Kwan-Liu Ma

Department of Computer Science
University of California-Davis
Phone: (415) 307 – 2425
E-mail: ma@cs.ucdavis.edu
Home Page: http://www.cs.ucdavis.edu/~ma

PROFESSIONAL EXPERIENCE

- **Distinguished Professor,** Department of Computer Science, UC Davis, July 2018-present

- **Professor**, Department of Computer Science, UC Davis, July 2003-June 2018

- **Chair,** Graduate Group in Computer Science, UC-Davis, July 2009-June 2018

- **Director,** UC Davis Center for Visualization, October 2012-present

- **Director**, DOE SciDAC Institute for Ultra-Scale Visualization, September 2006-December 2012

    $9M multi-Institution project (UCD, Ohio-State, Rutgers, Argonne Lab, Sandia Labs)

- **Associate Professor**, Department of Computer Science, UC-Davis, July 1999-June 2003

- **Senior Staff Scientist**, Institute for Computer Applications in Science and Engineering (ICASE), NASA Langley Research Center, Jun 1998-July 1999

- **Staff Scientist**, ICASE, NASA Langley Research Center, May 1993-May 1998

- **Adjunct Assistant Professor**
    Computer Science Department
        State University of New York, Stony Brook, Jan 1998-Dec 2000
    Computer Science Department, Old Dominion Univ., Oct 1994- Sept 1997

- **Consultant**, *GUI, Visualization & Modeling*
    Fuji Xerox Co., Ltd., Japan, 2017-2018
    Nissan Motor Co., Ltd., Japan, 2004-2009
    Mitsubishi Precision Co., Ltd., Japan, 2001-2003
    High Technology Corporation, Hampton, Virginia, Jan 1995- Dec 1996
    Entertainment Research Inc., San Jose, California, 1992-93
    Reaction Engineering International, Salt Lake City, Utah, 1992-93

- **Student Researcher**, Modular Microsystems Group
    IBM Thomas J. Watson Research Center, Yorktown Heights, New York
        Parallel Distributed Software and Applications Development, Jun-Sept 1991

- **Research Assistant**, Dept. of Computer Science, University of Utah
    NSF/ACERC (Advanced Combustion Engineering Research Center)
        Solving Combustion Problems with Parallel Distributed-Memory Computers, 1989-93
    Scientific Visualization Group
        Visualization Services and Tools Development, 1990-93
    CSS (Center for Software Science)
        Compiler Optimization, Distributed Program Analysis, Object Systems, 1986-89

EDUCATION

- **Ph.D., Computer Science,** University of Utah, 1993
  Dissertation: *Interactive Volume Visualization.*

- **M.S., Computer Science,** University of Utah, 1988
  Thesis: *A Type Inference System for Common Lisp.*

- **B.S. (Cum Laude), Computer Science,** University of Utah, 1986

HONORS AND AWARDS

- 2023 College of Engineering Outstanding Senior Research Faculty Award, UC Davis
- 2023 Best Paper Honorable Mention Award, IEEE PacificVis
- 2022 Two IEEE VIS Best Paper Honorable Mention Awards
- 2022 IEEE PacificVis Best Paper Honorable Mention Award
- 2021 VISSOFT Most Influential Paper Award
- 2019 Inductee of the **IEEE Visualization Academy**
- 2019 Best Paper Honorable Mention Awards, IEEE VAST
- 2018 Distinguished Professor, UC Davis
- 2018 Best Visual Storytelling Award, IEEE Pacific Visualization Symposium
- 2018 Best Paper Honorable Mention Award, IEEE Pacific Visualization Symposium
- 2017 Best Paper Award, IEEE Pacific Visualization Symposium
- 2017 Best Visual Storytelling Award, IEEE Pacific Visualization Symposium
- 2015 Best VisNotes Award, IEEE Pacific Visualization Symposium
- 2015 Best Paper Award, the 23rd International Symposium on Graph Drawing & Network Visualization
- 2015 Two Best Paper Honorable Mention Awards, IEEE Symposium on Large Data Analysis and Visualization (LDAV)
- 2015 SciVis Contest Honorable Mention Award, IEEE VIS
- 2015 Best of CHI Honorable Mention Award, ACM CHI 2015
- 2013 **IEEE VGTC Visualization Technical Achievement Award**
  (https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=6634186)
  (http://engineering.ucdavis.edu/blog/kwan-liu-ma-receives-ieee-technical-achievement-award/)
- 2012 **IEEE Fellow**
- 2011 Best Paper Award, the 3rd Workshop on Large-Scale System and Application Performance
- 2009 Best Paper Award, International Conference on Arts & Technology
- 2008, 2009, and 2012 HP Labs Innovation Research Award
- 2007 College of Engineering Mid-Career Research Faculty Award, UC Davis
- 2001 Schlumberger Foundation Technical Award
- 2000 **NSF Presidential Early Career Award for Scientists and Engineers** (**PECASE**)
  (http://web.cs.ucdavis.edu/~ma/PR00-PECASE1.html)
- 1999 **NSF Career Award**

- NSF/ACERC Research Fellowship 1990-1993
- Graduated Cum Laude, 1986
- Clyde Christensen Scholarship 1985
- Member Phi Kappa Phi 1985-87

CHAIR PROFESSORSHIPS

- **Distinguished Visiting Chair Professor,** Academia Sinica, Taiwan, May-September 2019, July-September 2020, and June-September 2023
- **Chair Professor**, Computer Science, National Chiao Tung University, Taiwan, 2012-2021
- **Chair Professor**, Computer Science and Information Engineering, National Taipei University of Technology, Taiwan, May 2012-April 2013
- **Qiushi Chair Professor**, Zhejiang University, China, 2013-2015
- **Chair Professor,** School of Software, Tsinghua University, Beijing, China, Jan. 2009-Dec. 2011

PUBLICATIONS

In Journal:

1. Kwan-Liu Ma: Pushing Visualization Research Frontiers: Essential Topics Not Addressed by Machine Learning. **IEEE Computer Graphics and Applications** 43(1): 97-102 (2023)

2. Wolfgang Jentner, Giuliana Lindholz, Hanna Hauptmann, Mennatallah El-Assady, Kwan-Liu Ma, Daniel A. Keim: Visual Analytics of Co-Occurrences to Discover Subspaces in Structured Data. **ACM Transactions on Interactive Intelligent Systems** 13(2): 10:1-10:49 (2023)

3. David Bauer, Qi Wu, Kwan-Liu Ma: FoVolNet: Fast Volume Rendering using Foveated Deep Neural Networks. **IEEE Transactions on Visualization and Computer Graphics** 29(1): 515-525 (2023)

4. Tyson Neuroth, Martin Rieth, Aditya Konduri, Myoungkyu Lee, Jacqueline H. Chen, Kwan-Liu Ma: Level Set Restricted Voronoi Tessellation for Large scale Spatial Statistical Analysis. **IEEE Transactions on Visualization and Computer Graphics** 29(1): 548-558 (2023)

5. Xiaoyu Zhang, Jorge Piazentin Ono, Huan Song, Liang Gou, Kwan-Liu Ma, Liu Ren: SliceTeller: A Data Slice-Driven Approach for Machine Learning Model Validation. **IEEE Transactions on Visualization and Computer Graphics** 29(1): 842-852 (2023)

6. Jian Zhao, Shenyu Xu, Senthil K. Chandrasegaran, Chris Bryan, Fan Du, Aditi Mishra, Xin Qian, Yiran Li, Kwan-Liu Ma: ChartStory: Automated Partitioning, Layout, and Captioning of Charts into Comic-Style Narratives. **IEEE Transactions on Visualization and Computer Graphics** 29(2): 1384-1399 (2023)

7. Suraj P. Kesavan, Harsh Bhatia, Abhinav Bhatele, Stephanie Brink, Olga Pearce, Todd Gamblin, Peer-Timo Bremer, Kwan-Liu Ma: Scalable Comparative Visualization of Ensembles of Call Graphs. **IEEE Transactions on Visualization and Computer Graphics**. 29(3): 1691-1704 (2023)

8. Annie Preston, Kwan-Liu Ma: Communicating Uncertainty and Risk in Air Quality Maps. **IEEE Transactions on Visualization and Computer Graphics**. 29(9): 3746-3757 (2023)

9. Chaoqing Xu, Tyson Neuroth, Takanori Fujiwara, Ronghua Liang, Kwan-Liu Ma: A Predictive Visual Analytics System for Studying Neurodegenerative Disease Based on DTI Fiber Tracts. **IEEE Transactions on Visualization and Computer Graphics**. 29(4): 2020-2035 (2023)

10. Yiran Li, Junpeng Wang, Xin Dai, Liang Wang, Chin-Chia Michael Yeh, Yan Zheng, Wei Zhang, Kwan-Liu Ma: How Does Attention Work in Vision Transformers? A Visual Analytics Attempt. **IEEE Transactions on Visualization and Computer Graphics** 29(6): 2888-2900 (2023)

11. Oh-Hyun Kwon, Chiun-How Kao, Chun-Houh Chen, Kwan-Liu Ma: A Deep Generative Model for Reordering Adjacency Matrices. **IEEE Transactions on Visualization and Computer Graphics**. 29(7):3195-3208 (2023)

12. Takanori Fujiwara, Xinhai Wei, Jian Zhao, Kwan-Liu Ma: Interactive Dimensionality Reduction for Comparative Analysis. **IEEE Transactions on Visualization and Computer Graphics** 28(1): 758-768 (2022)

13. Xiwei Xuan, Xiaoyu Zhang, Oh-Hyun Kwon, Kwan-Liu Ma: VAC-CNN: A Visual Analytics System for Comparative Studies of Deep Convolutional Neural Networks. **IEEE Transactions on Visualization and Computer Graphics** 28(6): 2326-2337 (2022)

14. Shilpika, Takanori Fujiwara, Naohisa Sakamoto, Jorji Nonaka, Kwan-Liu Ma: A Visual Analytics Approach for Hardware System Monitoring with Streaming Functional Data Analysis. **IEEE Transactions on Visualization and Computer Graphics** 28(6): 2338-2349 (2022)

15. Xumeng Wang, Chris Bryan, Yiran Li, Rusheng Pan, Yanling Liu, Wei Chen, Kwan-Liu Ma: Umbra: A Visual Analysis Approach for Defense Construction Against Inference Attacks on Sensitive Information. **IEEE Transactions on Visualization and Computer Graphics** 28(7): 2776-2790 (2022)

16. Takanori Fujiwara, Jian Zhao, Francine Chen, Yaoliang Yu, Kwan-Liu Ma: Network Comparison with Interpretable Contrastive Network Representation Learning. Journal of Data Science, Statistics, and Visualization 2(5) (2022)

17. Jingming Hu, Tuan Tran Chu, Seok-Hee Hong, Jialu Chen, Amyra Meidiana, Marnijati Torkel, Peter Eades, Kwan-Liu Ma: BC tree-based spectral sampling for big complex network visualization. **Applied Network Science** 6(1): 60 (2021)

18. Jianping Kelvin Li, Kwan-Liu Ma: P6: A Declarative Language for Integrating Machine Learning in Visual Analytics. **IEEE Transactions on Visualization and Computer Graphics** 27(2): 380-389 (2021)

19. Tarik Crnovrsanin, Shilpika, Senthil K. Chandrasegaran, Kwan-Liu Ma: Staged Animation Strategies for Online Dynamic Networks. **IEEE Transactions on Visualization and Computer Graphics** 27(2): 539-549 (2021)

20. Keshav Dasu, Kwan-Liu Ma, Joyce Ma, Jennifer Frazier: Sea of Genes: A Reflection on Visualising Metagenomic Data for Museums. **IEEE Transactions on Visualization and Computer Graphics** 27(2): 935-945 (2021)

21. Takanori Fujiwara, Shilpika, Naohisa Sakamoto, Jorji Nonaka, Keiji Yamamoto, Kwan-Liu Ma: A Visual Analytics Framework for Reviewing Multivariate Time-Series Data with Dimensionality Reduction. **IEEE Transactions on Visualization and Computer Graphics**. 27(2): 1601-1611 (2021)

22. A User-Centered Design Study in Scientific Visualization Targeting Domain Experts. Chris Ye, Franz Sauer, Kwan-Liu Ma, Konduri Aditya, Jacqueline Chen. **IEEE Transactions on Visualization and Computer Graphics** 26(6): 2192-220 (2020)

23. Joyce Ma, Kwan-Liu Ma, and Jennifer Frazier. Decoding Complex Visualizations in Science Museums – An Empirical Study. **IEEE Transactions on Visualization and Computer Graphics** 26(1):472-481 (2020)

24. P5: Portable Progressive Parallel Processing Pipelines for Interactive Data Analysis and Visualization. Jianping Kelvin Li and Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics** 26(1):1151-1160 (2020)

25. A Deep Generative Model for Graph Layout. Oh-Hyun Kwon and Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics** 26(1):665-675 (2020)

26. An Incremental Dimensionality Reduction Method for Visualizing Streaming Multidimensional Data. Takanori Fujiwara, Jia-Kai Chou, Shilpika, Panpan Xu, Liu Ren, Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics** 26(1):418-428 (2020)

27. Supporting Analysis of Dimensionality Reduction Results with Contrastive Learning. Takanori Fujiwara, Oh-Hyun Kwon, and Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics** 26(1):45-55 (2020)

28. P4: Portable Parallel Processing Pipelines for Interactive Information Visualization. Kelvin Jianping Li and K.-L. Ma. **IEEE Transactions on Visualization and Computer Graphics** 26(3):1548-1561 (2020)

29. Resolving Conflicting Insights in Asynchronous Collaborative Visual Analysis. Jianping Kelvin Li, Shenyu Xu, Yecong (Chris) Ye, Kwan-Liu Ma. **Computer Graphics Forum** 39(3): 497-509 (2020)

30. Comparative visual analytics for assessing medical records with sequence embedding. Rongchen Guo, Takanori Fujiwara, Yiran Li, Kelly M. Lima, Soman Sen, Nam K. Tran, Kwan-Liu Ma. **Visual Informatics** 4(2): 72-85 (2020)

31. A visual analytics system for multi-model comparison on clinical data predictions. Yiran Li, Takanori Fujiwara, Yong K. Choi, Katherine K. Kim, Kwan-Liu Ma. **Visual Informatics** 4(2): 122-131 (2020)

32. Chris Bryan, Aditi Mishra, Hidekazu Shidara, Kwan-Liu Ma: Analyzing gaze behavior for text-embellished narrative visualizations under different task scenarios. **Visual Informatics** 4(3): 41-50 (2020)

33. A Terminology for In Situ Visualization and Analysis Systems. H. Childs et al., **International Journal on High Performance Computing Applications** 34(6) (2020)

34. Deep Neural Representation Guided Face Sketch Synthesis. B. Sheng, P. Li, C. Gao, K.-L. Ma. **IEEE Transactions on Visualization and Computer Graphics** 25(12):3216-3230 (2019)

35. An Interactive Visualization System for Large Sets of Phase Space Trajectories. Tyson Neuroth, Franz Sauer, Kwan-Liu Ma. **Computer Graphics Forum** 38(3):297-309 (2019)

36. A Declarative Grammar of Flexible Volume Visualization Pipelines. M. Shih, C. Rozhon, K.-L. Ma. **IEEE Transactions on Visualization and Computer Graphics** 25(1):1050-1059 (2019)

37. GraphProtector: A Visual Interface for Employing and Assessing Multiple Privacy Preserving Graph Algorithms. x. Wang, W. Chen, J.-K. Chou, C. Bryan, H. Guan, W. Chen, R. Pan, K.-L. Ma. **IEEE Transactions on Visualization and Computer Graphics** 25(1):193-203 (2019)

38. A Scalable Hybrid Scheme for Ray-Casting of Unstructured Volume Data. R. Binyahib, T. Peterka, M. Larsen, K.-L. Ma, H. Childs. **IEEE Transactions on Visualization and Computer Graphics** 25(7):2349-2361 (2019)

39. Uncertainty-Aware Visualization for Analyzing Heterogeneous Wildfire Detections. **IEEE Computer Graphics and Applications** 39(5):72-82 (2019)

40. Privacy Preserving Visualization: A Study on Event Sequence Data. Jia-Kai Chou, Yang Wang, Kwan-Liu Ma. **Computer Graphics Forum** 38(1):340-355 (2019)

41. LightPainter: Creating Long-Exposure Imagery from Videos. Yi-Ling Chen, Zhenyu Tang, Kwan-Liu Ma. **IEEE Computer Graphics & Applications** 38(4):27-36 (2018)

42. MeetingVis: Visual Narratives to Assist in Recalling Meeting Context and Content. Yang Shi, Chris Bryan, Sridatt Bhamidipati, Ying Zhao, Yaoxue Zhang, and Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics** 24(6):1918-1929 (2018)

43. A Visual Analytics System for Optimizing the Performance of Large-scale Networks in Supercomputing Systems. Takanori Fujiwara, Jianping Kelvin Li, Misbah Mubarak, Caitlin Ross, Christopher D. Carothers, Robert B. Ross, Kwan-Liu Ma. **Visual Informatics** 2(1):98-110 (2018)

44. Multi-Material Volume Rendering with a Physically-Based Surface Reflection Model. Oleg Igouchkine, Yubo Zhang, Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics** 24(12):3147-3159 (2018)

45. A Utility-Aware Visual Approach for Anonymizing Multi-Attribute Tabular Data. Xu-Meng Wang, Jia-Kai Chou, Wei Chen, Huihua Guan, Wenlong Chen, Tianyi Lao, Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics** 24(1): 351-360 (2018)

46. What Would a Graph Look Like in this Layout? A Machine Learning Approach to Large Graph Visualization. Oh-Hyun Kwon, Tarik Crnovrsanin, Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics** 24(1): 478-488 (2018)

47. Chart Constellations: Effective Chart Summarization for Collaborative and Multi-User Analyses. Shenyu Xu, Chris Bryan, Jianping Kelvin Li, Jian Zhao, Kwan-Liu Ma. **Computer Graphics Forum** 38(4):27-36 (2018)

48. Takanori Fujiwara, Tarik Crnovrsanin, Kwan-Liu Ma: Concise provenance of interactive network analysis. **Visual Informatics** 2(4): 213-224 (2018)

49. *Scalable Visualization of Time-varying Multi-parameter Distributions using Spatially Organized Histograms.* Tyson Neuroth, Franz Sauer, Weixing Wang, Stephane Ethier, Choong-Seock Chang, Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics.** 23(12): 2599-2612 (2017)

50. *Temporal Summary Images: An Approach to Narrative Visualization via Interactive Annotation Generation and Placement.* Chris Bryan, Kwan-Liu Ma, and Jonathan Woodring. **IEEE Transactions on Visualization and Computer Graphics.** 23(1): 511-520 (2017)

51. *Synteny Explorer: An Interactive Visualization Application for Teaching Genome Evolution*. Chris Bryan, Gregory Guterman, Kwan-Liu Ma, Harris Lewin, Denis Larkin, Jaebum Kim, Jian Ma, Marta Farre. **IEEE Transactions on Visualization and Computer Graphics.** 23(1): 711-720 (2017)

52. *An Incremental Layout Method for Visualizing Online Dynamic Graphs*. Tarik Crnovrsanin, Jacqueline Chu, Kwan-Liu Ma. **Journal of Graph Algorithms Applications** 21(1): 55-80(2017)

53. *Visualizing the Relationship Between Human Mobility and Points of Interest*. Wei Zeng, Chi-Wing Fu, Stefan Müller Arisona, Simon Schubiger, Remo Burkhard, Kwan-Liu Ma**. IEEE Transactions on Intelligent Transportation Systems** 18(8): 2271-2284 (2017)

54. *Spatio-Temporal Feature Exploration in Combined Particle/Volume Reference Frames*. Franz Sauer, Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics** 23(6): 1624-1635 (2017)

55. *Stereoscopic Thumbnail Creation via Efficient Stereo Saliency Detection*. Wenguan Wang, Jianbing Shen, Yizhou Yu, Kwan-Liu Ma: **IEEE Transactions on Visualization on Computer Graphics** 23(8): 2014-2027 (2017)

56. *A Combined Eulerian-Lagrangian Data Representation for Large-Scale Applications*. Franz Sauer, Jinrong Xie, Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics** 23(10): 2248-2261 (2017)

57. Wei Zeng, Chi-Wing Fu, Stefan Müller Arisona, Simon Schubiger, Remo Burkhard, Kwan-Liu Ma: A visual analytics design for studying rhythm patterns from human daily movement data. **Visual Informatics** 1(2): 81-91 (2017)

58. *A Study of Layout, Rendering, and Interaction Methods for Immersive Graph Visualization*. Oh-Hyun Kwon, Chris Muelder, Kyungwon Lee, Kwan-Liu Ma. **IEEE Transactions on**

Visualization and Computer Graphics. 22(7): 1802-1815 (2016)

59. *Visual Analysis of Cloud Computing Performance Using Behavioral Lines.* Chris Muelder, Biao Zhu, Wei Chen, Hongxin Zhang, Kwan-Liu Ma**. IEEE Transactions on Visualization and Computer Graphics.** 22(6): 1694-1704 (2016)

60. *VTK-m: Accelerating the Visualization Toolkit for Massively Threaded Architectures.* Kenneth Moreland, Christopher Sewell, William Usher, Li-Ta Lo, Jeremy S. Meredith, David Pugmire, James Kress, Hendrik A. Schroots, Kwan-Liu Ma, Hank Childs, Matthew Larsen, Chun-Ming Chen, Robert Maynard, Berk Geveci**. IEEE Computer Graphics and Applications** 36(3): 48-58 (2016)

61. *Audience-Targeted Design Considerations for Effective Scientific Storytelling.* Franz Sauer, Tyson Neuroth, Jacqueline Chu, and Kwan-Liu Ma. **IEEE Computing in Science and Engineering** 18(2):68-77 (2016)

62. *Visualization Techniques for Studying Large-Scale Flow Fields from Fusion Simulations.* Franz Sauer, Yubo Zhang, Weixing Wang, Stephane Ethier, and Kwan-Liu Ma. **IEEE Computing in Science and Engineering** 18(2):68-77 (2016)

63. Yuzuru Tanahashi, Nick Leaf, Kwan-Liu Ma: A Study On Designing Effective Introductory Materials for Information Visualization. **Computer Graphics Forum** 35(7): 117-126 (2016)

64. *Design and Effects of Personal Visualizations.* Shimin Wang, Yuzuru Tanahashi, Nick Leaf, Kwan-Liu Ma**. IEEE Computer Graphics and Applications** 35(4): 82-93 (2015)

65. *An Efficient Framework for Generating Storyline Visualizations from Streaming Data.* Yuzuru Tanahashi, Chien-Hsin Hsueh, Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics** 21(6): 730-742 (2015)

66. *Scalable Parallel Distance Field Construction for Large-Scale Applications.* Hongfeng Yu, Jinrong Xie, Kwan-Liu Ma, Hemanth Kolla, Jacqueline H. Chen**. IEEE Transactions on Visualization and Computer Graphics** 21(10): 1187-1200 (2015)

67. *Content-aware model resizing with symmetry-preservation.* Chunxia Xiao, Liqiang Jin, Yongwei Nie, Renfang Wang, Hanqiu Sun, Kwan-Liu Ma. **The Visual Computer** 31(2): 155-167 (2015)

68. Chih-Wei Huang, Syed Abdul Shabbir, Wen-Shan Jian, Usman Iqbal, Phung-Anh (Alex) Nguyen, Peisan Lee, Shen-Hsien Lin, Wen-Ding Hsu, Mai-Szu Wu, Chun-Fu Wang, Kwan-Liu Ma, Yu-Chuan (Jack) Li: A novel tool for visualizing chronic kidney disease associated polymorbidity: a 13-year cohort study in Taiwan. **J. American Medical Informatics Association** 22(2): 290-298 (2015)

69. Chih-Wei Huang, Richard Lu, Usman Iqbal, Shen-Hsien Lin, Phung-Anh (Alex) Nguyen, Hsuan-Chia Yang, Chun-Fu Wang, Jianping Kelvin Li, Kwan-Liu Ma, Yu-Chuan (Jack) Li, Wen-Shan Jian: A richly interactive exploratory data analysis and visualization tool using electronic medical records. **BMC Medical Informatics Decision Making** 15: 92 (2015)

70. *Using Global Illumination in Volume Visualization of Rheumatoid Arthritis CT Data.* Lin Zheng, Abhijit J. Chaudhari, Ramsey Derek Badawi, Kwan-Liu Ma**. IEEE Computer Graphics**

and Applications 34(6): 16-23 (2014)

71. *Visualization techniques for categorical analysis of social networks with multiple edge sets*. Tarik Crnovrsanin, Chris Muelder, Robert Faris, Diane Felmlee, Kwan-Liu Ma. **Social Networks** 37: 56-64 (2014)

72. *Fast Closed-Form Matting Using a Hierarchical Data Structure.* Chunxia Xiao, Meng Liu, Donglin Xiao, Zhao Dong, Kwan-Liu Ma. **IEEE Transactions on Circuits Syst. Video Techn**. 24(1): 49-62 (2014)

73. *Regression Cube: A Technique for Multidimensional Visual Exploration and Interactive Pattern Finding.* Yu-Hsuan Chan, Carlos D. Correa, Kwan-Liu Ma. **ACM Transactions on Interactive Intelligent Systems** (TiiS) 4(1): 7 (2014)

74. *Object Movements Synopsis viaPart Assembling and Stitching.* Yongwei Nie, Hanqiu Sun, Ping Li, Chunxia Xiao, Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics** 20(9): 1303-1315 (2014)

75. *Volume Rendering of Curvilinear-Grid Data Using Low-Dimensional Deformation Textures.* Robert Hero, Chris Ho, Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics** 20(9): 1330-1343(2014)

76. *Visual Abstraction and Exploration of Multi-class Scatterplots.* Haidong Chen, Wei Chen, Honghui Mei, Zhiqi Liu, Kun Zhou, Weifeng Chen, Wentao Gu, Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics** 20(12): 1683-1692 (2014)

77. *Interactive Progressive Visualization with Space-Time Error Control.* Steffen Frey, Filip Sadlo, Kwan-Liu Ma, Thomas Ertl **IEEE Transactions on Visualization and Computer Graphics** 20(12): 2397-2406 (2014)

78. *Trajectory-Based Flow Feature Tracking in Joint Particle/Volume Datasets.* Franz Sauer, Hongfeng Yu, Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics** 20(12): 2565-2574 (2014)

79. *The generalized Sensitivity Scatterplot.* Y.-H. Chan, C. Correa, and K.-L. Ma. **IEEE Transactions on Visualization and Computer Graphics** 19(10):1768-1781 (2013).

80. *Big Data Visualization.* Daniel A. Keim, Huamin Qu, and Kwan-Liu Ma. **IEEE Computer Graphics and Applications** 33(4): 20-21 (2013).

81. *Real-time Volume Rendering in Dynamic Lighting Environments using Precomputed Photon Mapping.* . **IEEE Transactions on Visualization and Computer Graphics** 19(8):1317-1330 (2013).

82. *Perceptually Based Depth-Ordering Enhancement for Direct Volume Rendering.* L. Zheng, Y. Wu, and K.-L. Ma. **IEEE Transactions on Visualization and Computer Graphics**, 19(3):446-459 (2013).

83. *ViSizer: A Visualization Resizing Framework.* Y. Wu, X. Liu, S. Liu, and K.-L. Ma. **IEEE Transactions on Visualization and Computer Graphics**, 19(2):278-290 (2013).

84.   *Visualizing Large-Scale Parallel Communication Traces using a Particle Animation Technique.* C. Sigovan, C. Muelder, K.-L. Ma. **Computer Graphics Forum** 32(3):141-150 (2013).

85.   *Interactive Ray Casting of Geodesic Grids.* J. Xie, H. Yu, and K.-L. Ma. **Computer Graphics Forum** 32(3): 481-490 (2013).

86.   *Fast Shadow Removal using Adaptive Multi-Scale Illumination Transfer.* C. Xiao, R. She, D. Xiao, and K.-L. Ma. **Computer Graphics Forum** 32(8):207-218 (2013).

87.   *Large-Scale Graph Visualization and Analytics.* K.-L. Ma and C. Muelder**. IEEE Computer** 46(7):39-46 (2013).

88.   *Satio-temporal Extrapolation for Fluid Animation.* Y. Zhang and K.-L. Ma. **ACM Transactions on Graphics** 32(6):183 (2013) SIGGRAPH Asia 2013, full paper.

89.   *A Multi-Criteria Approach to Camera Motion Design for Volume Data Animation.* W.-H. Hsu, Y. Zhang, and K.-L. Ma. **IEEE Transactions on Visualization and Computer Graphics** 19(12):2792-2801 (2013). (Vis 2013).

90.   *Lighting Design for Globally Illuminated Volume Rendering.* Y. Zhang and K.-L. Ma. **IEEE Transactions on Visualization and Computer Graphics** 19(12):2946-2955 (2013) (Vis 2013).

91.   *Living Liquid: Design and Evaluation of an Exploratory Visualization Tool for Museum Visitors.* J. Ma, I. Liao, J. Frazier, and K.-L. Ma. **IEEE Transactions on Visualization and Computer Graphics**, 18(12):2799-2808. (InfoVis 2012).

92.   *Visualizing Flow of Uncertainty through Analytical Processes.* Y. Wu, G.-X. Yuan, and K.-L. Ma. **IEEE Transactions on Visualization and Computer Graphics**, 18(12):2526-2535 (InfoVis 2012).

93.   *Design Considerations for Optimizing Storyline Visualizations.* Y. Tananhashi and K.-L. Ma. **IEEE Transactions on Visualization and Computer Graphics** 18(12):2679-2688 (InfoVis 2012).

94.   *Fuzzy Volume Rendering.* N. Fout and K.-L. Ma. **IEEE Transactions on Visualization and Computer Graphics**, 18(12):2335-2344 (Visualization 2012).

95.   *An Adaptive Predication-based Approach to Lossless Compression of Floating-Point Volume Data.* N. Fout and K.-L. Ma**. IEEE Transaction on Visualization and Computer Graphics,** 18(12):2295-2304 (Visualization 2012).

96.   *Ambiguity-Free Edge-Bundling for Interactive Graph Visualization.* S.-J. Luo, C.-L. Liu, B.-Y. Chen, and K.-L. Ma**. IEEE Transactions on Visualization and Computer Graphics**, 18(5):810-821 **(**2012).

97.   *Restoration of Brick and Stone Relief from Single Rubbing Images.* Z. Li, S. Wang, J. Yu, and K.-L. Ma. **IEEE Transactions on Visualization and Computer Graphics**. 18(2):177-187 (2012).

98. *Visual Reasoning about Social Networks using Centrality Sensitivities.* C. Correa, T. Crnovrsanin, and K.-L. Ma. **IEEE Transactions on Visualization and Computer Graphics**, 18(1): 106-120 (2012).

99. *Scientific Storytelling using Visualization.* K.-L. Ma et al. **IEEE Computer Graphics and Applications**, 32(1):12-19, Jan/Feb 2012.

100. *Visual Analysis of Particle Behaviors to Understand Combustion Simulations.* J. Wei, H. Yu, R. W. Grout, J. Chen, and K.-L. Ma. **IEEE Computer Graphics and Applications**, 32(1):12-19 (2012).

101. *A Rendering Framework for Multiscale Views of 3D Models.* W.-H. Hsu, K.-L. Ma, and C. Correa. **ACM Transactions on Graphics**, 30(6), December 2011. (ACM SIGGRAPH Asia)

102. *Collaborative Visualization*: Definition, Challenges, and Research Agenda. Petra Isenberg et al. **Information Visualization Journal**, 10(4):310-326, October 2011.

103. *An Illustrative Visualization Framework for Vector Fields.* C.-K. Chen et al. **Computer Graphics Forum**, 30(5), September 2011.

104. *Semantic*-Preserving Word Cloud Generation by Seam Carving. Y. Wu, T. Provan, S. Liu, F. Wei, and K.-L. Ma. **Computer Graphics Forum**, 30(3), June 2011.

105. *Visual Recommendations for Network Navigation.* T. Crnovrsanin, I. Liao, Y. Wu, and K.-L. Ma. **Computer Graphics Forum,** 30(3), June 2011.

106. *A Comparison of Gradient Estimation Methods for Volume Rendering on Unstructured Meshes.* C. Correa, R. Hero, K.-L. Ma. IEEE **Transactions on Visualization and Computer Graphics**, 17(3), March 2011, pp. 305-319.

107. *Visibility Histograms and Visibility-Driven Transfer Function.* Carlos Correa and Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics**, 17(2), February 2011, pp. 192-204.

108. *Feature-Preserving Volume Data Reduction and Focus+Context Visualization.* Yu-Shuen Wang, Chaoli Wang, Tong-Yee Lee, and Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics** 17(2), February 2011, pp. 171-181.

109. *View-Dependent Streamlines for 3D Vector Fields.* Stephane Marchesin, Cheng-Kai Chen, Chris Ho, and Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics,** Volume 16, Number 6, November/December 2010, pp. 1578-1586. (IEEE Visualization 2010 Conference)

110. *Visualization by Proxy: A Novel Framework for Deferred Interaction with Volume Data.* Anna Tikhonova, Carlos Correa and Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics,** Volume 16, Number 6, November/December 2010, 1551-1559. (IEEE Visualization 2010 Conference).

111. *Visualizing Flow Trajectories using Locality-based Rendering and Warped Curve Plots*. Chad Jones and Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics,** Volume 16, Number 6, November/December 2010, pp. 1587-1594. (IEEE Visualization 2010 Conference).

112. *Visualizing Three-Dimensional Earthquake Simulation Data*. C. Chen, C. Ho, C. Correa, K.-L. Ma, and A. Elgamal. **IEEE Computing in Science and Engineering** (accepted for publication).

113. *AniViz: A Template-based Animation Tool for Volume Visualization.* Hiroshi Akiba, Chaoli Wang, and Kwan-Liu Ma. **IEEE Computer Graphics and Applications**, 30(5), September/October 2010, pp. 61-71.

114. *In Vivo Mapping of Vascular Inflammation using Multimodal Imaging.* B. R. Jarrett, C. Correa, K.-L. Ma, and A. Y. Louie. **PLoS ONE**, 5(10):e13254. (doi:10.1371/journal.pone.0013254)

115. *Polygonal Surface Advection Applied to Strange Attractors*. Shi Yan, Nelson Max, and Kwan-Liu Ma. **Computer Graphics Forum**, Volume 29, Number 7, September 2010 (Pacific Graphics 2010)

116. *Dynamic Video Narratives*. Carlos Correa and Kwan-Liu Ma. **ACM Transactions on Graphics,** Volume 29, Number 3, July 2010, pp. (ACM SIGGRAPH 2010 Conference).

117. *An Exploratory Technique for Coherent Visualization of Time-Varying Volume Data*. Anna Tikhonova, Carlos Correa, and Kwan-Liu Ma. **Computer Graphics Forum**, 29(3), June 2010. (EuroVis 2010)

118. *In Situ Visualization for Large-Scale Combustion Simulations.* Hongfeng Yu, Chaoli Wang, Ray W. Grout, Jacqueline H. Chen, and Kwan-Liu Ma. **IEEE Computer Graphics and Applications.** 30(3), May/June 2010, pp. 45-57.

119. *Application Driven Compression for Visualizing Large-Scale Time-Varying Data*. Chaoli Wang, H. Yu, and K.-L. Ma. **IEEE Computer Graphics and Applications**, 30(1), January/February 2010, pp. 59-69.

120. *In-Situ Visualization at Extreme Scale: Challenges and Opportunities*. Kwan-Liu Ma**. IEEE Computer Graphics and Applications**, Volume 29, Number 6, November/December 2009, pp. 14-19.

121. *Code_swarm: A Design Study in Organic Software Visualization*. Michael Ogawa and Kwan-Liu Ma. IEEE **Transactions on Visualization and Computer Graphics**, Volume 15, Number 6, November/December 2009, pp. 1097-1104 (InfoVis 2009).

122. *Visual Analysis of Inter-Process Communication for Large-Scale Parallel Computing*. Chris Muelder, Francois Gygi, and Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics**, Volume 15, Number 6, November/December 2009, 1129-1136 (InfoVis 2009).

123. *The Occlusion Spectrum for Volume Classification and Visualization*. Carlos Correa and Kwan-Liu Ma. **IEEE Transactions for Visualization and Computer Graphics**, Volume 15, Number 6, November/December 2009, pp. 1465-1472 (Vis 2009).

124. *Curve-Centric Volume Deformation for Comparative Visualization.* Ove Daae Lampe, Carlos Correa, Kwan-Liu Ma, and Helwig Hauser. **IEEE Transactions for Visualization and Computer Graphics**, Volume 16, Number 5, November/December 2009, pp. 1235-1242 (Vis 2009).

125. *Flow Visualization in Science and Mathematics.* Nelson Max, Carlos Correa, Chris Muelder, Shi Yan, Cheng-Kai Chen and Kwan-Liu Ma. **Journal of Physics**, Volume 180, July 2009. (SciDAC 2009)

126. *Next-Generation Visualization Technologies: Enabling Discoveries at Extreme Scale*. Kwan-Liu Ma, Chaoli Wang, Hongfeng Yu, Kenneth Moreland, Jian Huang, and Rob Ross. **SciDAC Review**, Number 12, February, 2009, pp. 12-21.

127. *Terascale Direct Numerical Simulations of Turbulent Combustion using S3D*. J. Chen, A. Choudhary, b. de Supinski, M. DeVries, E. Hawkes, S. Klasky, W. K. Liao, K.-L. Ma, J. Mellor-Crummey, N. Podhorszki, R. Sankaran, S. Shende, and C. S. Yoo. **Computational Science and Discovery**, Volume 2, January-March, 2009.

128. *Rapid Graph Layout using Space Filling Curves*. C. Muelder and Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics,** Volume 14, Number 6, October 2008, pp. 1301-1308.

129. *Size-based Transfer Functions: A New Volume Exploration Technique*. Carlos Correa and Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics**, Volume 14, Number 6, October 2008, pp. 1380-1387.

130. *Importance-Driven Time-Varying Data Visualization*. Chaoli Wang, Hongfeng Yu, and Kwan-Liu Ma. IEEE **Transactions on Visualization and Computer Graphics,** Volume 14, Number 6, October 2008, pp. 1547-1554.

131. *An Integrated Exploration Approach to Visualizing Multivariate Particle Data*. Chad Jones, Kwan-Liu Ma, Stephane Ethier, and Wei-Li Lee. **IEEE Computing in Science and Engineering**, Volume 10, Number 4, July/August 2008, pp. 20-29.

132. *A Statistical Approach to Volume Data Quality Assessment*. Chaoli Wang and Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics**, Volume 14, