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Academic Qualification:

Ph. D. in Computer & Systems Eng., Rensselaer Polytechnic Institute, Troy, NY, 1990

M. S. in Automatic Control, Beijing Institute of Technology, Beijing, China, 1986

B. S. in Control Engineering, Nanjing Univ. of Sci. & Tech., Nanjing, China, 1983

Teaching Area

Research Area

Intelligent automation, Petri nets, Internet of Things, semiconductor manufacturing, Web service, workflow, big data, learning algorithms and systems, transportation, and energy systems.

Working Experience

Macau University of Science and Technology, Professor at the Institute of Systems Engineering 2014- present

New Jersey Institute of Technology, Distinguished Professor in Electrical and Computer Engineering 2013-present

Tongji University, Guest Professor in Computer Science and Technology 2010-2015

XiDian University, Guest Professor in Electro-Mechanical Engineering 2007-2010

Chinese Academy of Science, Guest Researcher in the Institute of Automation 2003-2005

New Jersey Institute of Technology, Professor in Electrical and Computer Engineering 2000-2013

New Jersey Institute of Technology, Associate Professor in Electrical and Computer Engineering 1990-1995

Academic Publication

Book

1. M. C. Zhou, H.-X. Li and M. Weijnen, **Contemporary Issues in Systems Science and Engineering**, IEEE Press/Wiley, Hoboken, NJ, 2015.

2. W. Tan and M. C. Zhou, **Business and Scientific Workflows: A Service-Oriented Approach**, IEEE Press/Wiley, Hoboken, NJ, 2013

3. N. Q. Wu and M. C. Zhou, **System Modeling and Control with Resource-Oriented Petri Nets**, CRC Press, New York, 2010. 312 pages, Control Engineering Series. ISBN: 1439808848.

4. Z. W. Li and M. C. Zhou, **Modeling, Analysis and Deadlock Control of Automated Manufacturing Systems**, Science Press, Beijing, China, 2009, 215 pages (李志武与周孟初, 自动制造系统建模、分析与死锁控制, 科学出版社, 北京, 2009).

5. Z. W. Li and M. C. Zhou, **Deadlock Resolution in Automated Manufacturing Systems: A Novel Petri Net Approach**, Springer, New York, 2009. 237 pages. Advances in Industrial Control Series. ISBN: 9781848822436.

6. B. Hruz and M. C. Zhou, *Modeling and Control of Discrete Event Dynamic Systems*, Springer, London, UK, 2007. 341 pages, Advanced Textbooks in Control and Signal Processing. ISBN: 9781846288722
7. M. C. Zhou and M. P. Fanti (Ed.), *Deadlock Resolution in Computer-Integrated Systems*, Marcel Dekker, New York, January 2005.
8. H. Zhu and M. C. Zhou, *Object-Oriented Programming in C++: A Project-based Approach*, Tsinghua University Press, November 2005.
9. M. C. Zhou and K. Venkatesh, *Modeling, Simulation and Control of Flexible Manufacturing Systems: A Petri Net Approach*. World Scientific, Singapore, 1998.
10. M. C. Zhou (Ed.), *Petri Nets in Flexible and Agile Automation*. Kluwer Academic Publishers, London, 1995.
11. Sodhi, R. (Ed.), M. C. Zhou and S. Das (Assistant Eds.), *Advances in Manufacturing Systems: Modeling, Design and Analysis*, Elsevier Scientific Publishers: Amsterdam, The Netherlands, 1994.
12. M. C. Zhou and F. DiCesare, *Petri Net Synthesis for Discrete Event Control of Manufacturing Systems*. Kluwer Academic Publishers, London, UK, 1993.

Book Chapters

1. DiCesare F. and M. C. Zhou, "Symbolic performance evaluation of concurrent systems by combining Petri nets and moment generating functions," in *Concurrent Engineering Techniques and Applications*, C.T. Leondes (Ed.), Academic Press, 379-417, 1994.
2. Zhou, M. C. and A. D. Robbi, "Applications of Petri net methodology to manufacturing systems," in *Computer Control of Manufacturing Systems*, S. Joshi and G. Smith (eds.), Chapman and Hall, 307-330, 1994.
3. Zhou, M. C. and R. Zurawski, "Introduction to Petri Nets in Flexible and Agile Automation," in *Petri Nets in Flexible and Agile Automation*, M. C. Zhou (Ed.), Kluwer Academic Publishers, Boston, MA, 1-42, 1995.
4. Venkatesh, K., M. C. Zhou and R. J. Caudill, "Discrete-Event Control Design for Manufacturing Systems via Ladder Logic Diagrams and Petri Nets: A Comparative Study," in *Petri Nets in Flexible and Agile Automation*, M. C. Zhou (Ed.), Kluwer Academic Publishers, Boston, MA, 289-332, 1995.
5. Zurawski, R. and M. C. Zhou, "Functional and Behavioral Modeling of Automated Manufacturing Systems," in *Handbook of Industrial Electronic Engineering*, CRC Press, 1996, 669-676.
6. Zhou, M. C., A. D. Robbi, and R. Zurawski, "Discrete Event Simulation," in *Handbook of Industrial Electronic Engineering*, CRC Press, 1996, 694-705.
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15. Dotoli, M., M. P. Fanti, C. Meloni, and M. C. Zhou, "Service Computing for Design and Reconfiguration of Integrated E-Supply Chain," *Enterprise Service Computing: From Concept to Deployment*, Idea Group Publishing, R. Qiu (Ed.), Chap. XIII, pp. 322-354, 2006.
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19. Y. Qiao, N. Wu and M. C. Zhou, "Real-time Scheduling and Control of Single-Arm Cluster Tools with Residency Time Constraint and Activity Time Variation by Using Resource-Oriented Petri Net," *Formal Methods in Manufacturing Systems: Recent Advances*, Edited by Z. Li and A. Al-Ahmari, IGI Global, Hershey, PA, pp. 178-210, 2013.
20. A. Wang and M. C. Zhou, "Iterative deadlock control for Petri net models of automated manufacturing systems: Algorithms and case studies," *Formal Methods in Manufacturing Systems: Recent Advances*, Edited by Z. Li and A. Al-Ahmari, IGI Global, Hershey, PA, pp. 296-321, 2013.
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25. M. Hou, H. Zhu, M. Zhou and R. Arrabito, "Advances and challenges in intelligent adaptive interface design," in *Contemporary Issues in Systems Science and Engineering*, Edited by M. C. Zhou, H.-X. Li and M. Weijnen, Wiley/IEEE Press, Hoboken, NJ, pp. 369-424, 2015.
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W. Tan and M. Zhou, "Service Oriented Workflow Systems," in Contemporary Issues in Systems Science and Engineering, Edited by M. C. Zhou, H.-X. Li and M. Weijnen,

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- 1) Wu, N. and M. C. Zhou, "Analysis of Wafer Sojourn Time in Dual-Arm Cluster Tools With Residency Time Constraint and Activity Time Variation," IEEE Trans. on Semiconductor Manufacturing, Vol. 23, No. 1, pp. 53-64, Feb. 2010.
- 2) R. Robidoux, H. Xu, L. Xing, and M. C. Zhou, "Automated Verification of Dynamic Reliability Block Diagrams Using Colored Petri Nets," IEEE Trans. on Systems, Man and Cybernetics, Part A, 40(2), pp. 337 – 351, March 2010.
- 3) Xiong, P. C., Y. Fan and M. C. Zhou, "A Petri Net Approach to Analysis and Composition of Web Services," IEEE Trans. on Systems, Man and Cybernetics, Part A, 40(2), pp. 376 – 387, March 2010.
- 4) Wu, N., F. Chu, C. Chu, and M. C. Zhou, "Hybrid Petri Net Modeling and Schedulability Analysis of High Fusion Point Oil Transportation under Tank Grouping Strategy for Crude Oil Operations in Refinery," IEEE Trans. on Systems, Man and Cybernetics, Part C, 40(2), pp. 159 – 175, March 2010.
- 5) Wu, N. and M. C. Zhou, "A Closed-Form Solution for Schedulability and Optimal Scheduling of Dual-Arm Cluster Tools With Wafer Residency Time Constraint Based on Steady Schedule Analysis," IEEE Trans. on Automation Science and Engineering, Vol. 7, No. 2, pp. 303 – 315, April 2010.
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Professional Certification and Awards

2015 Norbert Wiener Award for “fundamental contributions to the area of Petri net theory and applications to discrete event systems,” IEEE Systems, Man, and Cybernetics Society

2015 Best Conference Paper Award, J. Li, X. Meng and M. C. Zhou, “Job Scheduling and Collision Resolution of Multi-Bridge Processing Systems,” in Proc. 2015 IEEE Int. Conf. on Networking, Sensing and Control, Taipei, Taiwan, April 9-11, 2015

2014 Highly cited scholar in engineering by Web of Science/Thomson Reuters

2013 Distinguished Service Award, IEEE Robotics and Automation Society, May 2013.

2012 Top one of 2012 most highly cited scholars in engineering globally by Web of Science/Thomson Reuters (<http://community.thomsonreuters.com/t5/InCites-Customer-Forum/Preliminary-publication-of-new-lists-of-Highly-Cited-Researchers/td-p/36685>)

2012 Lifetime Contribution and Leadership Award, Chinese Association for Science & Technology – USA, 2012

2012 Saul K. Fenster Innovation in Engineering Education Award, Newark College of Engineering, New Jersey Institute of Technology

2010 Franklin V. Taylor Memorial Award, IEEE Systems, Man, and Cybernetics Society.

2005-2011 and 2015-present, Distinguished Lecturer, IEEE Systems, Man and Cybernetics Society.

2005 “Semiconductor Manufacturing Automation” - Most Active Technical Committee Award, IEEE Robotics and Automation Society.

2004 Outstanding Contribution Award, IEEE Systems, Man and Cybernetics Society

2001 Asian American Achievement Award in the category of Professional and Academic Achievements, Asian American Heritage Council of New Jersey.

2001 Academic Achievement Award, Chinese Association for Science & Technology – USA.

2000 Who's Who in Science and Engineering (Marquis Who's Who), 5th Edition

2000 Humboldt Research Award for US Senior Scientists, Alexander von Humboldt Foundation, Germany

2000 Leadership Award, Chinese Association for Science & Technology - USA

1996 Harlan J. Perlis Award for Research, New Jersey Institute of Technology

1994 Computer-Integrated Manufacturing UNIVERSITY-LEAD Award by Society of Manufacturing Engineers (LEAD=Leadership and Excellence in the Application and Development of integrated manufacturing)

1994 Outstanding Service Award by Chinese Association for Science & Technology - USA

Professional Society Membership

Fellow of IEEE, IEEE Systems, Man, and Cybernetics Society, IEEE Robotics and Automation Society, and IEEE Control Systems Society.

Fellow, American Association for the Advancement of Science (AAAS)

Fellow, International Federation of Automatic Control (IFAC)