numerics and New Application Areas, University of Graz, Austria, September 26, 2008.
33. ***Conference Plenary Talk:*** “Compliant Mechanisms for MEMS and Flexonics,” 3rd IEEE International Conference on Robotics, Automation and Mechatronics (CIS-RAM), Chengdu, China, September 23, 2008.
34. ***Invited Presentation:*** “Assembly of Large Airframe Structures,” China Aviation Industry Development Forum, Yanliang, Xian, China, April 8, 2008.
35. ***Conference Keynote Talk:*** “Recent Advances in Level Set Methods for Structural Topology Optimization,” 3rd Asia-Pacific Congress on Computational Mechanics (APCOM’07), Kyoto, Japan, December 5, 2007.
36. ***Conference Keynote Talk & IEEE Robotics and Automation Society Distinguished Lecture:*** “Complaint Mechanisms for MEMS and Flexnoics,” National Exhibition on Robotics and Automation

- & Citisia 2007, School of Engineering, Monash University and IEEE RAS Malaysia Chapter, Sunway, Malaysia, November 18, 2007.
37. **Conference Keynote Talk:** “Precision Fixturing for Turbine Airfoil Manufacturing,” 6th Cross-Strait Manufacturing Workshop, Baoji, Shaanxi, China, August 18, 2007.
 38. **Invited Presentation:** “Robotic Whole-Arm Grasping and Workpiece Fixturing,” International Workshop on Frontiers of Robotic Grasping and Fixturing, Wuhan, China, June 6, 2007.
 39. **Conference Keynote Talk:** “Level Set Method for Design of Functionally Gradient Materials and Structures,” 7th Asia Pacific Conference on Material Processing (APCMP 2006), Singapore, December 5, 2006.
 40. **Distinguished Lecture In Celebration of 25th Anniversary of University of Macau and IEEE Robotics and Automation Society Distinguished Lecture:** “The Magic of Object Reconstruction From Data Cloud,” Department of Electromechanical Engineering, Faculty of Science and Technology, University of Macau, Macau, November 12, 2006.
 41. **Invited Lecture:** “Radial Basis Functions and Level Set Methods for Topology Optimization,” IUTAM Symposium on Topological Design Optimization of Structures, Machines and Materials–Status and Perspectives, Rungstedgaard, Denmark, October 26, 2005.
 42. **Lindbergh Lecture:** “Modeling and Optimization of Heterogeneous Solids: Level Set Methods and Implicit Models with Radial Basis Functions,” College of Engineering, University of Wisconsin, Madison, September 22, 2005.
 43. **Invited Plenary Presentation:** “Level Set Methods for Geometric and Physical Modeling and Optimization of Heterogeneous Solids,” 2005 ACM Symposium on Solid and Physical Modeling (SPM’05), MIT, June 13-15, 2005.
 44. **Invited Presentation:** “Research on Design and Manufacturing for Electronics Manufacturing and Precision Engineering,” Guangdong-Hong Kong Joint Workshop on Advanced Manufacturing and Precision Equipment Technology, Shenzhen, China, May 15, 2005.
 45. **Conference Keynote Talk:** “Physical Modeling and Optimization of Heterogeneous Solid: Level Set Methods,” 2004 International Conference on Manufacturing Automation (ICMA 2004), Wuhan, China, October 26-29, 2004.
 46. **Invited Presentation:** “Phase Field Methods for Shape and Topology Synthesis of Structures,” Special Symposium on Integration of Materials Microstructure and Chemistry in Multidisciplinary Design Optimization, in 2004 ASME International Design Engineering Technical Conferences, Salt Lake City, Utah, September 28, 2004.
 47. **Invited Lecture:** “Simultaneous Shape and Topology Optimization of Solids,” WISDOM 2004 - Warsaw International Seminar on Design and Optimal Modeling, Warsaw, August 15, 2004.
 48. **Invited Presentation:** “Heterogeneous Solid Modeling, Design and Optimization: Level Set Methods,” 6th International Conference on Frontiers of Design and Manufacturing, Xi’an, China, June 21-23, 2004.
 49. **Conference Invited Presentation:** “Precision Fixturing and Localization of Workpieces,” 6th International Conference on Frontiers of Design and Manufacturing, Xi’an, China, June 21-23, 2004.
 50. **Conference Invited Presentation:** “Computation of 3D Rigid-Body Dynamics with Multiple Simultaneous Contacts,” 4th World Congress on Intelligent Control and Automation, Hangzhou, China, June 15-19, 2004.
 51. **Invited Lecture:** “Topology and Material Optimization using Level-Set Methods,” the session of “Level Set Methods for Inverse and Optimal Design Problems,” Inverse Problems: Computational Methods and Emerging Applications, Institute for Pure and Applied Mathematics (IPAM), University of California, Los Angeles, November 12-20, 2003.
 52. **Invited Presentation:** “PDE-Drive Level Set Methods for Structural and Material Optimization,” Symposium on Structural Optimization, 7th U.S. National Congress on Computational Mechanics (USNCCM7), Albuquerque, NM, July 31, 2003.
 53. **Invited Presentation:** “Manufactured Part Models for Design and Manufacturing of Aluminum Automotive Space-Frames,” IMS Spring Research Conference on Statistics in Industry and Technology, Waterloo, June 1995.
 54. **Invited Presentation:** “Characterizing Manufacturing Processes with Part Shape Information Obtained from Coordinate Measurements”, IMS Spring Research Conference on Statistics in Industry and Technology, Chapel Hill, NC, June 1994.

Invited Seminar Presentations:

55. "Architected Meso-Scale Cellular Structures and Materials: Topology Optimization for Additive Manufacturing," Center for Advanced Manufacturing, University of Southern California, Los Angeles, CA, April 12, 2018.
56. "Soft Body Robots in Topology Optimization and 3D Printing," Oculus Research (Facebook Inc.), Menlo Park, CA, February 13, 2018.
57. "Strategic Initiative in Autonomous Systems and Robotics at HKUST," Robotics Institute, Khalifa University, Abu Dhabi, UAE, December 13, 2017.
58. "Soft Robotics," Department of Electromechanical Engineering, University of Macau, Macau, China, December 9, 2017.
59. "From Compliant Mechanisms to Soft Robots," Institute of Advanced Manufacturing Technology, Ningbo Institute of Materials Technology & Engineering, Chinese Academy of Sciences, Ningbo, China, May 18, 2017.
60. "From Compliant Mechanisms to Soft Robots," Smart Robotics Workshop, Nankai University, Tianjin, China, April 12, 2017.
61. "A New Era in Robotics," Universiti Brunei Darussalam, Faculty of Science, Brunei Darussalam, January 26, 2017.
62. "A New Era in Robotics," 6th Annual China Investment Forum, Credit Swiss, Shen Zhen, China, November 3, 2016.
63. "Multi-Functional Structures and Materials: Topology Optimization and Additive Manufacturing," GE Global Research Center, Niskayuna, NY, October 24, 2016.
64. "Compliant Mechanisms and Soft Robots," GE Global Research Center, Niskayuna, NY, October 24, 2016.
65. "Robotics, Data and the Future of Manufacturing in Asia," Fung Academy, Fung Group, Hong Kong, August 12, 2016.
66. "Concurrent Design for Structural Optimization with Micro-Architectures," Solid Mechanics Section, Department of Mechanical Engineering, Technical University of Denmark, Lyngby, Denmark, August 3, 2016.
67. "Compliant Mechanisms and Soft Robots," DEFROST Project, INRIA Lille-Nord Europe, Lille, France, July 29, 2016.
68. "A New Era in Robotics: Now and Future," Esquel Annual Business Conference, Esquel Enterprise Ltd, Gaoming, China, June 24, 2016.
69. "A New Era in Robotics: Now and Future," Robotics Symposium, T Stone Robotics Institute, Chinese University of Hong Kong, April 21, 2016.
70. "Compliant Mechanisms and Soft Robots," International Research Institute for Multidisciplinary Science, Beihang University, Beijing, November 24, 2015.
71. "Multi-Functional Structures and Materials: Topology Optimization and Additive Manufacturing," Autodesk Research, Toronto, October 9, 2015.
72. "From Compliant Mechanisms to Hyper-Elastic Robots," Department of Electronic and Computer Engineering, Hong Kong University of Science & Technology, Hong Kong, February 9, 2015.
73. "Structure and Material Optimization for Additive Manufacturing," Additive Manufacturing Process Seminar & Roundtable Discussion, A*STAR SIMTech, Singapore, November 26, 2014.
74. "Multi-Functional Structures and Materials: Topology Optimization and Additive Manufacturing," Computational Science and Engineering Seminar, A*STAR Institute of High Performance Computing, Singapore, October 1, 2014.
75. "From Compliant Mechanisms to Hyper-Elastic Robots," Mechanical Engineering Department, University of California, Berkeley, September 18, 2014.
76. "Multi-Functional Structures and Materials: Topology Optimization and Additive Manufacturing," George W. Woodruff School of Mechanical Engineering, Georgia Institute of Technology, Atlanta, September 15, 2014.
77. "From Compliant Mechanisms to Hyper-Elastic Robots," Robotics Institute, Carnegie Mellon University, Pittsburgh, September 12, 2014.
78. "Generative Design," School of Mechanical & Mechatronic Engineering, Guangdong University of Technology, Guangzhou, China, May 29, 2013.
79. "From Compliant Mechanisms to Soft Robots," Automation Technology Forum, Harbin Institute of Technology Shenzhen Graduate School, Shenzhen, China, May 23, 2013.
80. "Compliant Mechanisms with Integrated Sensors and Actuators: An Ideal Opportunity for Soft Robots," A*STAR Singapore Institute of Manufacturing Technology, Singapore, May 14, 2013.

81. "Compliant Mechanisms with Integrated Sensors and Actuators: An Ideal Opportunity for Soft Robots," Dept. of Mechanical Engineering, National University of Singapore, May 13, 2013.
82. "Compliant Mechanisms for MEMS, Flexonics and Soft Robots," Department of Mechanical & Biomedical Engineering, City University of Hong Kong, Hong Kong, January 25, 2013.
83. "Stress Constraints and Stress Isolation in Topology Optimization," Université de Liège - Ingénierie des véhicules terrestres, Liege, Belgium, July 18, 2012.
84. "Generative Design: Unleashing Human and "Machine" Creativity through Simulation and Optimization," Dept. of Mechanical Engineering, National University of Singapore, December 2, 2011.
85. "Optimization-Driven Design," School of Civil, Environmental and Chemical Engineering, RMIT University, Melbourne, Australia, November 23, 2011.
86. "Stress-Constrained Structural Optimization," School of Civil and Environmental Engineering, University of New South Wales, Sydney, Australia, November 15, 2011.
87. "Generative Design and Optimization," School of Engineering, The Ocean University of China, Qingdao, China, July 6, 2011.
88. "Topology Optimization of Structures: Generative Design," School of Civil and Environmental Engineering, University of New South Wales, Sydney, Australia, November 30, 2010.
89. "Light Weight and High Performance Design," R&D Institute, Zoomlion Heavy Industry Co. Ltd, Changsha, China, July 19, 2010.
90. "Optimization Driven Design: Direct Generative Design and Optimization," Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences, Shenzhen, China, November 6, 2009.
91. "Topology Optimization - A Research Perspective," Mechanical Engineering Division, Kyoto University, Kyoto, Japan, May 15, 2009.
92. "MEMS: Today and Tomorrow," Faculty of Engineering, Universiti Tunku Abdul Rahman (UTAR), Kuala Lumpur, Malaysia, April 23, 2009.
93. "Topology Optimization for High Performance Design," ANSYS-China, Beijing, China, March 20, 2009.
94. "Light Weight and High Performance Design with Level Set Methods," School of Mechanical and Power Engineering, Shanghai Jiaotong University, Shanghai, China, March 19, 2009.
95. "Topology Optimization for High Performance Design," ASM Assembly Automation Ltd, Hong Kong, March 17, 2008.
96. "Recent Advances in Level Set Methods for Topology Optimization," School of Automotive Engineering and Department of Engineering Mechanics, Dalian University of Technology, Dalian, China, January 17, 2008.
97. "Implicit Surface Reconstruction Using Radial Basis Functions," Shenyang Institute of Automation, Chinese Academy of Sciences, Shenyang, China, December 11, 2007.
98. "Topology Optimization of Structures and Mechanisms: Level Set Methods and Implicit Models," School of Aerospace, Mechanical and Mechatronic Engineering, University of Sydney, Australia, July 16, 2007.
99. "Design of Compliant Mechanisms for Hybrid MEMS Assembly," Robotics Institute, Beihang University, Beijing, China, June 4, 2007.
100. "Topology Optimization of Structures," Department of Engineering Mechanics, Beijing University of Technology, Beijing, China, June 4, 2007.
101. "Topology Optimization of Structures and Mechanisms: Implicit Models and Level Set Methods," School of Naval Architecture and Ocean Engineering, Seoul National University, Seoul, May 25, 2007.
102. "Topology Optimization of Structures with Level Set Method," Department of Civil Engineering, South China University of Technology, Guangzhou, China, January 5, 2007.
103. "Topology Optimization of Structures and Mechanisms: Implicit Models and Level Set Methods," School of Mechanical Engineering, National University of Singapore, December 8, 2006.
104. "Design of Compliant Mechanisms for Passive Self-Alignment of Hybrid MEMS Assembly," A*STAR Singapore Institute of Manufacturing Technology, Singapore, December 7, 2006.
105. "Topology Optimization of Heterogeneous Solids," Manufacturing Systems Research Lab, General Motors R&D Center, Warren, USA, September 15, 2006.
106. "Precision Fixturing and Localization of Workpieces," Manufacturing Systems Research Lab, General Motors R&D Center, Warren, USA, September 15, 2006.
107. "Level Set Based Design of Compliant Mechanisms for Hybrid MEMS Assembly," Center for Automation Technologies and Systems, Rensselaer Polytechnic Institute, Troy, USA, September 14, 2006.

108. "Heterogeneous Solids Optimization: Implicit Models and Level Set Methods," School of Aerospace and Aeronautic Engineering, Xian Jiaotong University, Xian, China, July 19, 2006.
109. "Heterogeneous Solids Optimization: Implicit Models and Level Set Methods," ASM Assembly Automation Ltd, Hong Kong, December 5, 2005.
110. "Modeling and Optimization of Heterogeneous Solids: Level Set Methods and Implicit Models," Department of Mechanical Engineering, University of Michigan, Ann Arbor, September 23, 2005.
111. "Radial Basis Functions and Level Set Methods for Heterogeneous Solid Modeling and Optimization," Department of Mechanical Engineering and Mechanics, Drexel University, August 5, 2005.
112. "Precision Fixturing and Localization of Workpieces," National Laboratory of Pattern Recognition, Beijing Institute of Automation, Chinese Academy of Sciences, Beijing, China, June 28, 2005.
113. "Implicit Surface Reconstruction Using Radial Basis Functions," State Key Laboratory on Machine Perception, Peking University, Beijing, China, June 27, 2005.
114. "Implicit Surface Reconstruction Using Radial Basis Functions," National Laboratory of Information Science and Engineering, Tsinghua University, Beijing, China, June 27, 2005.
115. "Radial Basis Functions and Level Set Methods for Heterogeneous Solid Modeling and Optimization," Boeing Mathematics and Computing Technology, Seattle, May 6, 2005.
116. "Heterogeneous Solid Modeling and Optimization: Implicit Models and Level Set Methods," Rapid Prototyping Laboratory, Stanford University, May 5, 2005.
117. "Design and Optimization of Compliant Mechanisms Using Level Set Methods" Department of Mechanical Engineering, King's College of University of London, UK, April 26, 2005.
118. "Heterogeneous Solid Modeling and Optimization: Level Set Methods," College of Mechanical Engineering, South China University of Technology, Guangzhou, China, November 2004.
119. "Physical Modeling and Optimization of Heterogeneous Solids," GRASP Laboratory, University of Pennsylvania, September 2004.
120. "Physical Modeling and Optimization of Heterogeneous Solids," Colloquium of Department of Computer Science, Rensselaer Polytechnic Institute, August 2004.
121. "Modeling and Optimization of Heterogeneous Solids," State Key Laboratory of Computer Aided Design and Computer Graphics, Zhejiang University, Hangzhou, China, June 2004.
122. "Optimization of Heterogeneous Solids," Department of Mechanical Engineering, University of California at Davis, April 2004.
123. "Optimization of Topology, Materials and Mechanisms: Level-Set Methods," GE Global Research (Shanghai), Shanghai, China, March 2004.
124. "Optimization of Topology, Materials and Mechanisms: Level-Set Methods," State Key Laboratory of Structural Analysis for Industrial Equipment, Dalian University of Technology, Dalian, China, March 2004.
125. "Research in Design and Manufacturing: From Space-frames to Micro-grippers," School of Mechanical and Production Engineering, Nanyang Technological University, Singapore, December 2003.
126. "Computational Methods for Optimization of Heterogeneous Objects," Shenyang Institute of Automation, Chinese Academy of Sciences, Shenyang, China, October 2003.
127. "Granular Vibration Damping for Electronic Packaging Applications," Department of Mechanical Engineering, Hong Kong Polytechnic University, September 2003.
128. "Topology and Material Optimization: Level-Set Methods," Rapid Prototyping Laboratory, Stanford University, August 2003.
129. "Structural Topology and Material Optimization using Level-Set Methods," Boeing Engineering and Information Technology, Seattle, USA, July 2003.
130. "Structural and Material Optimization using Level-Set Methods," Department of Mechanical Engineering, Indian Institute of Science, Bangalore, India, March 2003.
131. "Particle Damping for High Performance Electronic Packaging Applications," Institute of Robotics, School of Mechanical Engineering, Shanghai Jiaotong University, China, December 2002.
132. "A Level-Set Method for Structural and Material Optimization," Department of Mechanical Engineering, University of Hong Kong, October 2002.
133. "Manufacturing Technology in the 21st Century," College of Mechanical Engineering, Taiyuan University of Technology, Taiyuan, China, June 2002.
134. "Automation for Low-Cost Electronic and Photonic Manufacturing," The Second Research Institute of the Chinese Ministry of Information Industry, Taiyuan, China, June 2002.
135. "Particle Damping for High Performance Electronic Packaging Applications," Department of Mechanical Engineering, Hong Kong University of Science and Technology, April 2002.

136. "Computational Methods in Design and Manufacturing Automation," School of Mechanical Engineering, Dalian University of Technology, Dalian, China, January 2002.
137. "Computational Methods in Design and Manufacturing Automation," Shenyang Institute of Automation, Chinese Academy of Sciences, Shenyang, China, December 2001.
138. "Particle Damping Technology," ASM Assembly Automation Ltd., Hong Kong, October 2001.
139. "Fixture Planning in a Discrete Domain," Department of Mathematical Statistics, Chalmers University of Technology, Göteborg, Sweden, September 2001.
140. "Precision Fixturing in a Discrete Domain," Department of Automation, Xiamen University, Xiamen, China, May 2001.
141. "Equipment and Processes in Electronic Packaging," School of Mechanical Engineering, Huazhong University of Science and Technology, Wuhan, China, April 2001.
142. "Precision Fixturing in a Discrete Domain," School of Mechatronic Engineering and Automation, National University of Defense Technology, Changsha, China, October 2000.
143. "Precision Fixturing," The State Key Open Laboratory of Manufacturing Systems, Xian Jiaotong University, Xian, China, June 2000.
144. "Computation-based Modeling and Design," Department of Automation & Computer-Aided Engineering, Chinese University of Hong Kong, Hong Kong, China, April 2000.
145. "Optimal Fixture Layout Design," Department of Mechanical and Production Engineering, National University of Singapore, Singapore, March 2000.
146. "Precision Localization and Fixturing," Department of Manufacturing Engineering and Engineering Management, City University of Hong Kong, December 1999.
147. "Workholding Automation: Localization and Fixturing," Automation Technology Center and Department of Industrial Engineering, Hong Kong University of Science and Technology, November 1999.
148. "Tolerancing Analysis and Design for Precision Manufactured and Assembly," School of Mechanical Engineering, Xian Jiaotong University, Xian, China, October 1999.
149. "Modeling and Analysis of Gear Rattle in Automotive Manual Transmissions," Institute of Vibration and Noise Engineering, Xian Jiaotong University, Xian, China, October 1999.
150. "Modeling and Analysis of Manufactured Parts of Space-Frame Structures," Department of Mechanical Engineering, University of Hong Kong, October 1999.
151. "Design and Analysis of Workpiece Fixtures," Pratt & Whitney Turbine Airfoils Product Center, North Haven, CT, October 1998.
152. "Modeling and Optimization of Sequential Brakeforming Processes for Airframe Structures," Boeing Mathematics and Computing Technology, Seattle, August 1998.
153. "Manufacturing Automation for Aerospace and Automotive Structures," Department of Mechanical and Automation Engineering, Chinese University of Hong Kong, June 1998.
154. "Manufactured Part and Assembly Modeling," Boeing Information and Support Services, Seattle, January 1997.
155. "Manufactured Part Models for Design and Manufacturing of Aluminum Automotive Space-Frames," Program in Manufacturing, College of Engineering, University of Michigan, Ann Arbor, April 1996.
156. "Manufactured Part Models and their Applications," Alcoa Technical Center, Pittsburgh, September 1995.
157. "Frictional Impact Dynamics in Mechanical Systems," Department of Mechanical Engineering and Mechanics, Drexel University, Philadelphia, March 1993.
158. "Form Tolerance Inspection with Coordinate Measuring Machines," Alcoa Technical Center, Pittsburgh, October 1992.

Tutorials, Workshops, Short Courses, and Continuing Education:

1. "Design Optimization for Additive Manufacturing," Master Class in Emerging Manufacturing Technology, Singapore Institute of Manufacturing Technology, Singapore, 7-9 November, 2017.
2. "Topology Optimization and Cellular Materials/Structures," Mini-Symposium on Generative Design for Additive Manufacturing, International Convention on Shape, Solid, Structure, & Physical Modeling (S3PM 2017), Berkeley, CA, June 21, 2017.
3. "Cellular/Lattice Materials and Structures," Workshop on Predictive Theoretical and Computational Approaches for Additive Manufacturing, National Science Foundation of China, and National Academies of Sciences, Engineering, and Medicine (US), Dalian, China, October 18, 2016.

4. "Topology Optimization Using Level Set Method," Advanced Summer School on Theory and Methods in Structural Topology Optimization, National Science Foundation of China and Dalian University of Technology, Dalian, China, August 30, 2016.
5. "Methods of Modeling and Designing Cellular Structures and Implants," NUH-IMRE-NUS 3D Printing Workshop Forum, National University Hospital, Singapore, July 29, 2015.
6. "From Compliant Mechanisms to Hyper-Elastic Soft Robots," Workshop on Soft Machines and Mechanics, The International Center for Applied Mechanics, Xian Jiaotong University, Xian, China, June 18, 2015.
7. "A Dielectric Elastomer Balloon Actuator," Workshop on Soft Robotics: Actuation, Integration, and Applications, IEEE Int'l Conference on Robotics and Automation (ICRA), Seattle, May 30, 2015.
8. "Soft Robots with Distributed Sensors and Actuators," Workshop on Soft Robots, IEEE International Conference on Robots and Automation, Hong Kong, June 5, 2014.
9. "Soft Robots with Distributed Structural Compliance and Actuators," Workshop on Soft Technologies for Wearable Robotics, IEEE/RSJ International Conference on Intelligent Robots and Systems, Tokyo Big Sight, Japan, November 7, 2013.
10. "Distributed Compliant Mechanisms and Actuators for Soft Robots," 2013 International Workshop on Soft Robotics and Morphological Computation, Swiss National Centre of Competence in Research (NCCR) Robotics, Monte Verita, Switzerland, July 2013.
11. "Robots in Action," CUHK Summer Institute, CUHK, 6-days, Hong Kong, July 2011.
12. "Uncertainty and Closure Property in Workpiece Localization and Fixture Design," Workshop on Uncertainty in Automation, IEEE International Conference on Robotics and Automation, Shanghai, China, May 9, 2011.
13. "Optimization Driven Design: Unleashing Human and 'Machine' Creativity through Topology Optimization," Workshop on Product Life Cycle Management and Design Automation, Fifth IEEE Conference on Automation Science and Engineering (IEEE CASE 2009), Bangalore, India, August 22, 2009.
14. "Level Set Methods and Implicit Models for Geometric and Physical Modeling, Processing and Optimization," a Tutorial in 2007 ASME International Design Engineering Conferences (ASME IDETC), Las Vegas, USA, September 4, 2007.
15. "Level Set Methods and Implicit Models for Geometric and Physical Modeling, Processing and Optimization," a Tutorial in 2006 ASME International Design Engineering Conferences (ASME IDETC), Philadelphia, USA, September 10, 2006.
16. "Level Set Methods and Implicit Models for Solid and Physical Modeling," a Tutorial in 9th International Conference on Computer-Aided Design and Computer Graphics (CAD/CG'05), Hong Kong, December 2005.
17. "Precision Machine Design," a special course for continuing education of graduate certificate, offered for ASM Assembly Automation Ltd., July 2004.
18. "Railway Vibration, Noise and the Legislation," A Summer Course on Railway Engineering organized by the Chinese University of Hong Kong with CHKPWS, HKIE-CAI, IEE-HK, IMechE, IRSE, KCRC, and MTRCL, June 2003.
19. "ANSI Y14.5M (1994) Geometric Dimensioning and Tolerancing (GD&T)," a 2-day on-site training course, Universal Instruments Corp., Shenzhen, China, April 2003.
20. "ANSI Y14.5M (1994) Geometric Dimensioning and Tolerancing (GD&T)," a 3-day training course at Hong Kong Productivity Council, Hong Kong, June 2001.
21. "Automated Workpiece Fixturing and Localization," Workshop on Flexible Parts Feeding and Fixturing, IEEE International Conference on Robotics and Automation, San Francisco, May 2000.

Invited Plenary Panel Presentations:

1. Panel Chair and Panelist, Plenary Panel Session on Industry 4.0 and Made in China 2025 Initiatives, 13th IEEE Conf. on Automation Science and Engineering (IEEE CASE), Xian, China, August 23, 2017.
2. Panelist, Panel Session on How to Publish Papers in International Journals, 9th World Congress on Intelligent Control and Automation (WCICA), Jinan, China, July 7, 2010.
3. Chair and Panelist, Plenary Track on Physical Modeling and Computing, 2005 ACM Symposium on Solid and Physical Modeling (SPM'05), MIT, June 13-15, 2005.
4. Moderator, Panel on Advances in Intelligent Control and Automation – A University-Industry Forum, 5th World Congress on Intelligent Control and Automation (WCICA), Hangzhou, China, June 14-18, 2004.

5. Panelist, Plenary Session on Assembly Modeling and Systems, ASME International Mechanical Engineering Congress and Exposition (IMECE), Atlanta, November 1998.

3. RESEARCH CONTRACTS AND GRANTS

Grants in Hong Kong and China (2000-2014; 2016-) in HKD or CNY:

No.	Project Title	PI/Co-I	Funding Source(s)	Dates	Amount
1.	Prehensile Dexterity for Autonomous Robotic Manipulation (ITS-018-17FP)	PI & Project Coordinator	Hong Kong Innovation and Technology Fund, Delta Electronics Inc., Lenovo Group (China)	1-1-2018/ 31-12-2019	HK\$9,996,795
2.	Deep Learning Based Defect Inspection of Smartphone Glass (ITS-445-16FP)	PI	Hong Kong Innovation and Technology Fund, LENS Int'l, FUNUC, Ki-MENTO	1-7-2017/ 30-6-2019	HK\$6,180,950
3.	Innovative Gecko Grippers for Top-Side Gripping of Smartphone Glass Using Synthetic Directional Adhesives (ITS-376-16FP)	PI & Project Coordinator	Hong Kong Innovation and Technology Fund, LENS Int'l, QKM, Ki-MENTO	1-6-2017/ 30-5-2019	HK\$4,670,170
4.	Hong Kong Scholars Program Research Fellowship	PI	The Society of Hong Kong Scholars and China National Postdoctoral Council	1-12-2016/ 30-11-2018	HK\$360,030
5.	Robotic Automation, Topology Optimization, and Additive Manufacturing	PI	UGC - Research Infrastructure Grant and Postgraduate Scholarship	30-6-2017/30-6-2018	HK\$288,400
6.	Robotic Manipulation-Representation and Optimization (RoMRO)	PI	HKUST Sponsorship Scheme for Targeted Strategic Partnerships	1-1-2017/ 31-12-2019	HK\$670,634
7.	Minimalist Robotics for Manufacturing Assembly Automation	PI	HKUST Academic Support Fund	1-1-2016/ 31-12-2017	HK\$200,000
8.	Advanced Techniques for Additive Manufacturing and Robotic Automation	PI	HKUST Academic Support Fund	1-12-2015/ 31-11-2017	HK\$1,700,000
9.	Wideband Vibration Energy Harvesting of Flexural Structures Using 2-DOF Stretch Piezoelectric Harvesters/Resonators With Frequency Bandgap Effects (CUHK/417213)	PI, (Co-I 1/8/2014)	Hong Kong Research Grants Council	1-11-2013/ 31-10-2016	HK\$645,500
10.	A Professional, Affordable and Easy-To-Use Dental CAD System (TBF13ENG006)	PI	Technology and Business Development Fund, CUHK	1-8-2013/ 30-7-2015	HK\$200,000
11.	Vibration Energy Harvesting Utilizing Multifunctional Phononic Meta-Materials and Structures (RNE-p1-12)	PI	Shun Hing Institute of Advanced Engineering, CUHK	1-7-2012/ 30-6-2014	HK\$524,000
12.	Hong Kong Scholars Program Postdoctoral Fellowship	PI	The Society of Hong Kong Scholars and China National Postdoctoral Council	1-1-2012/ 31-12-2013	HK\$300,000
13.	Fundamental Research on High Performance Rolling Element Bearings 国家重点基础研究发展计划 (973 计划) 项目(首席): 高性能滚动轴承基础研究 (2011CB706600)	Chief-Scientist & Project Coordinator	The Ministry of Science and Technology of China 中华人民共和国科学技术部 973 计划	1-1-2011/ 31-12-2015	CNY 27,800,000

14.	Structural Topology Optimization with Radial Basis Function Based Level Set Method: Moving Knots and Partition of Unity Techniques (CUHK/417309)	PI	Hong Kong Research Grants Council	1-10-2009/ 30-9-2012	HK\$929,000
15.	Shenzhen-Hong Kong Technology Corporation Funding Scheme 深港创新圈开放性研发基地: 全自动晶圆检测机合作项目	Co-I	Grand Technology Ltd. and Bureaus of Science and Technology of Shenzhen City	1-12-2009/ 30-11-2011	CNY300,000
16.	Structure-controllable Fabrication of 3D Photonic Crystals 国家自然科学基金委员会重点项目: 三维光电子晶体微/宏观结构可控制造	Co-PI	Natural Science Foundation of China (NSFC) 国家自然科学基金委员会	1-4-2009/ 31-3-2012	CNY950,000
17.	An Elasto-Kinematic Approach to Designing Continuum Compliant Mechanisms (CUHK/417708)	PI	Hong Kong Research Grants Council	1-10-2008/ 30-9-2011	HK\$779,283
18.	Research Excellence Award 2008, CUHK		CUHK	1-4-2008	HK\$400,000
19.	The Chinese University of Hong Kong Postdoctoral Fellowship Grants (07/ENG/03)	PI	CUHK	27-6-2008/ 26-12-2008	HK\$63,000
20.	Passive Compliant Assembly of Hybrid MEMS (CUHK/416507)	PI	Hong Kong Research Grants Council	1-10-2007/ 31-3-2011	HK\$897,600
21.	Retrieval of Structured Parametric Surfaces from Implicitly Represented Multi-material Models (CUHK/416307)	Co-PI	Hong Kong Research Grants Council	1-10-2007/ 30-9-2009	HK\$418,000
22.	Path Planning for High Speed Machining of Freeform Surfaces (CUHK/418307)	Co-PI	Hong Kong Research Grants Council	1-10-2007/ 30-9-2009	HK\$386,100
23.	Dynamic Performance Improvement for Wire Bond Machines	PI	China Electronics Technology Group Corporation, Beijing, China 中国电科四十五所	1-9-2007/ 31-12-2008	CNY150,000
24.	Fundamental Research for Gas-Turbine Generator Manufacturing 国家重点基础研究发展计划 (973 计划) 项目(分课题): 大型动力装备制造基础研究 (2007CB707703-1)	Co-I	The Ministry of Science and Technology of China 中华人民共和国科学技术部 973 计划	1-5-2007/ 30-12-2012	CNY 1,010,000
25.	Precision Fiber-Optic Align and Attach Techniques for Photonics Manufacturing Automation (CUHK/416206)	PI	Hong Kong Research Grants Council	1-10-2006/ 30-9-2009	HK\$534,000
26.	Structural Optimization for High Dynamic Performance in Electronics Manufacturing Equipment (UIM/169)	PI & Project Coordinator	Hong Kong Innovation and Technology Fund & ASM Ltd.	16-1-2006/ 15-7-2008	HK\$2,047,000
27.	Design and Optimization of Heterogeneous Objects Using Multi-Phase Level-Set Models and Topological Derivatives (CUHK/416205)	PI	Hong Kong Research Grants Council	1-10-2005/ 31-3-2009	HK\$705,464
28.	Guangdong-Hong Kong Technology Corporation Funding Scheme 粤港关键领域重点突破招标项目: 半导体 LED 芯片自动检测和分选装备	Co-I	Dongguan Fortune Ltd. and Bureaus of Science and Technology of Guangdong Province	1-1-2005/ 31-12-2006	CNY 3,000,000

29.	Analysis and Planning of Passive Force Closures in Fixturing and Power-grasping (CUHK4215/04E)	PI	Hong Kong Research Grants Council	1-1-2005/ 30-6-2008	HK\$506,447
30.	The Chinese University of Hong Kong Postdoctoral Fellowship Grants (03/ENG/12, 04/ENG/01)	PI	CUHK	14-6-2004/ 13-6-2005	HK\$122,328
31.	Principles and Methods for Design and Manufacturing of High Performance Electronics Products 国家重点基础研究发展计划 (973 计划) 项目: 高性能电子产品设计制造精微化、数字化新原理和新方法 (2003CB716207)	Co-I	The Ministry of Science and Technology of China 中华人民共和国科学技术部 973 计划	1-12-2003/ 1-12-2008	CNY 4,300,000
32.	Level-Set Based Methods for Multi-Material Structural Optimization 基于水平集的多材料结构拓扑优化设计方法与应用 (50305019)	Co-PI	The Natural Science Foundation of China (NSFC) 国家自然科学基金委员会	1-1-2004/ 31-12-2006	CNY160,000
33.	Planning, Scheduling and Simulation of Reverse Supply Chain for Electronics Recycling 电子产品回收逆向供应链的规划、调度与仿真 (70271037)	Co-PI	The Natural Science Foundation of China (NSFC) 国家自然科学基金委员会	1-1-2004/ 31-12-2006	CNY120,000
34.	Fundamental Technologies in Advanced Electronics Manufacturing 国家自然科学基金委员会重大项目: 先进电子制造中的重要科学技术问题研究 (50390060)	Co-I	The Natural Science Foundation of China (NSFC) and Shanghai City Office of Science & Technology 国家自然科学基金委员会	1-4-2003/ 31-3-2007	CNY 8,000,000
35.	Structural Shape and Topology Optimization Using Level-Set Methods (CUHK4164/03E)	PI	Hong Kong Research Grants Council	1-10-2003/ 30-9-2006	HK\$636,439
36.	Interactive Haptic Simulations for Virtual Fixture Prototyping (CUHK4376/02E)	PI	Hong Kong Research Grants Council	1-10-2002/ 30-9-2005	HK\$797,404
37.	The Chinese University of Hong Kong Postdoctoral Fellowship Grant (01/ERG/06)	PI	CUHK	1-8-2002/ 31-7-2003	HK\$185,000
38.	Distinguished Young Investigator (Overseas) Award 国家自然科学基金海外杰出青年基金 (50128503)	PI	The Natural Science Foundation of China (NSFC) 国家自然科学基金委员会	1-3-2002/ 28-2-2005	CNY400,000
39.	Minimally-Invasive Techniques of Particle Vibration Damping (CUHK4196/01E)	PI	Hong Kong Research Grants Council	1-7-2001/ 30-6-2005	HK\$651,281
40.	3D Grasp Planning with Applications to Automated Fixture Layout Design (CUHK4217/01E)	Co-I	Hong Kong Research Grants Council	1-7-2001/ 30-6-2004	HK\$836,105
41.	Photonics Packaging Laboratory (ITS/057/01)	Co-I	Hong Kong Innovation and Technology Fund	1-7-2001/ 30-6-2004	HK\$13,042,000
42.	Novel Technologies for High-Performance Vibration Damping (UIM/16)	Deputy Coordinator & Co-I	Hong Kong Innovation and Technology Fund & ASM Assembly Automation Ltd.	1-7-2000/ 31-7-2002	HK\$1,040,000
43.	Optimal Fixture Layout Design	PI	CUHK Direct Grant	1-10-2000/	HK\$150,000

	for Workholding Automation (EE20022)			30-9-2002	
44.	Visitorship for PRC Scholar: Particle Damping for Vibration Reduction (EE00372)	PI	The Croucher Foundation	1-9-2000/ 28-2-2001	HK\$120,000
45.	The State Key Laboratory Visiting Scholar Grant	PI	The Ministry of Education of China	1-6-2000/ 31-5-2002	CNY100,000

Grants in Singapore (1/8/2014-30/11/2015) in SGD:

No.	Project Title	PI/Co-I	Funding Source(s)	Dates	Amount
1.	Advanced Techniques for Additive Manufacturing and Soft Robotics	PI	Academic Research Fund Tier 1, Ministry of Education	1-08-2014/ 31-07-2017	S\$800,000
2.	Productivity Enhancement of Yard Operations: Semi-Automated Operation in Confined Spaces	Co-PI	Keppel-NUS Corporate Laboratory and National Research Foundation	1-05-2014/ 30-04-2019	S\$1,700,000 (Area share)
3.	Design, Modeling and Simulation of 3D Additive Manufacturing Components (Work Package 3)	PI (Co-PI, 1/12/2015)	Singapore Institute of Manufacturing Technology, A*STAR	01-04-2015/ 31-03-2019	S\$200,000
4.	Flex Skins for Morphing Wings Using Metallic Cellular Cores	PI (Co-PI, 1/12/2015)	Singapore Ministry of Defense (MINDEF)	01-10-2015/ 31-12-2016	S\$50,000

Grants in USA (1990-2000) in USD:

	PI/Co-PI	Agency	Title	Dates	Amount
1.	PI	National Science Foundation	GAOLI/IUCP: Torsional Vibration and Gear Rattle in Automotive Manual Transmissions.	9/1/97 - 8/31/00	\$198,000
2.	Co-PI (PI: D. Holloway)	US Department of Energy & Maryland Grain Producers Utilization Board	Development of a Hybrid Electric Vehicle for 1998 FutureCar Competition.	10/1/97 - 9/30/98	\$30,000
3.	PI	National Science Foundation	Passive Vibration Control by Solid Free-Form Structural Optimization	9/15/96 - 8/31/99	\$150,000
4.	PI	Genex Technologies, Inc. and MIPS	Development of a Universal Hexapod Drill Point Grinding Machine Tool	8/1/96 - 7/31/98	\$110,000
5.	PI	Alcoa Technical Center	Manufactured Part Models and Their Applications	5/1/96 - 4/30/99	\$95,000
6.	PI	University of Maryland General Research Board	Summer Research Award: Research on Smart Adaptive Materials and Structures.	1997	\$6,500
7.	PI	Chrysler Corporation	Automotive Gear Rattle Analysis for Manual Transmission Design	7/1/96 - 6/30/98	\$109,500
8.	Co-PI (PI: D. Bigio)	National Science Foundation	Novel Injection Molding Machine Design for Mixing and Compounding	5/1/96 - 4/30/99	\$310,146
9.	PI	Automated Precision Inc. and MIPS	Development of an Advanced Rapid Scanning and Prototyping Machine	2/1/96 - 1/31/98	\$90,000
10.	Co-PI (PI: L. Schmidt)	Strouse Corporation and MIPS	Padding of Pressure Sensitive Substrates	2/1/96 - 1/31/97	\$75,000
11.	PI	National Science	GOALI: Manufactured Part	6/1/95 -	\$60,500

		Foundation	Modeling and Inspection for Aluminum Automotive Space-Frames	12/30/96	
12.	PI	National Science Foundation and Alcoa Technical Center	Characterization of Geometric Variations for Design and Manufacturing of Aluminum Automotive Space Frames	7/1/95 - 6/30/98	\$149,970
13.	PI	National Science Foundation	Research Initiation Award: Methods for Performance Enhancement of High Speed Flexible Mechanisms with Multiple Joint Clearances	11/1/93 - 3/30/97	\$80,000
14.	PI	National Science Foundation	Research Experience for Undergraduate grant supplement	11/1/94 - 10/30/95	\$5,000
15.	Co-PI (PI: U. Tasch)	National Science Foundation	Compliant Motion Control Methodologies and Applications in a Classroom Environment	6/1/94 - 5/31/95	\$30,000
16.	PI	National Science Foundation and Alcoa Technical Center	Engineering Faculty Internship: Tolerance Inspection of Aluminum Extrusion Parts of Auto Body Frames	6/15/93 - 9/17/93	\$19,234
17.	PI	The Minta-Martin Foundation	Computer Methods for NC Machining of Aerodynamic Surfaces	6/1/91 - 5/31/93	\$22,000
18.	PI	UMBC DRIF Summer Research Funds	Parts Presentation for Automated Assembly	6/15/91 - 9/1/91	\$4,000
19.	PI	UMBC Faculty Development Fund	Faculty Travel Support	10/1990	\$1,000

4. TEACHING AND ADVISING

Courses Taught:

At Hong Kong University of Science and Technology (2016-)

Course Number	Course Title	Term	Credit Units	No. of Student
MECH2520	Design & Manufacturing I	Term 2, 16-17	3	70
MECH4995	Final Year Projects	Term 1&2, 16-17	6	5
MECH4000D	Special Topic: Experiential Learning in Robotics Technologies	Term 2, 15-16	3	5
ELEC1095A	The Rise of Autonomous Robots	Term 2, 17-18	3	5
MESF6910J	Topology Optimization and Additive Manufacturing	Term 2, 17-18	3	63
MECH2520	Design & Manufacturing I	Term 2, 17-18	3	70
MECH4995	Final Year Projects	Term 1&2, 17-18	6	5

At National University of Singapore (2014-2015)

Course Number	Course Title	Term	Credit Units	No. of Student
ME5613	Optimal Design of Multifunctional Struct.	Term 1, 14-15	4	20
ME3101	Mechanical Systems Design I (Project)	Term 1, 14-15	4	5
EG2401	Engineering Professionalism (Tutorial)	Term 1, 14-15	2	24
ME3102	Mechanical Systems Design II (Project)	Term 2, 14-15	4	10

ME4101	Final Year Projects	Term 1&2, 14-15	4	6
ME6607	Optimal Design of Multifunctional Struct.	Term 1, 15-16	4	31
ME4101	Final Year Projects	Term 1, 15-16	4	4

At Chinese University of Hong Kong (1999-2014)

Course Number	Course Title	Term	Credit Units	No. of Student
MAE3020	Information Processing for Automation	Term 1, 99-00	3	62
MAE3040	Advanced Manufacturing Systems	Term 1, 99-00	3	28
ERG2012C	Advanced Engineering Mathematics II	Term 2, 99-00	3	51
MAE2800	Laboratory I	Term 2, 99-00	2	55
MAE2810	Laboratory II	Term 2, 99-00	2	55
MAE3910/ MAE3920	Final Year Projects	Term 1&2, 99-00	8	5
MAE2040	Intro. to Manufacturing Systems	Term 1, 00-01	3	50
MAE2800	Laboratory I	Term 1, 00-01	2	50
MAE2810	Laboratory II	Term 1, 00-01	2	51
ACE7040	Manufacturing Technology	Term 1, 01-02	3	22
ACE2020	Product Design	Term 2, 01-02	3	86
ERG2017G	Advanced Engineering Mathematics II	Term 2, 01-02	3	26
ACE3910/ ACE3920	Final Year Projects	Term 1&2, 01-02	8	5
ACE7470	Product Design & Manufacturing	Term 1, 02-03	3	24
IDE2010	Design Methods	Term 1, 02-03	3	27
IDE2020	Engineering Product Design	Term 2, 02-03	3	57
IDE2810	Design Realization Laboratory	Term 2, 02-03	3	25
ACE3910/ ACE3920	Final Year Projects	Term 1&2, 02-03	8	1
ACE7470	Product Design & Manufacturing	Term 1, 03-04	3	22
IDE2010	Design Methods	Term 1, 03-04	3	27
IDE3020	Optimal and Robust Design	Term 2, 03-04	3	32
ACE3910/ ACE3920	Final Year Projects	Term 1&2, 03-04	8	7
ACE2020	Engineering Product Design	Term 1, 04-05	3	50
ACE1040	Design Principles and Practice	Term 2, 04-05	4	71
ACE3910/ ACE3920	Final Year Projects	Term 1&2, 04-05	8	6
ACE3120/ ACE5010	Geometric Modeling & Processing	Term 1, 05-06	3	10/15
ACE7470	Product Design & Manufacturing	Term 1, 05-06	3	19
ACE1040	Design Principles and Practice	Term 2, 05-06	4	50
ACE3910/ ACE3920	Final Year Projects	Term 1&2, 05-06	8	7
ACE3120/ ACE5010	Geometric Modeling & Processing	Term 1, 06-07	3	14/12
ACE1040	Design Principles and Practice	Term 2, 06-07	4	43
ACE3910/ ACE3920	Final Year Projects	Term 1&2, 06-07	8	6
ACE2020	Engineering Product Design	Term 1, 07-08	3	50
ACE2910	Product Design Practice	Term 1, 07-08	3	39
ACE3910/ ACE3920	Final Year Projects	Term 1&2, 07-08	8	4
UGB230N	Robots in Action	Term 1, 08-09	3	18
MAE2020	Mechanical Design	Term 2, 08-09	3	60
ACE3910/	Final Year Projects	Term 1&2, 08-09	8	3

ACE3920				
UGB230N	Robots in Action	Term 1, 09-10	3	20
MAE3040	Mechanical Design	Term 2, 09-10	3	61
MAE3910/ MAE3920	Final Year Projects	Term 1&2, 09-10	8	8
UGEB2303	Robots in Action	Term 2, 10-11	3	12
MAEG3040	Mechanical Design	Term 2, 10-11	3	51
MAEG3910/ MAEG3920	Final Year Projects	Term 1&2, 10-11	6	6
ENGG2015	Advanced Engineering Mathematics (E)	Term 2, 11-12	3	72
MAEG3040	Mechanical Design	Term 2, 11-12	3	64
MAEG3910/ MAEG3920	Final Year Projects	Term 1&2, 11-12	6	3
ENGG2015	Advanced Engineering Mathematics (E)	Term 2, 12-13	3	70
MAEG3040	Mechanical Design	Term 2, 12-13	3	58
MAEG3910/ MAEG3920	Final Year Projects	Term 1&2, 12-13	6	4
ENGG2420E	Engineering Mathematics II	Term 1, 13-14	3	107
MAEG3040	Mechanical Design	Term 2, 13-14	3	68
MAEG3910/ MAEG3920	Final Year Projects	Term 1&2, 13-14	6	5

At University of Maryland (1990 – 1999)

