Professor WONG, Hon-Cheng

School of Computer Science and Engineering ,Faculty of Innovation Engineering

Office：Room A316
Tel.：+853-8897 2052
E-mail：hcwong@must.edu.mo

Education

Ph.D., Macau University of Science and Technology (MUST), Macao, China, 2005
M.Sc., Jinan University, Guangzhou, China, 2001
B.Sc., Jinan University, Guangzhou, China, 1998

Teaching

Undergraduate Courses:

CS220/SE220 Design and Analysis of Algorithms

CS440/SE440 Computer Graphics

Graduate Courses:
MIIZ43 Analysis and Design of Algorithms (for Master's students)
MIIE14 Computer Graphics and Visualization Technology (for Master's students)
DIAE04 Algorithms and Computational Complexity (for PhD students)

Research Interests

Graphics, Vision, and Image Processing

Appointments

Jul. 2016 to present: Full Professor, Faculfy of Information Technology, MUST

Jul. 2017 to Jun. 2019: Assistant Dean, Faculfy of Information Technology, MUST

Jul. 2009 to Jun. 2016: Associate Professor, Faculfy of Information Technology, MUST

Jul. 2013 to Dec. 2014: Assistant Director, Space Science Institute, MUST

Jan. 2009 to Jun. 2013: Program Coordinator, Faculty of Information Technology, MUST

Aug. 2010: Visiting Scholar, Solar-Terrestrial Environment Laboratory, Nagoya University, Japan

Oct. 2005 to Jun. 2009: Assistant Professor, Faculty of Information Technology, MUST

Sep. 2001 to Sep. 2005: Teaching Assistant, Faculty of Information Technology, MUST

Publications (Since 2009)

1. G. Zhang, H.-C. Wong, and S.-L. Lo. "Multi-attention network for unsupervised video object segmentation". IEEE Signal Processing Letters, in press, 2021.

2. W. Wang, H.-C. Wong, S.-L. Lo, and G. Zhang. "Uncouple generative adversarial networks for transferring stylized portraits to realistic faces". IEEE Access, vol. 8, pp. 213825-213839, 2020.

3. J. Li, H.-C. Wong, S. He, S.-L. Lo, G. Zhang, and W. Wang. "Deep pixel-level matching via attention for video co-segmentation". Applied Sciences (Computing and Artificial Intelligence Section), vol. 10, no. 6, 1948, 2020.

4. Y. Xin, H.-C. Wong, S.-L. Lo, and J. Li. "Progressive full data convolutional neural networks for line extraction from anime-style illustrations". Applied Sciences (Computing and Artificial Intelligence Section), vol. 10, no. 1, 41, 2020.

5. J. Li, S. He, H.-C. Wong, and S.-L. Lo. "Proposal-driven segmentation for videos". IEEE Signal Processing Letters, vol. 26, no. 8, pp. 1098-1102, 2019.

6. J. Li, H.-C. Wong, S.-L. Lo, and Y. Xin. "Multiple object detection by a deformable part-based model and an R-CNN". IEEE Signal Processing Letters, vol. 25, no. 2, pp. 288-292, 2018.

7. X. Xu, V. Angelopoulos, Y. Wang, P. Zuo, H.-C. Wong, and J. Cui. "The energetic particle environment of the lunar nearside: SEP influence". The Astrophysical Journal, vol. 849, no. 2, Article 151, 2017.

8. X. Xu, H.-C. Wong, Y. Ma, Y. Wang, P. Zuo, M. Zhou, Y. Peng, and X. Deng. "Anomalously high rate refilling in the near lunar wake caused by the Earth's bow shock". Journal of Geophysical Research: Space Physics, vol. 122, no. 9, pp. 9102-9114, 2017.

9. Y. Xin and H.-C. Wong. "Intuitive volume rendeirng on mobile devices". In Proceedings of 9th International Congress on Image and Signal Processing, BioMedical Engineering and Informatics, pp. 696-701, 2016.

10. X. Xu, H.-C. Wong, Y. Ma, Y. Wang, P. Zuo, M. Zhou, and X. Deng. "Observations of current sheets associated with solar wind reconnection exhausts passing through the near lunar wake". Journal of Geophysical Research: Space Physics, vol. 120, no. 11, pp. 1-10, 2015.

11. X. Xu, H.-C. Wong, Y. Ma, Y. Wang, M. Zhou, P. Zuo, F. Wei, X. Feng, and X. Deng. "Evidence for newly initiated reconnection in the solar wind at 1 AU". The Astrophysical Journal, vol. 809, no. 1, Article 5, 2015.

