

Michelle M. Zhu, Ph.D.

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Employment History

- 2023 – present **Associate Director for Faculty and Academic Affairs**, School of Computing, Montclair State University, Montclair, NJ
- 2018 – 2023 **Associate Chair**, of Dept. of Computer Science, Montclair State University, Montclair, NJ
- 2020 – present **Professor**, Dept. of Computer Science / School of Computing, Montclair State University, Montclair, NJ
- 2016 – 2020 **Associate Professor**, Dept. of Computer Science, Montclair State University, Montclair, NJ
- 2011 – 2016 **Associate Professor**, Dept. of Computer Science, Southern Illinois University, Carbondale, IL
- 2006 – 2011 **Assistant Professor**, Dept. of Computer Science, Southern Illinois University, Carbondale, IL
- 2003 – 2005 **Doctoral Student Research Associate**, Computer Science and Mathematics Division (CSMD), Oak Ridge National Laboratory (ORNL), Oak Ridge, TN

Education

- 2002 – 2005 **Ph.D., Louisiana State University** Computer Science
- 2000 – 2002 **M.Sc, Louisiana State University** Computer Science.
- 1991 – 1996 **B.S, Zhejiang University** Biomedical Engineering.

External Funding

- Principle Investigator **“Assimilating Computational and Mathematical Thinking into Earth and Environmental Science”**, National Science Foundation, STEM + Computing 1742125, PI: Michelle Zhu, Co-PIs: Nicole Panorkou, Pankaj Lal, and Bharath Samanthula, \$1,147,085, 2017 to 2022.
- Co-PI **“MRI: Acquisition of a Multimodal Collaborative Robot System (MCROS) to Support Cross-Disciplinary Human-Centered Research and Education at Montclair State University”**, National Science Foundation, CNS-2117308, PI: Weitian Wang, Co-PI: Michelle Zhu and Amy Tuininga, \$289,737, 2021 to 2024.

External Funding (continued)

Co-PI	■ "RET-MRI: Building Robotics and AI Capacities for Pre-University Communities", National Science Foundation, PI: Weitian Wang, Co-PI: Michelle Zhu, and Amy Tuininga \$50,000, 2024 to 2025.
Co-PI	■ "REU-MRI: Developing Undergraduate Students' Proficiency in Robotics," National Science Foundation, PI: Weitian Wang, Co-PIs: Michelle Zhu, and Amy Tuininga, \$32,000.00, 2022 to 2023.
Principle Investigator	■ "Towards a Scalable and Adaptive Application Support Platform for Large-Scale Distributed E-Sciences in High-Performance Network Environments", The Department of Energy (DOE), PI: Michelle Zhu \$389,398. 2009 to 2013.
Co-PI	■ "Partnership to Improve Achievements in Science through Computational Science", The Illinois State Board of Education, PI: Frackson Mumba, Co-PI: Michelle Zhu and Shaikh Ahmed \$530,000. 2010 to 2012.
Principle Investigator	■ "CUDA teaching center at SIUC" in 2013 and "GPU-accelerated Computational Biology Research" GPU cards of Tesla K20, C2075, and Quadro M5000. Equipment grant and NVidia GPU grant program funded by NVidia Company in 2012 and 2017, respectively

Research Publications

Journal Articles

- 1 A. Prasad, P. Lal, B. Wolde, M. Zhu, B. K. Samanthula, and N. Panorkou, "Examining the impact of a field trip in nature on students' environmental perceptions and feelings of empowerment: A case study from the acmes stem summer camp," *Journal of STEM Education: Innovations and Research*, vol. 24, no. 3, Jan. 2024. 🔗 URL: <https://jstem.org/jstem/index.php/JSTEM/article/view/2459>.
- 2 M. Y. Shakor, M. I. Khaleel, M. Safran, S. Alfarhood, and M. Zhu, "Dynamic aes encryption and blockchain key management: A novel solution for cloud data security," *IEEE Access*, vol. 12, pp. 26 334–26 343, 2024. 🔗 DOI: 10.1109/ACCESS.2024.3351119.
- 3 F. Yu, S. Maharjan, X. M. Lucy Kerns, A. Arslanyilmaz, and M. Zhu, "Aqprius: Offline approximate query processing enhanced by error assessment using bootstrap sampling," *International Journal of Computer Science and Security (IJCSS)*, vol. 18, pp. 30–47, 3 2024.
- 4 M. I. Khaleel, M. Safran, S. Alfarhood, and M. Zhu, "Workflow scheduling scheme for optimized reliability and end-to-end delay control in cloud computing using ai-based modeling," *Mathematics*, vol. 11, no. 20, 2023, ISSN: 2227-7390. 🔗 DOI: 10.3390/math11204334.
- 5 W. S. Welling, Y. Sheng, and M. M. Zhu, "Cuda-aware mpi implementation of gibbs sampling for an irt model," *Cluster Computing*, vol. 27, no. 2, pp. 1821–1830, Jun. 2023, ISSN: 1386-7857. 🔗 DOI: 10.1007/s10586-023-04049-z.
- 6 A. Hou, C. Q. Wu, Q. Duan, *et al.*, "Sdn-based bandwidth scheduling for prioritized data transfer between data centers," *Cluster Computing*, vol. 25, no. 4, pp. 3019–3034, Aug. 2022, ISSN: 1386-7857. 🔗 DOI: 10.1007/s10586-021-03364-7.
- 7 W. Wang, C. Coutras, and M. Zhu, "Empowering computing students with proficiency in robotics via situated learning," *Smart Learn. Environ.*, vol. 8, 24 2021. 🔗 URL: <https://doi.org/10.1186/s40561-021-00167-6>.

- 8 D. Basu, N. Panorkou, M. Zhu, P. Lal, and B. K. Samanthula, "Exploring the mathematics of gravity," *Mathematics Teacher: Learning and Teaching PK-12 MTLT*, vol. 113, no. 1, pp. 39–46, 2020.  DOI: 10.5951/MTLT.2019.0130.
- 9 A. Hou, C. Q. Wu, R. Qiao, *et al.*, "Qos provisioning for various types of deadline-constrained bulk data transfers between data centers," *Future Generation Computer Systems*, vol. 105, pp. 162–174, 2020, ISSN: 0167-739X.  DOI: <https://doi.org/10.1016/j.future.2019.11.039>.
- 10 A. Al-Sinayyid and M. Zhu, "Job scheduler for streaming applications in heterogeneous distributed processing systems," *The Journal of Supercomputing*, vol. 76, no. 12, pp. 9609–9628, Dec. 2020.
- 11 E. Wang, D. Li, B. Dong, H. Zhou, and M. Zhu, "Flat and hierarchical system deployment for edge computing systems," *Future Generation Computer Systems*, vol. 105, pp. 308–317, 2020, ISSN: 0167-739X.  DOI: <https://doi.org/10.1016/j.future.2019.12.004>.
- 12 L. Zuo, M. M. Zhu, and C. Q. Wu, "Bandwidth reservation strategies for scheduling maximization in dedicated networks," *IEEE Transactions on Network and Service Management*, vol. 15, no. 2, pp. 544–554, 2018.  DOI: 10.1109/TNSM.2018.2794300.
- 13 D. Yun, C. Q. Wu, and M. M. Zhu, "Transport-support workflow composition and optimization for big data movement in high-performance networks," *IEEE Transactions on Parallel and Distributed Systems*, vol. 28, no. 12, pp. 3656–3670, 2017.  DOI: 10.1109/TPDS.2017.2732987.
- 14 L. Zuo, M. M. Zhu, C. Q. Wu, and J. Zurawski, "Fault-tolerant bandwidth reservation strategies for data transfers in high-performance networks," *Computer Networks*, vol. 113, pp. 1–16, 2017, ISSN: 1389-1286.  DOI: <https://doi.org/10.1016/j.comnet.2016.11.003>.
- 15 M. Khaleel and M. M. Zhu, "Energy-efficient task scheduling and consolidation algorithm for workflow jobs in cloud," *Int. J. Comput. Sci. Eng.*, vol. 13, no. 3, pp. 268–284, Jan. 2016, ISSN: 1742-7185.  DOI: 10.1504/IJCSE.2016.078933.
- 16 F. Cao and M. M. Zhu, "Decentralised hybrid workflow scheduling algorithm for minimum end-to-end delay in heterogeneous computing environment," *Int. J. High Perform. Comput. Netw.*, vol. 8, no. 4, pp. 324–336, Nov. 2015, ISSN: 1740-0562.  DOI: 10.1504/IJHPCN.2015.072783.
- 17 L. Zuo and M. M. Zhu, "Concurrent bandwidth reservation strategies for big data transfers in high-performance networks," *IEEE Transactions on Network and Service Management*, vol. 12, no. 2, pp. 232–247, 2015.  DOI: 10.1109/TNSM.2015.2430358.
- 18 L. Zuo, M. M. Zhu, and C. Wu, "Concurrent bandwidth scheduling for big data transfer over a dedicated channel," *International Journal of Communication Networks and Distributed Systems*, vol. 15, pp. 169–190, 2015.  URL: <https://doi.org/10.1504/IJCND.2015.070970>.
- 19 L. Zuo, M. M. Zhu, and C. Q. Wu, "Fast and efficient bandwidth reservation algorithms for dynamic network provisioning," *Journal of Network and Systems Management*, vol. 23, no. 3, pp. 420–444, Jul. 2015.
- 20 Y. Sheng, W. S. Welling, and M. M. Zhu, "A GPU-Based gibbs sampler for a unidimensional IRT model," *Int Sch Res Notices*, vol. 2014, p. 368 149, Oct. 2014.
- 21 M. Zhu, F. Cao, and C. Wu, "High-throughput scientific workflow scheduling under deadline constraint in clouds," *Journal of Communications*, vol. 9, no. 4, pp. 312–321, 2014.  URL: Doi: 10.12720/jcm.9.4.312-321.
- 22 F. Cao and M. M. Zhu, "Distributed workflow mapping algorithm for maximized reliability under end-to-end delay constraint," *J. Supercomput.*, vol. 66, no. 3, pp. 1462–1488, Dec. 2013, ISSN: 0920-8542.  DOI: 10.1007/s11227-013-0938-3.
- 23 D. Ding, F. Cao, D. Che, M. M. Zhu, and W. Hou, "Budget constrained dataflow scheduling for minimized completion time on the cloud," *Int. J. Comput. Their Appl.*, vol. 20, no. 4, pp. 208–220, 2013.

- 24 M. I. Khaleel, S. Alqithami, M. M. Zhu, D. Che, and W.-C. Hou, "A cooperative game theory-based approach for energy-aware job scheduling in cloud," *Int. J. Comput. Their Appl.*, vol. 20, no. 4, pp. 221–235, 2013.
- 25 J. Yuan, M. Zhu, K. Meksem, M. Geisler, P. Hart, and D. A. Lightfoot, "Transcript abundance responses of resistance pathways of arabidopsis thaliana to deoxynivalenol," *Atlas J. Biol.*, vol. 2, no. 3, pp. 154–161, Jul. 2013.
- 26 L. Zuo, M. Zhu, and C. Q. Wu, "Fast and efficient bandwidth reservation algorithms for dynamic network provisioning," *Journal of Network and Systems Management*, vol. 23, pp. 420–444, 2013.  URL: <https://api.semanticscholar.org/CorpusID:254691509>.
- 27 Q. Wu, M. Zhu, Y. Gu, *et al.*, "A distributed workflow management system with case study of real-life scientific applications on grids," *Journal of Grid Computing*, vol. 10, no. 3, pp. 367–393, Sep. 2012.
- 28 M. Zhu, G. Wang, and T. Oyana, "Parallel spatiotemporal autocorrelation and visualization system for large-scale remotely sensed images," *The Journal of Supercomputing*, vol. 59, no. 1, pp. 83–103, Jan. 2012.
- 29 Y. Gu, N. S. Rao, M. Zhu, and Q. Wu, "System Design and Algorithmic Development for Computational Steering in Distributed Environments," *IEEE Transactions on Parallel & Distributed Systems*, vol. 21, no. 04, pp. 438–451, Apr. 2010, ISSN: 1558-2183.  DOI: 10.1109/TPDS.2009.81.
- 30 M. Zhu, S. Ding, Q. Wu, R. R. Brooks, N. S. V. Rao, and S. S. Iyengar, "Fusion of threshold rules for target detection in wireless sensor networks," *ACM Trans. Sen. Netw.*, vol. 6, no. 2, Mar. 2010, ISSN: 1550-4859.  DOI: 10.1145/1689239.1689248.
- 31 X. Cao and M. Zhu, "A parallel approach toward correlation measurement for gene pairs with time-lagging expression behaviours," *International Journal of Computational Biology and Drug Design*, vol. 2, no. 3, pp. 278–287, 2009.  DOI: 10.1504/IJCBD.2009.030118. eprint: <https://www.inderscienceonline.com/doi/pdf/10.1504/IJCBD.2009.030118>.
- 32 Y. Gu, Q. Wu, M. Zhu, and N. S. V. R. and, "Complexity analysis of pipeline mapping problems in distributed heterogeneous networks," *International Journal of Distributed Sensor Networks*, vol. 5, no. 1, pp. 2–2, 2009.  DOI: 10.1080/15501320802498372. eprint: <https://www.tandfonline.com/doi/pdf/10.1080/15501320802498372>.
- 33 Y. Lin, Q. Wu, N. S. V. Rao, and M. Zhu, "Advance bandwidth scheduling algorithms in dedicated networks," *International Journal of Distributed Sensor Networks*, vol. 5, no. 1, pp. 3–3, 2009.  DOI: 10.1080/15501320802498380. eprint: <https://doi.org/10.1080/15501320802498380>.
- 34 Q. Wu, J. Gao, Z. Chen, and M. Zhu, "Pipelining parallel image compositing and delivery for efficient remote visualization," *J. Parallel Distributed Comput.*, vol. 69, no. 3, pp. 230–238, 2009.  DOI: 10.1016/J.JPDC.2008.11.004.
- 35 Q. Wu, M. Zhu, and N. S. V. Rao, "Integration of sensing and computing in an intelligent decision support system for homeland security defense," *Pervasive Mob. Comput.*, vol. 5, no. 2, pp. 182–200, Apr. 2009, ISSN: 1574-1192.  DOI: 10.1016/j.pmcj.2008.04.010.
- 36 M. Zhu and R. R. Brooks, "Comparison of petri net and finite state machine discrete event control of distributed surveillance network," *International Journal of Distributed Sensor Networks*, vol. 5, no. 5, pp. 480–501, 2009.  DOI: 10.1080/15501320903048753. eprint: <https://doi.org/10.1080/15501320903048753>.
- 37 N. S. Rao, S. Iyengar, J. Gao, *et al.*, "Self-Adaptive Configuration of Visualization Pipeline Over Wide-Area Networks," *IEEE Transactions on Computers*, vol. 57, no. 01, pp. 55–68, Jan. 2008, ISSN: 1557-9956.  DOI: 10.1109/TC.2007.70777.
- 38 M. Xu, M. Zhu, and L. Zhang, "A stable iterative method for refining discriminative gene clusters," *BMC Genomics*, vol. 9 Suppl 2, no. Suppl 2, S18, Sep. 2008.

- 39 Y. Yang, M. Zhu, L. Wu, and J. Zhou, "Assessment of data processing to improve reliability of microarray experiments using genomic DNA reference," *BMC Genomics*, vol. 9, no. 2, S5, Sep. 2008.
- 40 J. Yuan, M. Zhu, D. A. Lightfoot, M. J. Iqbal, J. Y. Yang, and K. Meksem, "In silico comparison of transcript abundances during arabidopsis thaliana and glycine max resistance to fusarium virguliforme," en, *BMC Genomics*, vol. 9 Suppl 2, no. Suppl 2, S6, Sep. 2008.
- 41 M. M. Zhu and Q. Wu, "Transcription network construction for large-scale microarray datasets using a high-performance computing approach," en, *BMC Genomics*, vol. 9 Suppl 1, no. Suppl 1, S5, 2008.
- 42 M. M. Zhu and Q. Wu, "Transcription network construction for large-scale microarray datasets using a high-performance computing approach," *BMC Genomics*, vol. 9, no. 1, S5, Mar. 2008.
- 43 M. Zhu, Q. Wu, N. S. Rao, and S. Iyengar, "Optimal pipeline decomposition and adaptive network mapping to support distributed remote visualization," *Journal of Parallel and Distributed Computing*, vol. 67, no. 8, pp. 947–956, 2007, ISSN: 0743-7315.  DOI: <https://doi.org/10.1016/j.jpdc.2007.04.007>.
- 44 N. S. Rao, S. M. Carter, QishiWu, *et al.*, "Networking for large-scale science: Infrastructure, provisioning, transport and application mapping," *Journal of Physics: Conference Series*, vol. 16, no. 1, p. 541, Jan. 2005.  DOI: 10.1088/1742-6596/16/1/074.
- 45 X. Zheng, M. Veeraraghavan, N. Rao, Q. Wu, and M. Zhu, "Cheetah: Circuit-switched high-speed end-to-end transport architecture testbed," *IEEE Communications Magazine*, vol. 43, no. 8, S11–S17, 2005.  DOI: 10.1109/MCOM.2005.1497551.
- 46 R. Brooks, M. Zhu, J. Lamb, and S. Iyengar, "Aspect-oriented design of sensor networks," *Journal of Parallel and Distributed Computing*, vol. 64, no. 7, pp. 853–865, 2004, Computing and Communication in Distributed Sensor Networks, ISSN: 0743-7315.  DOI: <https://doi.org/10.1016/j.jpdc.2003.12.003>.

Conference Proceedings

- 1 A. Etheridge, C. Huang, and M. Zhu, "Tackling Sequential Entanglement in Split Unlearning," in *IEEE 8th International Conference on Multimedia Information Processing and Retrieval (IEEE MIPR 2025): Full Regular paper*.
- 2 M. B. Siddiqui, S. S. K. Singh, and M. Zhu, "Enhancing Accessibility: A Natural Human-Computer Interaction System Using Hand Gestures and Voice for Disabled Populations," in *2025 IEEE Conference on Artificial Intelligence: Main Track Full Paper*.
- 3 H. Zhou, M. Zhu, and L. Hossain, "WIP: a Pedagogy Study on Human Computer Interaction as a Necessary Foundation for Mobile Application Development," in *2025 Frontiers in Education Conference: Work-in-Progress Short paper*.
- 4 A. R. Alqaddoumi, A. Mulinti, S. S. Penagamuri, *et al.*, "A robot-assisted missing child search approach," in *2024 IEEE International Conference on Evolving and Adaptive Intelligent Systems (EAIS)*, 2024, pp. 1–6.  DOI: 10.1109/EAIS58494.2024.10569996.
- 5 E. Herrera, M. Lyons, J. Parron, R. Li, M. Zhu, and W. Wang, "Learning-finding-giving: A natural vision-speech-based approach for robots to assist humans in human-robot collaborative manufacturing contexts," in *2024 IEEE 4th International Conference on Human-Machine Systems (ICHMS)*, 2024, pp. 1–6.  DOI: 10.1109/ICHMS59971.2024.10555613.
- 6 A. Coutras, O. Obidat, M. Zhu, and W. Wang, "Just tell me: A robot-assisted e-health solution for people with lower-extremity disability," in *2023 9th International Conference on Automation, Robotics and Applications (ICARA)*, 2023, pp. 139–144.  DOI: 10.1109/ICARA56516.2023.10125947.
- 7 B. Li, K. Serrano, M. Mazzaro, M. Wu, W. Wang, and M. Zhu, "Identification of cyanobacteria for harmful algal blooms research using the yolo framework," in *2023 IEEE 14th Annual Ubiquitous*

Computing, Electronics Mobile Communication Conference (UEMCON), 2023, pp. 0407–0415.  DOI: 10.1109/UEMCON59035.2023.10316078.

- 8 J. Rodano, O. Obidat, J. Parron, R. Li, M. Zhu, and W. Wang, “Teaching humanoid robots to assist humans for collaborative tasks,” in *2023 IEEE International Conference on Smart Computing (SMARTCOMP)*, 2023, pp. 344–348.  DOI: 10.1109/SMARTCOMP58114.2023.00083.
- 9 Y. Sheng, W. S. Welling, and M. M. Zhu, “Developing efficient bayesian estimation of irt models for integrated stem education,” in *2023 IEEE Integrated STEM Education Conference (ISEC)*, 2023, pp. 267–270.  DOI: 10.1109/ISEC57711.2023.10402348.
- 10 M. Rao, L. Paulino, V. Robila, I. Li, M. Zhu, and W. Wang, “Training-free lane tracking for 1/10th scale autonomous vehicle using inverse perspective mapping and probabilistic hough transforms,” in *2022 IEEE Integrated STEM Education Conference (ISEC)*, 2022, pp. 406–411.  DOI: 10.1109/ISEC54952.2022.10025098.
- 11 P. Tilloo, J. Parron, O. Obidat, M. Zhu, and W. Wang, “A pomdp-based robot-human trust model for human-robot collaboration,” in *2022 12th International Conference on CYBER Technology in Automation, Control, and Intelligent Systems (CYBER)*, 2022, pp. 1009–1014.  DOI: 10.1109/CYBER55403.2022.9907660.
- 12 L. Paulino, M. Zhu, and W. Wang, “Learning autonomous driving in tangible practice: Development and on-road applications of a 1/10-scale autonomous vehicle,” in *2021 IEEE Frontiers in Education Conference (FIE)*, 2021, pp. 1–4.  DOI: 10.1109/FIE49875.2021.9637402.
- 13 V. Robila, L. Paulino, M. Rao, I. Li, M. Zhu, and W. Wang, “Design and implementation of pid-based steering control for 1/10-scale autonomous vehicle,” in *2021 IEEE 12th Annual Ubiquitous Computing, Electronics Mobile Communication Conference (UEMCON)*, 2021, pp. 0758–0762.  DOI: 10.1109/UEMCON53757.2021.9666496.
- 14 W. Wang, C. Coutras, and M. Zhu, “Situated learning-based robotics education,” in *2020 IEEE Frontiers in Education Conference (FIE)*, 2020, pp. 1–3.  DOI: 10.1109/FIE44824.2020.9274168.
- 15 M. Zhu, M. Johnson, A. Dutta, *et al.*, “Educational simulation design to transform learning in earth and environmental sciences,” in *2020 IEEE Frontiers in Education Conference (FIE)*, 2020, pp. 1–6.  DOI: 10.1109/FIE44824.2020.9274198.
- 16 L. Zuo and M. M. Zhu, “Minimize cost of data transfers using bandwidth reservation on fpvb paths of dynamic hpns,” in *2020 International Conference on Computing, Networking and Communications (ICNC)*, 2020, pp. 74–78.  DOI: 10.1109/ICNC47757.2020.9049789.
- 17 D. Basu, N. Panorkou, and M. Zhu, “Examining the social aspect of climate change through mathematics,” in *2019 IEEE Integrated STEM Education Conference (ISEC)*, 2019, pp. 239–244.  DOI: 10.1109/ISECon.2019.8882109.
- 18 A. Hou, C. Q. Wu, L. Zuo, *et al.*, “Co-scheduling of advance and immediate bandwidth reservations for inter-data center transfer,” in *2019 IEEE/ACM Innovating the Network for Data-Intensive Science (INDIS)*, 2019, pp. 25–35.  DOI: 10.1109/INDIS49552.2019.00009.
- 19 D. Li, B. Dong, E. Wang, and M. Zhu, “A study on flat and hierarchical system deployment for edge computing,” in *2019 IEEE 9th Annual Computing and Communication Workshop and Conference (CCWC)*, 2019, pp. 0163–0169.  DOI: 10.1109/CCWC.2019.8666572.
- 20 T. Wang, J. Huan, and M. Zhu, “Instance-based deep transfer learning,” in *2019 IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2019, pp. 367–375.  DOI: 10.1109/WACV.2019.00045.
- 21 M. Zhu, S. Gulati, and N. Panorkou, “Simulation design and development for learning seasons and lunar phases using html5 and javascript,” in *2019 IEEE Integrated STEM Education Conference (ISEC)*, 2019, pp. 414–418.  DOI: 10.1109/ISECon.2019.8882090.

- 22 L. Zuo, M. Zhu, C. Wu, A. Hou, and L. Cao, "Bandwidth reservation for data transfers through multiple disjoint paths of dynamic hpns," in *2019 IEEE 21st International Conference on High Performance Computing and Communications; IEEE 17th International Conference on Smart City; IEEE 5th International Conference on Data Science and Systems (HPCC/SmartCity/DSS)*, 2019, pp. 2455–2460.  DOI: 10.1109/HPCC/SmartCity/DSS.2019.00343.
- 23 A. Hou, C. Q. Wu, D. Fang, *et al.*, "Bandwidth scheduling for big data transfer with deadline constraint between data centers," in *2018 IEEE/ACM Innovating the Network for Data-Intensive Science (INDIS)*, 2018, pp. 55–63.  DOI: 10.1109/INDIS.2018.00009.
- 24 M. Zhu, N. Panorkou, P. Lal, *et al.*, "Integrating interactive computer simulations into k-12 earth and environmental science," in *2018 IEEE Integrated STEM Education Conference (ISEC)*, 2018, pp. 220–223.  DOI: 10.1109/ISECon.2018.8340488.
- 25 L. Zuo, M. Zhu, C. Wu, N. S. V. Rao, M. Han, and A. Wang, "Flexible bandwidth scheduling for streaming data movement over dedicated networks," in *Proceedings of International Symposium on Sensor Networks, Systems and Security*, N. S. Rao, R. R. Brooks, and C. Q. Wu, Eds., Cham: Springer International Publishing, 2018, pp. 185–195, ISBN: 978-3-319-75683-7.
- 26 L. Zuo, M. M. Zhu, C. Q. Wu, and A. Hou, "Intelligent bandwidth reservation for big data transfer in high-performance networks," in *2018 IEEE International Conference on Communications (ICC)*, 2018, pp. 1–6.  DOI: 10.1109/ICC.2018.8422601.
- 27 T. Wang, Z. Qin, and M. Zhu, "An elu network with total variation for image denoising," in *International Conference on Neural Information Processing*, 2017.  URL: <https://api.semanticscholar.org/CorpusID:1245438>.
- 28 L. Zuo and M. M. Zhu, "Bandwidth provision strategies for reliable data movements in dedicated networks," in *2016 IEEE International Conference on Big Data (Big Data)*, 2016, pp. 3069–3078.  DOI: 10.1109/BigData.2016.7840961.
- 29 L. Zuo and M. M. Zhu, "Improved scheduling algorithms for single-path multiple bandwidth reservation requests," in *2016 IEEE Trustcom/BigDataSE/ISPA*, 2016, pp. 1692–1699.  DOI: 10.1109/TrustCom.2016.0259.
- 30 A. Alahmadi, D. Che, M. Khaleel, M. M. Zhu, and P. Ghodous, "An innovative energy-aware cloud task scheduling framework," in *2015 IEEE 8th International Conference on Cloud Computing*, 2015, pp. 493–500.  DOI: 10.1109/CLOUD.2015.72.
- 31 M. Khaleel and M. M. Zhu, "Energy-Aware Job Management Approaches for Workflow in Cloud," in *Poster Paper track: 2015 IEEE International Conference on Cluster Computing (CLUSTER)*, Los Alamitos, CA, USA: IEEE Computer Society, Sep. 2015, pp. 506–507.  DOI: 10.1109/CLUSTER.2015.85.
- 32 M. Safran, S. Al-qahtani, M. Zhu, and D. Che, "Development of mapreduce and mpi programs for motif search," in *Poster Paper track: 2015 IEEE International Conference on Cluster Computing*, 2015, pp. 500–501.  DOI: 10.1109/CLUSTER.2015.82.
- 33 F. Cao, M. M. Zhu, and D. Ding, "Distributed workflow scheduling under throughput and budget constraints in grid environments," in *Job Scheduling Strategies for Parallel Processing*, N. Desai and W. Cirne, Eds., Berlin, Heidelberg: Springer Berlin Heidelberg, 2014, pp. 62–80, ISBN: 978-3-662-43779-7.
- 34 F. Cao, M. M. Zhu, and C. Q. Wu, "Energy-efficient resource management for scientific workflows in clouds," in *2014 IEEE World Congress on Services*, 2014, pp. 402–409.  DOI: 10.1109/SERVICES.2014.76.
- 35 F. Cao, D. Ding, D. Che, M. M. Zhu, and W.-C. Hou, "Scheduling data processing flows under budget constraint on the cloud," in *Proceedings of the 2013 Research in Adaptive and Convergent Systems*, ser. RACS '13, Montreal, Quebec, Canada: Association for Computing Machinery, 2013, pp. 69–74, ISBN: 9781450323482.  DOI: 10.1145/2513228.2513250.

- 36 F. Cao and M. M. Zhu, "Energy efficient workflow job scheduling for green cloud," in *2013 IEEE International Symposium on Parallel Distributed Processing, Workshops and Phd Forum*, 2013, pp. 2218–2221.  DOI: 10.1109/IPDPSW.2013.19.
- 37 F. Cao and M. M. Zhu, "Energy-aware workflow job scheduling for green clouds," in *2013 IEEE International Conference on Green Computing and Communications and IEEE Internet of Things and IEEE Cyber, Physical and Social Computing*, 2013, pp. 232–239.  DOI: 10.1109/GreenCom-iThings-CPSCoM.2013.58.
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Services at Department, College and University Levels

- 2023 to present  *Associate Director for Faculty and Academic Affairs*, School of Computing, Montclair State University
- 2017 to present  *Curriculum Committee Chair and ABET Accreditation Supervisor*, Department of Computer Science / School of Computing, Montclair State University
- 2018 to 2023  *Associate Chair*, Department of Computer Science, Montclair State University
- 2017 to present  *Middle State Assessment Department Liaison*, Department of Computer Science / School of Computing, Montclair State University
- 2014 to 2016  *Undergraduate Program Director*, Southern Illinois University Carbondale
- 2019 to present  *PSEG Internal Advisory Board Member*, PSEG Center, CSAM, Montclair State University
- 2024 to present  *University Academic Assessment Committee Leadership Council*, Montclair State University
- 2023 to present  *Standard V Working Group Member*, the University Middle States Self-Study Process

Services at Department, College and University Levels (continued)

- 2023 to 2025  *Faculty Mentor*, College of Science and Mathematics, University New Faculty Program
- 2019 to 2020  *Blue Ribbon Task Force for Gen Ed Redesign*, Montclair State University