Semester	Course Number	Course Title	Credit Units	No. of Student
F 1991	ENME400	Machine Design	3	23
F 1991	ENME808M	Adv. Topic: Design for Manufacture	3	14
S 1992	ENME360	Dynamics of Machinery	3	38
S 1992	ENME400	Machine Design	3	39
F 1992	ENME400	Machine Design	3	34
F 1992	ENME600	Advanced Mech. Eng. Design	3	26
S 1993	ENME414	Computer Aided Design	3	45
F 1993	ENME360	Dynamics of Machinery	3	26
F 1993	ENME600	Advanced Mech. Eng. Design	3	24
S 1994	ENME414	Computer Aided Design	3	25
F 1994	ENME600	Advanced Mech. Eng. Design	3	11
F 1994	ENME400	Machine Design	3	56
S 1995	ENME404	Mech. Eng. Systems Design	3	22
F 1995	ENME470	Finite Element Analysis	3	20
S 1996	ENME400	Machine Design	3	44
F 1996	ENME471	Integrated Product & Process Develop. I	3	28
S 1997	ENME472	Integrated Product & Process Develop. II	3	28
F 1997	ENME471	Integrated Product & Process Develop. I	3	29
F 1997	ENME488	Special Project: Future Car Development	3	25
S 1998	ENME488	Special Project: Future Car Development	3	25
S 1998	ENME620	Design for Manufacture	3	14
F 1998	ENME371	Product Development & Manufacturing	3	27
F 1998	ENME488	Special Project: Pinball Machine Design	3	16
S 1999	ENME371	Product Development & Manufacturing	3	28

Course or Curriculum Development:

At Hong Kong University of Science and Technology (2015-):

- MECH4000D Experiential Learning in Robotics Technologies. This course provides an Experiential Learning in Robotics Technologies through 1) student-initiated designing and manufacturing of a practical Powered Wheelchair for an athlete with disability; and 2) active participation in an international competition, namely Cybathlon 2016. Spring 2016, Laboratory: 20 hours per week, self-learning and group discussion: 5 hours per week. Faculty in Charge: Robin Ma, Michael Wang, and Christopher Chao. The HKUSTwheels team of 7 students was ranked No. 2 with a Silver medal as well as No.1 in Asia region in the first Cybathlon 2016 Powered Wheelchair race held in Zurich, Switzerland on Oct. 8, 2016.
- MECH2520 - Design and Manufacturing I Blended Learning (3 credits). The development is to deliver the stable and standard content via online videos, creating the opportunity for face to face activities, including: group discussion, case study sharing session, reflection and presentation, individual review section and in-class exercises. This new blended learning (BL) course consists of two main components, i.e. online and face-to-face (F2F). Fall 2017. Faculty in Charge: Robin Ma and Michael Wang.

At Chinese University of Hong Kong (2000-2014):

- ACE2800 and ACE2810 Laboratory I & II: Revised projects and work contents of the laboratory courses with new facilities for the new ACE program, in an effort leading the Teaching Laboratory Development Committee between 2000-2002.
- ACE2020 Product Design: Developed teaching materials for this new course and taught it as the initial offering for the ACE undergraduate program, 2001.
- IDE2810 Design Realization Laboratory: Developed new experimental projects and facilities for the initial offering of the new IDE undergraduate program, in an effort leading the Teaching Laboratory Development Committee between 2000-2002.
- IDE3810 Design Innovation Laboratory: Developed the new course with laboratory projects design, specification, and equipment and facility development for the initial offering of the new IDE undergraduate program, in an effort leading the Teaching Laboratory Development Committee between 2001-2002.
- IDE2010 Design Methods: Developed teaching materials for this new course and taught it as the initial offering for the IDE undergraduate program, 2002.
- IDE2020 Engineering Product Design: Developed teaching materials for this new course and taught it as the initial offering for the IDE undergraduate program, 2003.
- Special Course: Precision Machine Design: Developed this special course and taught it as the initial offering for post-graduate training for ASM Assembly Automation Ltd., 2004.
- Special Course: Engineering Process Development and Optimization: Developed this special course for post-graduate training for ASM Assembly Automation Ltd., 2004.
- UGB230N Robotics in Action. Founded as a Faculty Strategic Incentive Project (FSIP) of the Faculty of Engineering for the development and offering of a hands-on course for the University General Education course, also for enhancement of the MAE programs, 2007-2008.

At University of Maryland (1990-2000):

- ENME 414 Computer-Aided Design: Designed this course and offered it as a new undergraduate elective. This course teaches the basic principles and techniques of computer graphics and geometric modeling from the point of view of mechanical engineering applications. These fundamental parts will be integrated with a CAD system to provide a comprehensive education experience in computer aided mechanical engineering.
- ENME 808M Design for Manufacture: Developed and offered the graduate special topic course which became a regular graduate course. The purpose of this course is to introduce the basic concept of design for manufacture and to study various approaches to the development of quality products. The course focuses on the principles of design for manufacture. Furthermore, the course discusses a number of specific methodologies and computer aided technologies for engineering design practice. This course is a continuation of the transition from theoretical/analytical engineering to practical/applied engineering. It emphasizes more practical aspects of methods for engineering design applications.
- ENME 304 Engineering Design (Development only): I joined a three faculty member group for the design of this new course for a sequence of design courses for Mechanical Engineering major. The role of my participation in this UMBC Design Curriculum Revision Project in 1994 is to design course structure and

materials that incorporate open-ended design problems and computer-aided design and manufacturing technologies into the new curriculum.

- ENME 471 & 472 Integrated Product and Process Development (Project development): I participated in this new design course in Fall 1995 for teaching preparation. In summer 1996, I worked with Rohm & Haas Company and established an agreement for its support to design a commercial product as a year-long student course project. I was responsible for developing the project for teaching the course in Fall 1996 and Spring 1997. I took a leadership role in reshaping these courses into a senior capstone design course, including renovation of its new lab, as the Chair of the Laboratory, Equipment & Studio Committee in 1998-1999.
- ENME 489B/ENEE 488Q Pinball Machine Project: This is a cross-disciplinary project course targeted towards electrical, computer, and mechanical engineers. As an Advanced Student Project of the College of Engineering, this course has one-year duration with approximately 20 students involved. The team project requires interaction among students majoring in electrical and mechanical engineering and the students learn the skills required to design a sensor-based system. I participated in the development of this course with three other faculty members. This course is to be offered in Spring 1997 and Fall 1997 and to be cross-listed between EE and ME Departments.
- ENME408 Development of a Hybrid Electric Vehicle: Supervised 25 students (including raising \$75,000) for this 1998 US-DOE FutureCar Competition project.

Graduate Student Training:

- Lecture on Effective Technical Presentation Skills for the Graduate Programs of School of Mechanical Engineering, Xian Jiaotong University, Xian, China, March 12, 2008.
- Lecture on Technical Writing and Publication for the Graduate Programs of School of Mechanical Engineering, Xian Jiaotong University, Xian, China, November 17, 2007.
- Lecture on Original Research Contributions for the Graduate Programs of School of Mechanical Engineering, Xian Jiaotong University, Xian, China, April 28, 2007.
- Major contributor to the Web and video course of “Effective Lectures and Presentations,” produced by the CUHK Center for Learning Enhancement and Research (CLEAR) and featured in the University Web-based learning and instruction system WebCT@CUHK (2005).
- Lecture on Presentation Skills for the Program for Teaching Assistants organized by the Center for Learning Enhancement and Research (CLEAR) (2003, 2004).

Grants/Gifts for Teaching:

- Office of Associate Provost for Education, HKUST: MECH4000D Experiential Learning in Robotics Technologies and Cybathlon 2016 Powered Wheelchair, Spring 2016, \$639,000. Faculty in Charge: Robin Ma, Michael Wang, Christopher Chao.
- Center for Education Innovation, HKUST, MOOC and Blended Learning for MECH2520 - Design and Manufacturing I (3 credits), Fall 2017, \$191,880, Faculty in Charge: Prof. Robin Ma and Michael Wang.
- Faculty Strategic Incentive Projects (FSIP), Faculty of Engineering, Chinese University of Hong Kong, HK\$300,000. 7/1/2007 - 6/30/2008. Enhancing Robotics Curriculum. (PI).
- University of Maryland College of Engineering, \$25,000, 10/1/97 - 9/30/98. Development of a Hybrid Electric Vehicle for 1998 FutureCar Competition. (Co-PI of two investigators).
- Variation Simulation Analysis, 2/97, VSA-GDT/Pro and VSA-3D/Pro Software, in-kind gift valued at \$15,000.
- SME Education Foundation, 5/1/96 - 4/30/97, Computer Software for Manufacturing Education, in-kind gifts valued at \$100,050. Co-PI of 4 investigators.
- Autodesk Education Grant, 10/96, AutoCAD/ANSYS Software, in-kind gift valued at \$2,500.

Supervision of Undergraduate Students:

Final Year Project (FYP), 2016-17: “Smart Soft End Effector”

Students: TSE Yu Alexander, ZHOU Peng, ZHANG Zihang, FENG Chenxi, JIANG Chunli (MECH)

Co-Supervisor: WANG MY and CAI Lilong

- Winner of the HKUST President’s Cup 2017 (an award of HK\$10,000, a certificate and a trophy)

- Winner of Gold Award of ASM Technology Award 2017 (an award of HK\$50,000 in scholarship)

Supervision of Students (Research Direction):

Ph.D. Degrees Supervision:

At Chinese University of Hong Kong:

1. Jiandong Cai (PhD, September 2015), Dissertation Title: *Structural Design and Optimization of Harmonic Probes for Multifrequency Atomic Force Microscopy*.
2. Yang Liu (PhD, September 2015), Dissertation Title: *Design of Compliant Mechanisms for Adaptive Assembly and Grasping Using Structural Optimization*.
3. Mingdong Zhou (PhD, July 2013), Dissertation Title: *Structural Optimization and Engineering Feature Design with Semi-Lagrangian Level Set Method*.
4. Xuefeng Tian (PhD, July 2013), Dissertation Title: *h-Adaptive Extended Finite Element Method for Structural Optimization*.
5. Li Li (PhD, July 2012), Dissertation Title: *Extended Finite Element Method Schemes for Structural Topology Optimization*.
6. Jiwei Zhang (PhD, December 2010), Dissertation Title: *Structural Shape and Topology Optimization with Implicit and Parametric Representations*.
7. Hon Shan Ho (PhD, October 2010), Dissertation Title: *Parametric Shape and Topology Optimization with Radial Basis Functions and Partition of Unity Method*.
8. Xianghua Xing (PhD, February 2009), Dissertation Title: *A Finite Element Based Level Set Method for Structural Topology Optimization*.
9. Qi Xia (PhD, October 2007), Dissertation Title: *Boundary and Material in Shape and Topology Optimization of Structures*.
10. Peng Wei (PhD, June 2007), Dissertation Title: *Level Set Methods for Shape and Topology Optimization of Structures*.
11. Shikui Chen (PhD, February 2007), Dissertation Title: *Compliant Mechanisms with Distributed Compliance and Characteristic Stiffness: A Level Set Approach*.
12. Shiwei Zhou (PhD, November 2005), Dissertation Title: *Phase Field Model for the Optimization of Multi-Material Structural Topology in Two and Three Dimensions*.
13. Tong Liu (PhD, September 2005), Dissertation Title: *Multi-Rigid-Body Contact Dynamics and Haptic Interaction for Fixture Loading Planning*.

At Xian Jiaotong University, China:

14. Fang Jiwen (PhD, September 2016), Dissertation Title: *Modeling and Control for Trans-Scale Macro-Micro Dual Driving Stage*.
15. Zhang Lufan (PhD, October 2015), Dissertation Title: *Design and Active Vibration Isolation of a Floating Stator Macro-Micro Motion Stage for Electronics Manufacturing Applications*.
16. Lv Hangyuan (PhD, June 2015), Dissertation Title: *Structure Design and Performance Study of Phononic Crystals with Low Frequency and Broadband Band-gaps*.
17. Liu Zhihui (PhD, October 2013), Dissertation Title: *Analysis and Design Method for Locating and Clamping in Complex Workpiece-Fixture System*.

At Harbin Institute of Technology, China:

18. Chen Jia (PhD, December 2012), Dissertation Title: *A Multi-View Video Based 3D Human Body Shape and Motion Tracking System*.

At University of Maryland, USA:

19. W. J. Zhou (PhD 2002), Dissertation Title: *Modeling and Analysis of Gear Rattle in Automotive Transmissions*.
20. S. Gupta (PhD 1997), Dissertation Title: *Manufactured Part Modeling and Analysis of Automotive Space-Frames*.
21. S. X. Tang (PhD 1995), Dissertation Title: *Five-Axis NC Machining of Sculptured Surfaces*.
22. J.-C. Lu (PhD 1995), Dissertation Title: *A New Life Cycle Methodology for Designing Automated Facilities and Factories*.

Masters Degrees Supervision:

- MPhil Degree (3 at CUHK): F. Y. Lui (2008); H. Y. Chan (2003, Co-supervisor); K. W. Chan (2002, Co-supervisor).
- MS Degree (1 at Xian Jiaotong University): A. P. Ying (2012)

- MS Degree (11 at UMD): R. Gupta, 1992; C.-S. Lee, 1993; S. Mittal, 1993; S. Rao, 1995; S. Nagarkar, 1997; M. Boyle 1997; Y. Pu 1998; S. Shabeer, 1998; S. Saikumar, 2000; D. Plinescu, 2000; R. K. Kaza, 2001.
- MS Scholarly Papers (2 at UMD): L. Liu (1994-1995); K. Umar (1995-1996)

At Hong Kong University of Science and Technology:

Hong Kong Scholars Post-doctoral Fellow:

H. Liu (2016-2018)

Post-doctoral Fellows:

Y.Q. Wang (2015-2017), Y. Zhang (2016-2017), Y. Yang (2018-2019)

Supervision of Graduate Students:

Haoran Song (2016-, PhD student), Ye Tian (2016-, PhD student), Yazhan Zhang (2016-, PhD student), Hongming Zong (2016-, PhD student), Weihao Yuan (2016-, PhD student), Zicheng Kan (2016-, MPhil), Ahmed Benjelloun (2016-, MPhil–Technology Leadership & Entrepreneurship), Qingping Ma (2017-, PhD student), Yu Tse (2017-, MPhil)

International Research Internship Program:

Nguyen Huu Than (Vietnam, 6-8/2016)

At National University of Singapore:

Post-doctoral Fellow:

Y.Q. Wang (2015)

Co-Supervision of Graduate Students:

H.Y. Zhang (2014-, PhD), F.F. Chen (2014-, PhD), L. Zhang (2015-, PhD)

At Chinese University of Hong Kong:

CUHK Post-doctoral Fellows:

C.H. Xiong (2002-2003), S.Y. Wang (2004-2005), T. Liu (2005-2006), Q. Xia (2008)

Hong Kong Scholars Post-doctoral Fellow:

Y.J. Luo (2012-2014)

Research Fellows/Associates/Assistants:

K.M. Mao (2001-2002), Z.W. Xu (2001-2003), C.J. Wu (2001), X.M. Wang (2002-2003), X. Guo (2004, 2009), X.J. Wu (2004-2005), S. Liang (2005-2006), Z. Luo (2006), J.Z. Luo (2006-2007), H.J. Xia (2007-2008, 2009-2010), P. Wei (2007-2009), M. K. Poon (2007-2008), N.F. Wang (2007-2009), Q. Xia (2007-2008), T. Liu (2007-2008), J. Ma (2008-2009), X.H. Xing (2009), W.S. Zhang (2009-2010), L. Shu (2009-2011), J.W. Zhang (2011-2012, 2014), X.M. Wang (2012-2013), X.F. Tian (2013-2014)

Undergraduate Summer Research Internship Supervision:

1 from University of Michigan (2013, 2014) and 4 from CUHK (2013)

At University of Maryland:

Thesis Committees: Served on 14 M.S. and 7 Ph.D. thesis committees

Undergraduate:

Joseph Towles, NSF Research Experience for Undergraduate program, 1995-1996

Undergraduate Research Students, Mannheim University of Applied Sciences, Germany: 3 students, 1996-1998

5. SERVICE

University:

At HKUST:

- Residence Mater, Undergraduate Hall VI (7/2017-): Responsible for 594 UG residential students, creating a unique learning environment for enriching the life experience of the residents, providing opportunities for cultivating friendships, developing intellectual faculties, and experiencing a true sense of community; maintaining a healthy study and living environment, with multiple residential programs including First-Year Experience and RM-led activities.

- School Faculty Mentor for Undergraduate Students, School of Engineering (2016-): Providing academic advice and guidance to 12 first-year students and 20 third-year students.
- Member of Postgraduate Committee (2016-), Undergraduate Committee(2016-), Merit Salary Review Committee (2017-), MAE Department

At National University of Singapore:

- Member of Faculty Promotion and Tenure Committee (FPTC), Faculty of Engineering (2015)
- Member of Research Committee, Department (2015)

At Chinese University of Hong Kong:

- Elected Member of Executive Committee, Department (2003, 2004)
- Director of MSc Program of MAE, Department (2004-2007)
- Ex-officio member and Secretary of Advisory Committee of the Department (2006-2009)
- Department Committee Chair: Curriculum and Academic Committee (2013), Teaching Laboratory Development & Computing Resources Committee (2000-2005, 2008-2010), Industrial Relationship Committee (2012), Research Committee (2000-2002; 2012-2014)
- Seminar Series Coordinator, Department (2000-2001)
- Final Year Project Coordinator, Department (2009-2014)
- Mentor of MAE undergraduate students (2008-2014)
- Departmental Coordinator for the UGC Research Assessment Exercise (RAE) visit (June 2001)
- Departmental Coordinator for CUHK 4th Internal Research Assessment Exercise (IRAE) (2002)
- Member of the CUHK 4th IRAE Review Panel for Faculty of Engineering (2001-2002)
- Member of Management Committee of Shun Hing Institute of Advanced Engineering (2012-2014)
- Member of Management Committee of the Centre for Micro and Nano Systems (2001)
- Member of the Review Panel for Taught Course Postgraduate Programs, Faculty of Engineering (2008)
- Member of Executive Committee of the Centre for Advanced Research in Photonics (CARP) (2003-2005)
- Member of Management Committee of MSc Program in Biomedical Engineering, Faculty of Engineering (2005-2006)
- Member of Committee of MSc Program in Materials Engineering, Department of Physics (2002-2004)
- Coordinator of New Asia College for Innovation and Design Engineering program (2002-2007)
- Coordinator of New Asia College for MAE program (2009-2010, 2012)
- Department Coordinator for University General Education Program (2008-2012)

At University of Maryland College Park:

- Member of Graduate Committee of Department (UMBC 1991-1993)
- Organizer of Mechanical Engineering Seminar Series (UMBC 1993-1995)
- Member of Graduate Committee of Department (UMCP 1992)
- College of Engineering Award Committee (UMCP 1995-1996)
- Member of Graduate Education Resource Group for UMCP Middle States Accreditation Review (UMCP 1995)
- Chair, Laboratory, Equipment & Studio Committee of Department (UMCP 1998-1999)

Hong Kong/China/Regional:

- Evaluator for the State Natural Science Award of China (2013, 2014)
- Expert of the International Evaluation for School of Mechanical Engineering, Shanghai Jiao Tong University, China (2011)
- Panel member of Patent Assessment Committee (PAC) of project ITP/015/10NP, Nano and Advanced Materials Institute Limited (NAMI), Kowloon, Hong Kong (2011)
- Evaluator for the Shanti Swarup Bhatnagar Prize for Science and Technology, Council of Scientific and Industrial Research (CSIR), India (2010)
- External Examiner for Mechatronics Engineering programme of Universiti Tunku Abdul Rahman (UTAR), Kuala Lumpur, Malaysia (2008-2011)
- Panel for proposal examination, Division of Engineering and Material Sciences, National Science Foundation of China (2003, 2004, 2007)

- Panel Judge, Eco-Robot Competition, Hong Kong (2007)
- Panel Adjudicator, 37th Joint School Science Exhibition of Hong Kong (2004)
- Panel Adjudicator, 38th Joint School Science Exhibition of Hong Kong (2005)
- Panel Judge, T21: Student Design Exhibition and Competition, School of Mechanical and Production Engineering, Nanyang Technological University, Singapore (2003)
- Examiner of the HKIE Accreditation Committee for the Mechatronics programme of the City University of Hong Kong (2002)
- Expert for assessment of labor import applications of engineers, the Labor Department of Hong Kong SAR Government (2002)

Professional:Editorial Board:

- Editor-in-Chief: IEEE Trans. on Automation Science and Engineering (2016-2021), IEEE
- Editor-in-Chief: Conference Editorial Board for IEEE Conference on Automation Science and Engineering (2011-2013), IEEE Robotics and Automation Society
- Editor-at-Large: Conference Editorial Board for IEEE Conference on Robotics and Automation (2011), IEEE Robotics and Automation Society
- Senior Editor: IEEE Trans. on Automation Science and Engineering (2003-2008; 2014-2016)
- Regional Editor: Frontiers of Mechanical Engineering (Springer) (2006-)
- Associate Editor:
 - IEEE Trans. on Robotics and Automation (1998-2002)
 - ASME Trans., Journal of Manufacturing Science and Engineering (1999-2002)
- Editor:
 - Computer-Aided Design (2012-)
 - Journal of Computational Design and Engineering (2016-)
 - Structural and Multidisciplinary Optimization (2011-2016)
 - China Mechanical Engineering (2004-2014)
 - Assembly Automation Journal (2003-2013)
- Guest Editor:
 - Special Issue on Automation Science and Engineering, IEEE Robotics and Automation Magazine, Vol. 13, No. 4, December 2006
 - Special Issue on Workholding and Fixturing, IEEE Trans. on Automation Science and Engineering, Vol. 1, No. 2, October 2004
- Guest Specialist, Special Issue on Automated Fixturing, Assembly Automation Journal, Vol. 2, No. 2, April 2002

Major Conference Chair:

- Conference General Chair: International Symposium on Soft Robotics, Xian Jiaotong University, Aug. 2-3, 2017, Xian, China.
- Conference General Chair: 2013 IEEE International Symposium on Assembly and Manufacturing (ISAM 2013), July 30-Aug. 2, 2013, Xian, China.
- Conference General Co-Chair: 2011 IEEE International Conference on Robotics and Automation (ICRA), May 9-13, 2011, Shanghai, China
- Conference General and Program Co-Chair: 8th Cross-Strait Manufacturing Workshop, April 26-27, 2010, Taipei, Taiwan
- Conference Program Chair: 7th Cross-Strait Manufacturing Workshop, December 21-24, 2008, Hong Kong
- Conference Co-Chair: 2008 International Workshop on Intelligent Robotics and Manufacturing, October 15-17, 2008, Wuhan, China
- Conference Program Chair: IEEE/ASME Conference on Advanced Intelligent Mechatronics (AIM2008), July 2-5, 2008, Xi'an, China
- Conference General and Program Co-Chair: 6th Cross-Strait Manufacturing Workshop, August 18-19, 2007, Baoji, Shaanxi, China

- Conference General Chair: IEEE Conference on Automation Science and Engineering (IEEE CASE), October 8-10, 2006, Shanghai, China
- Conference Program Chair: IEEE Conference on Automation Science and Engineering (IEEE CASE), August 1-2, 2005, Edmonton, Canada
- Conference General Chair: 5th ASME Design for Manufacture Conference, September 2000, Baltimore, USA

Other Conference Chair:

- Conference Awards Co-Chair: IEEE International Conference on Robotics & Biomimetics (ROBIO), December 5-8, 2007, Macau SAR, China
- Conference Awards Co-Chair, IEEE International Conference on Intelligent Robotics & Systems (IROS), September 2017, Vancouver, Canada
- Conference Special Sessions Chair: IEEE Conference on Automation Science and Engineering (IEEE CASE), August 20-23, 2017, Xi'an, China
- Best Automation Paper Award Committee Chair: IEEE International Conference on Robotics and Automation (ICRA), May 29-June 3, 2017, Singapore
- Conference Awards Chair, IEEE International Conference on Intelligent Robotics & Systems (IROS), September 2015, Hamburg, Germany
- Conference Awards Chair, 7th IEEE International Conference on Robotics, Automation and Mechatronics (RAM), July 2015, Angkor Wat, Cambodia
- Conference Publicity Co-Chair: IEEE International Conference on Information and Automation (ICIA 2014), July 2014, Hulun Buir, China
- Conference Special Event Chair & Best Automation Paper Award Committee Chair: IEEE International Conference on Robotics and Automation (ICRA), May 31-June 4, 2014, Hong Kong
- Conference Awards Co-Chair: 2013 IEEE International Conference on Information and Automation, in conjunction with the IEEE ICAL 2013 conference, August 26-28, 2013, Yinchuan, Ningxia, China
- Conference Awards Co-Chair: IEEE International Conference on Mechatronics and Automation (ICMA), August 4-7, 2010, Xi'an, China
- Conference Organizing Committee Co-Chair: World Congress on Intelligent Control and Automation (WCICA), July 6-9, 2010, Jinan, China
- Conference Awards Co-Chair: IEEE International Conference on Robotics & Biomimetics (ROBIO), December 16-18, 2007, Sanya, China
- Conference Awards Co-Chair: IEEE International Conference on Robotics & Biomimetics (ROBIO), December 17-20, 2006, Kunming, China
- Conference Workshops Chair: ASME International Design Engineering Technical Conferences & Computers in Engineering, September 10-14, 2006, Philadelphia, USA
- Organized Session Co-Chair: International Conference on Mechatronics and Automation, June 25-28, 2006, Luoyang, China
- Conference Publications Co-Chair: IEEE International Conference on Robotics & Biomimetics (ROBIO), June 29-July 2, 2005, Hong Kong and Macau, China
- Chair of the special track on Physical Modeling and Computing, 2005 ACM Symposium on Solid and Physical Modeling, June 13-15, 2005, MIT, Cambridge, MA, USA
- Conference Activity Chair: Hong Kong International Symposium on Complex Systems, October 6-7, 2004, Hong Kong
- Area Program Co-Chair: International Conference on Intelligent Mechatronics and Automation, August 2004, Chendu, China
- Conference Awards Chair: IEEE International Conference on Robotics & Biomimetics (ROBIO), August 2004, Shenyang, China
- Conference Publicity Chair: International Symposium on Smart Structures and Microsystems, October 2000, Hong Kong

Conference Symposium/Workshop Organizer:

- Mini-symposium co-organizer, Optimization and Additive Manufacturing, 1st ECCOMAS Thematic Conference on Simulation for Additive Manufacturing, Munich, Germany, October 2017

- Mini-symposium organizer, Generative Design for Additive Manufacturing, International Convention on Shape, Solid, Structure, & Physical Modeling (S3PM 2017), Berkeley, CA, June 2017
- Workshop on Soft Robots, 2014 IEEE Conference on Robotics and Automation (ICRA), Hong Kong, June 2014
- Mini-symposium co-organizer, Advances in Shape And Topology Optimization of Structures and Materials, 11th World Congress on Computational Mechanics (WCCM2014), Barcelona, Spain, July 2014
- Session co-organizer, CAD/CAM, 2012 International Symposium on Flexible Automation (ISFA 2012), St. Louis, USA, June 2012
- Workshop on Product Life Cycle Management and Design Automation, Fifth IEEE Conference on Automation Science and Engineering (IEEE CASE 2009), Bangalore, India, August 2009
- Special Topic Session on Level Set Methods for Shape and Topology Optimization, 8th World Congress on Structural and Multidisciplinary Optimization (WCSMO-8), Lisbon, June 2009
- Special Topic Session on Geometric Theory for Workpiece Probing, Fixturing, Localization and Tolerance Inspection, 6th International Conference on Frontiers in Design and Manufacturing, Xian, China, June 2004
- Symposium on Assembly Modeling and Assembly Systems, ASME International Mechanical Engineering Congress and Exposition (IMECE), Atlanta, November 1998
- Symposium on Tolerancing and Metrology for Control and Improvement of Manufacturing Processes, ASME International Mechanical Engineering Congress and Exposition (IMECE), Anaheim, CA, November 1996

Conference Committee:

- 4th International Conference on Computational Design in Engineering (CODE2018), April 2018, Changwon, South Korea (Advisory Committee)
- Asian Congress of Structural and Multidisciplinary Optimization (ACSMO), May 2018, Dalian, China (Advisory Committee)
- Senior Program Committee, Conference Awards Committee: 2018 IEEE Conference on Robotics and Automation (ICRA), Brisbane, Australia, May 2018
- Senior Program Committee, Conference Awards Committee: 2017 IEEE/RSJ Conference on Intelligent Robots and Systems (IROS), Vancouver, Canada, September 2017
- 10th International Conference on Intelligent Robotics and Applications (ICIRA), Wuhan, China, August 2017 (Scientific Committee)
- Senior Program Committee, Conference Awards Committee: 2017 IEEE Conference on Robotics and Automation (ICRA), Singapore, May/June 2017
- Asian Congress of Structural and Multidisciplinary Optimization (ACSMO), May 2016, Nagasaki, Japan (Scientific Committee)
- 11th World Congress on Structural and Multidisciplinary Optimization (WCSMO), June 2015, Sydney, Australia (Scientific Advisory Committee)
- 7th International Conference on Intelligent Robotics and Applications (ICIRA), December 2014, Guangzhou, China (International Advisory Committee)
- Third International Conference on Intelligent Robotics, Automation and Manufacturing (IRAM 2014) December 2014, Madurai, India (International Advisory Committee)
- 11th International Conference on Informatics in Control, Automation and Robotics (ICINCO 2014), September 2014, Vienna (International Program Committee)
- IEEE International Conference on Mechatronics and Automation (ICMA 2014), August 2014, Tianjin, China (Program Committee)
- IEEE International Conference on Information and Automation (ICIA 2014), July 2014, Hulun Buir, China (Program Committee)
- 11th World Congress on Intelligent Control and Automation (WCICA 2014), June 2014, Shenyang, China (International Program Committee)
- IEEE International Conference on Robotics and Automation (ICRA), June 2014, Hong Kong (Best Conference Paper Award Committee)
- International Conference on Engineering and Applied Sciences Optimization (OPTI 2014), June 2014, Kos Island, Greece (Scientific Committee)

- 8th China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems, May 2014, Gyeongju, Korea (Advisory Committee)
- 11th International Conference on Frontiers of Design and Manufacturing (ICFDM), May 2014, Nanjing, China (Scientific Committee)
- 10th World Congress on Structural and Multidisciplinary Optimization (WCSMO), May 2013, Orlando, USA (Scientific Advisory Committee)
- 22nd Australasian Conference on the Mechanics of Structures and Materials (ACMSM22), December 2012, Sydney (International Scientific Committee)
- International Conference on Computational Design in Engineering (CODE2012), November 2012, Seoul (International Advisory Committee)
- 3rd International Conference on Engineering Optimization, July 2012, Rio de Janeiro, Brazil (International Scientific Committee)
- 7th IEEE Conference on Industrial Electronics and Applications (ICIEA'12), July 2012, Singapore (International Advisory Committee)
- 7th China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems, June 2012, Huangshan, China (Advisory Committee)
- 11th International Conference on Automation Technology, Nov. 2011, Douliu, Taiwan (International Advisory Committee)
- IEEE International Conference on Mechatronics and Automation (ICMA 2011), August 2011, Beijing, China (Program Committee)
- 37th ASME Design Automation Conference, August 2011, Washington DC, USA (International Liaison)
- IEEE/ASME Conference on Advanced Intelligent Mechatronics (AIM 2011), July 2011, Budapest, Hungary (Program Committee)
- 9th International Conference on Frontiers of Design and Manufacturing (ICFDM'2010), July 2010, Changsha, China (International Scientific Committee)
- 4th IEEE International Conference on Robotics, Automation and Mechatronics (RAM), June 2010, Singapore (International Advisory Committee)
- IEEE International Conference on Information Automation (ICIA), June 2010, Harbin, China (Program Committee)
- 6th China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems, June 2010, Kyoto, Japan (Organizing Committee)
- IEEE International Conference on Robotics and Automation (ICRA), May 2010, Anchorage, USA (Best Automation Paper Award Committee)
- 1st International Symposium on Geometric Methods in Robotics and Mechanism Research, December 2009, Hong Kong (Organizing Committee)
- The Second International Symposium on Computational Mechanics (ISCM II) in conjunction with the Twelfth International Conference on the Enhancement and Promotion of Computational Methods in Engineering and Science (EPMESC XII), November 2009, Hong Kong and Macau (Executive Committee)
- 1st Conference on Structural and Multidisciplinary Optimization – Theory and Applications, September 2009, Dalian, China (Program Committee)
- 7th International Conference on Manufacturing Research (ICMR'2009), September 2009, University of Warwick, Coventry, UK (Scientific Committee)
- 35th ASME Design Automation Conference, August 2009, San Diego, USA (International Liaison)
- 4th China CAE Annual Conference (CCAC 2009), July 2009, Lanzhou, China (Executive Committee)
- 10th International Conference on Automation Technology, June 2009, Tainan, Taiwan (International Advisory Committee)
- IEEE International Conference on Information Automation (ICIA'2009), June 2009, Zhuhai & Macau, China (Program Committee)
- 8th World Congress on Structural and Multidisciplinary Optimization (WCSMO8), June 2009, Lisbon, Portugal (Scientific Committee)
- 15th IEEE Conference on Mechatronics and Machine Vision in Practice (M2VIP), December 2008, Auckland, New Zealand (Program Committee)
- 8th International Conference on Frontiers of Design and Manufacturing (ICFDM), September 2008, Tianjin, China (Program Committee)

- 5th China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems, June 2008, Jeju Island, Korea, (Scientific Committee)
- International Conference on Smart Manufacturing Application, April 2008, Gyeonggi-do, Korea (Program Committee)
- Geometric Modeling and Processing Conference (GMP2008), April 2008, Hangzhou, China (Program Committee)
- 10th International Conference on Computer-Aided Design and Computer Graphics (CAD/Graphics 2007), October 2007, Beijing, China (Program Committee)
- 33rd ASME Design Automation Conference, September 2007, Las Vegas, USA (International Liaison)
- IEEE/ASME International Symposium on Assembly and Manufacturing, July 2007, Ann Arbor, USA (Scientific Committee)
- International Workshop on Robot Grasping and Fixturing, June 2007, Wuhan, China (Academic Committee)
- ACM Symposium on Solid and Physical Modeling, June 2007, Beijing, China (Program Committee)
- Robotics: Science and Systems 2007 (RSS-2007), June 2007, Atlanta, USA (Program Committee)
- 7th World Congress on Structural and Multidisciplinary Optimization (WCSMO7), May 2007, Seoul, Korea (Scientific Committee)
- IEEE International Conference on Robotics & Biomimetics (ROBIO2006), December 2006, Kunming, China (Program Committee)
- 4th China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems, November 2006, Kunming, China (Scientific Committee)
- IEEE International Conference on Intelligent Robotics & Systems (IROS 2006), October 2006, Beijing, China (Program Committee, Video Committee)
- 2nd IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications (MESA06), August 2006, Beijing, China (Program Committee)
- Robotics: Science and Systems 2006 (RSS-2006), August 2006, Philadelphia, USA (Program Committee)
- Geometric Modeling and Processing Conference (GMP2006), July 2006, Pittsburgh, USA (Program Committee)
- 7th International Conference on Frontiers of Design and Manufacturing (ICFDM'2006), June 2006, Guangzhou, China (Program Committee)
- IEEE International Conference on Robotics & Automation (ICRA), April 2006, Orlando, USA (Program Committee)
- Workshop on Hybrid and Embedded Systems: Technology and Applications, organized by the Hong Kong Science and Technology Parks Corp. and the Chinese University of Hong Kong, February 2006, Hong Kong (Organizing Committee)
- 9th International Conference on Computer-Aided Design and Computer Graphics (CAD/CG'05), December 2005, Hong Kong (Program Committee)
- IEEE International Conference on Intelligent Robotics & Systems (IROS 2005), August 2005, Edmonton, Canada (Program Committee)
- 2005 IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM 2005), July 2005, Monterey, California, USA (Program Committee)
- IEEE International Conference on Robotics & Automation, April 2005, Barcelona, Spain (Kayamori Best Paper Award Committee)
- International Conference on Manufacturing Automation (ICMA 2004), October 2004, Wuhan, China (International Scientific Committee)
- Fourth International Symposium on Robotics and Automation, ISRA'2004, August 2004, Queretaro, Mexico (International Program Committee)
- 6th Workshop on the Algorithmic Foundations of Robotics (WAFR), July 2004, Utrecht, Netherlands (International Program Committee)
- 6th International Conference on Frontiers of Design and Manufacturing (ICFDM'2004), June 2004, Xian, China (Program Committee)
- 8th Cairo University International Conference on Mechanical Design and Production (MDP-8), January 2004, Cairo, Egypt (International Advisory Committee)
- 2003 Chinese Intelligent Automation Conference, December 2003, Hong Kong (Program Committee)

- IEEE International Conference on Robotics & Automation, September 2003, Taipei, Taiwan (Program Committee, Workshop & Tutorial Committee, Best Student Paper Committee, Kayamori Best Paper Award Committee)
- 7th ASME Design for Manufacturing Conference, September 2002, Montreal, Canada (Paper Review Coordinator)
- 9th IEEE Conference on Mechatronics and Machine Vision in Practice (M2VIP), September 2002, Chiang Mai, Thailand (Program Committee)
- 5th International Conference on Frontiers of Design and Manufacturing (ICFDM'2002), July 2002, Dalian, China (Program Committee)
- IEEE International Conference on Robotics & Automation, May 2002, Washington DC, USA (Program Committee)
- International Conference on Industrial Electronics, Technology & Automation (IETA2001), December 2001, Cairo, Egypt (Program Committee)
- International Workshop on Advanced Electronics Manufacturing Technology and Equipment, December 2001, Shanghai, China (Program Committee)
- 2001 WSES International Conference on Robotics, Distance Learning and Intelligent Communication Systems, September 2001, Malta (Program Committee)
- International Conference on eCommerce Engineering, September 2001, Xi'an, China (Program Committee)
- 6th ASME Design for Manufacturing Conference, September 2001, Pittsburgh, USA (Asian Liaison, Paper Review Coordinator)
- International MEMS Workshop 2001 (iMEMS 2001), July 2001, Singapore (Technical Committee)
- IEEE International Conference on Robotics & Automation, May 2001, Seoul, Korea (Program Committee)
- International Symposium on Smart Structures and Microsystems, October 2000, Hong Kong (International Steering Committee)
- ASME Design Engineering Technical Conferences and Computer and Information in Engineering Conference, September 2000, Baltimore, USA (Local Arrangement Committee)
- International Conference on Advanced Manufacturing Technology, 1999, Xi'an, China (Program Committee)
- 4th ASME Design for Manufacturing Conference, September 1999, Atlanta, USA (Paper Review Coordinator)

Paper Reviewer for Journals:

AIAA Journal; ASME Journal of Applied Mechanics; ASME Journal of Vibration and Acoustics; ASME Journal of Manufacturing Science and Engineering; ASME Journal of Computer and Information Science in Engineering; ASME Journal of Dynamics, Measurement and Control; ASME Journal of Mechanical Design; ASME Journal of Mechanisms and Robotics; IEEE Trans. on Robotics and Automation; IEEE Trans. on Automation Science and Engineering; IEEE Trans. on Systems, Man and Cybernetics - Part B; IEEE/ASME Trans. on Mechatronics; Advanced Robotics; Advances in Engineering Software; Assembly Automation; Computer-Aided Design; Computer Methods in Applied Mechanics and Engineering; Computers & Industrial Engineering; Engineering Computation; Frontiers of Mechanical Engineering; Integrated Manufacturing Systems; Int. Journal for Numerical Methods in Engineering; Int. Journal of CAD & CAM; Int. Journal of Concurrent Engineering: Research and Applications (CERA); Int. Journal of Robotics Research; Int. Journal of Solids and Structures; Journal of Manufacturing Systems; Journal of Mechanics of Materials and Structures; Journal of Sound and Vibration; Mechatronics; Mechanics Based Design of Structures and Machines; Mechanisms and Machine Theory; Optics Letter; Robotica; Robotics and Autonomous Systems; Shock & Vibration Digest; Structural Engineering and Mechanics; Structural and Multidisciplinary Optimization; Trans. of North American Manufacturing Research Institution of SME (NAMRI); Science China: Technological Sciences

Paper Reviewer for Major Conferences:

ASME Design for Manufacturing Conference; ASME Computers in Engineering Conference; ASME International Mechanical Engineering Congress and Exposition ; ASME Design Automation Conference; ASME Mechanisms and Robotics Conference; ASME Mechanical Vibration and Noise Conference; ASME Winter Annual Meeting; IEEE International Conference on Robotics and Automation; IEEE/RSJ International

Conference on Intelligent Robotics and Systems; IEEE International Conference on Mechatronics and Automation; IEEE International Conference on Automation Science and Engineering; IEEE International Conference on Intelligent Robotics & Systems; IEEE/ASME International Conference on Advanced Intelligent Mechatronics; IEEE International Conference on Robotics & Biomimetics; IEEE Conference on Mechatronics and Machine Vision in Practice; IEEE International Conference on CAD/Graphics; ACM Symposium on Solid and Physical Modeling (on Solid Modeling); Geometric Modeling and Processing; International CAD Conference & Exhibition; International Conference on Computer-Aided Design and Computer Graphics; International Symposium on Tools and Methods for Competitive Engineering; Robotics: Sciences and Systems; Workshop on the Algorithmic Foundations of Robotics (WAFR); North American Manufacturing Research Conference of SME (NAMRC)

Reviewer for Book Manuscripts:

- “Fundamentals of Machine Elements,” B. J. Hamrock and B. O. Jacobson, Irwin, 1995
- “MEMS and Microsystems,” T.-R. Hsu, McGraw Hill, 1999

Research Proposal and Project Review:

- National Science Foundation of China (2003, 2004, 2007, 2010)
- Ministry of Education of China (2006, 2008, 2009)
- Ministry of Science and Technology of China: “973” Project Proposal Review (2012)
- Hong Kong Research Grants Council (1999-2005)
- National Research Foundation (NRF) of Korea, Creative Research Initiative (CRI) Program (2015)
- National Research Foundation (NRF) of Singapore (2012); Campus for Research Excellence and Technological Enterprise (CREATE), National Research Foundation (NRF) of Singapore (2017)
- Science and Engineering Research Council, Agency for Science, Technology & Research, Singapore (2017)
- Office for Space Technology and Industry (OSTIn), Singapore Economic Development Board (2013)
- Israel Science Foundation (1998, 2005)
- Technology Foundation STW, The Netherlands (2016)
- Research Center, INRIA Lille - Nord Europe, France (2017)
- US National Science Foundation (NSF):
 - Manufacturing Processes and Equipment Program Panel (1995, 1998)
 - Dynamics and Control Program Panel (1994)
 - Small Business Innovation Program Panel (1998)
 - International Study Programs (1999)
 - Industry-University Collaboration Research Center (1998)
- US Civilian Research and Development Foundation (2001)
- National University of Singapore Academic Research Fund (2000, 2002, 2006)
- City University of Hong Kong Strategic Research Grants (2002)
- Hong Kong Polytechnic University Strategic Research Grants (2001)
- Deanship of Scientific Research at King Abdulaziz University, Saudi Arabia (2013, 2014)

Thesis External Examiner:

- National University of Singapore, Singapore (Hareesh Godaba, PhD 2017)
- Deakin University, Australia (K Fiedler, PhD 2014)
- University of Sydney, Australia (S Vasista, PhD 2013)
- University of Liege, Belgium (L Van Miegroet, PhD 2012)
- Chalmers University of Technology, Sweden (J Carlson, PhD 2000)
- Monash University, Australia (Aruni Alahakone, MSc 2010)
- National University of Singapore, Singapore (M Tatsuo, PhD 2001)
- Nanyang Technological University, Singapore (Ong Kian Leong, PhD 2004; Xu Lin, PhD 2006; Liu Xiaopeng, PhD 2007)
- Hong Kong University of Science and Technology (SL Jiang, PhD 2000; KK Chio, PhD 2001; ZH Xiong, PhD 2002; GF Liu, PhD 2003; YJ Lou, PhD 2006; JJ Xu, PhD 2007; J Meng, PhD 2007; KM Wong, PhD 2007; DJ Zhang, PhD 2009; Zhanqing Chen, PhD 2011; Pengcheng Hu, PhD 2013)

- City University of Hong Kong (CK Yan, MPhil 2000; YZ He, PhD 2004; CM Lam, MPhil 2006; MC Tong, MPhil 2006; YK Ng, MPhil 2008)
- Hong Kong Polytechnic University (SL Tang, MPhil 2004; Chiu Yu Him, MPhil 2004; CS Yung, MPhil 2006; WH Tsui, MPhil 2008; C Mao, MPhil 2013)
- University of Macau (QS Xu, PhD 2008)

External Assessor for Tenure and Promotion:

- Department of Mechanical Engineering, University of Connecticut, USA (Full Professor Promotion 2015)
- Department of Computer Science, Iowa State University, USA (Full Professor Promotion 2014)
- Department of Mechanical Engineering, University of Wisconsin-Madison, USA (Tenure Evaluation 2013; Full Professor Promotions 2015, 2016)
- Department of Industrial and Systems Engineering, University of Southern California, USA (Three-Year Tenure-Track Evaluation 2009; Tenure Evaluation 2012)
- Department of Mechanical, Materials, and Aerospace Engineering, Illinois Institute of Technology, USA (Tenure Evaluation 2009)
- School of Mechanical and Aerospace Engineering, Nanyang Technological University, Singapore (Tenure Evaluation 2007; Professor Rank Promotion 2007, 2010, 2014; Assessor for Faculty Recruitment 2008)
- School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore (Tenure Evaluation 2007; Professor Rank Promotion 2010)
- Department of Mechanical & Materials Engineering, Universiti Tunku Abdul Rahman (UTAR), Malaysia (Associate Professor Promotion 2010)
- School of Mechanical Engineering, Universiti Sains Malaysia (Tenure Evaluation 2006)
- Division of Mechanical Sciences, India Institute of Science, Bangalore, India (Tenure Evaluation 2003; Full Professor Promotion 2010)
- School of Mechanical and Power Engineering, Shanghai Jiaotong University, Shanghai, China (Assessor for Chair Professor Recruitment 2008)
- School of Mechanical Engineering, Xian Jiaotong University, Xian, China (Assessor for Chair Professor Recruitment 2014)
- School of Engineering, Monash University, Australia (Associate Professor Promotion 2008; Professor Rank Promotion 2008, 2009)
- University of Macau (Faculty-level Academic Staff Promotion Advisory Panel, Faculty of Science and Technology 2011; Appointment of University Distinguished Professors 2013; Associate Professor Promotion 2015)

Professional Affiliation:

- American Society of Mechanical Engineers (ASME) (since 1990)
- Institute of Electrical and Electronic Engineers (IEEE) (since 1989)
- Hong Kong Institution of Engineers (HKIE), Fellow (since 2006)
- Hong Kong Society of Theoretical and Applied Mechanics (HKSTAM) (since 2001)

6. INDUSTRIAL EXPERIENCE

Collaborations:

- ALCOA, DaimlerChrysler, Boeing, Pratt & Whitney, Genex Technologies Inc., Automated Precision Inc., Dixon Corporation, Strouse Corporation, Spirax Inc., Maryland Industrial Partnerships
- ASM Assembly Automation Ltd (Hong Kong):
 - Various research projects for precision assembly, manufacturing processes, electronics manufacturing, machine and tool design, and automotive noise reduction
- China Electronics Technology Group Corporation, Beijing, China
 - Research projects for wire-bond machine design and experimentation

Consulting:

- Autodesk Research, Toronto, Canada (2015-2016)
- Certified High-Level Professional, City Government of Shenzhen, China (2009-2012)
- Parallex Precision Co. Ltd., Shenzhen, China, Co-Founder and Chairman (2008-2014)

- Grand Technologies (Shenzhen) Co., Shenzhen, China, Technology Consultant (2008)
- China Electronics Technology Group Corporation (Beijing), Chief Technology Consultant (2007-2009)
- Northrop Grumman Corporation, Baltimore (1996-1999)
- Summer-in-Residence: ALCOA, Pittsburgh (1993, 1995); Boeing, Seattle (1998)

23 February 2018

(Date)