12. Y. Ma, H.-C. Wong, and X. Xu. "Subsonic and sunward-oriented lunar wake observed by ARTEMIS in the geomagnetotail". Astrophysics and Space Science, vol. 358, no. 34, Article 11, 2015.

13. X. Xu, Y. Wang, F. Wei, X. Feng, X. Deng, Y. Ma, M. Zhou, Y. Pang, and H.-C. Wong. "Direct evidence for kinetic effects associated with solar wind reconnection". Scientific Reports, vol. 5, Article 8080, 2015.

14. U.-H. Wong, T. Aoki, and H.-C. Wong. "Real-time volume visualization for large-scale grid-based fluid simulations on distributed multi-GPU systems". In Mathematical Progress in Expressive Image Synthesis II, edited by H. Ochiai, K. Anjyo, Springer, pp. 139-152, 2015.

15. U.-H. Wong, T. Aoki, and H.-C. Wong. "Efficient magnetohydrodynamic simulations on distributed multi-GPU systems using a novel GPU Direct-MPI hybrid approach". Computer Physics Communications, vol. 185, no. 7, pp. 1901-1913, 2014.

16. U.-H. Wong, H.-C. Wong, and Y. Ma. "Global magnetohydrodynamic simulations on multiple graphics processing units". Computer Physics Communications, vol. 185, no. 1, pp. 144-152, 2014.

17. U.-H. Wong, Y. Wu, H.-C. Wong, Y. Liang, and Z. Tang. "Modeling the reflectance of the lunar regolith by a new method combining Monte Carlo ray tracing and Hapke's model with application to Chang'E-1 IIM data". The Scientific World Journal, vol. 2014, Article ID 457138, 2014.

18. Y. Xin, H.-C. Wong, and U.-H. Wong. "Transfer function for direct volume rendering in the fashion of WYSIWYD (What You See Is What You Design". International Journal of Advancements in Computing Technology, vol. 5, no. 15, pp. 84-95, 2013.

19. H.-C. Wong, U.-H. Wong, X. Feng, and Z. Tang. "Efficient magnetohydrodynamic simulations on graphics processing units with CUDA". Computer Physics Communications, vol. 182, no. 10, pp. 2132-2160, 2011.

20. S. He, H.-C. Wong, W.-M. Pang, and U.-H. Wong. "Real-time smoke simulation with improved turbulence by spatial adaptive vorticity confinement". Computer Animation and Virtual Worlds, vol. 22, no. 2-3, pp. 107-114, 2011.

21. S. He, H.-C. Wong, and U.-H. Wong. "An efficient adaptive vortex particle method for real-time smoke simulation". In Proceedings of the 12th International Conference on CAD/Graphics, pp. 317-324, 2011.

22. J. Xiong, H.-C. Wong, U.-H. Wong, X. Wang, and H. Reme. "An intuitive software framework for visualizing the solar wind ion data from Chang'E-1 lunar orbiter". In Proceedings of the 4th International Congress on Image and Signal Processing, pp. 2196-2200, 2011.

23. K.-W. Ng, H.-C. Wong, U.-H. Wong, and W.-M. Pang. "Probe-volume: an exploratory volume visualization framework". In Proceedings of the 3rd International Congress on Image and Signal Processing, pp. 2392-2395, 2010.

24. W.-M. Pang and H.-C. Wong. "Compression of Pre-Computed Per-Pixel Texture Features Using MDS". In Proceedings of the 28th Picture Coding Symposium, pp. 390-393, 2010.

25. H.-C. Wong, U.-H. Wong, and Z. Tang. "Direct volume rendering by morphing the transfer functions". In Proceedings of the 7th International Conference on Information, Communications and Signal Processing, 2009.

26. U.-H. Wong, H.-C. Wong, and Z. Tang. "A parallel implementation of a smoothed particle hydrodynamics method on graphics hardware using the compute unified device architecture". In Proceedings of the 12th International Conference on the Enhancement and Promotion of Computational Methods in Engineering and Science (EPMESC XII), pp. 395-400, 2009.

Award

2012 Macao Science and Technology Award (Natural Science), Third Class,
awarded by the Government of the Macau Special Administrative Region of the People's Republic of China (Co-awarded)

Student Award

Shengfeng He, MSc student (2009-2011), Postgraduate Award of the 2012 Macao Science and

Professional Qualification

Selected into the Expert Database of the National Science and Technology Program of the Ministry of Science and Technology of the People's Republic of China, 2012

Certificate in Teaching and Learning in Higher Education, MUST, 2013

Member of Institute of Electrical and Electronic Engineering (IEEE)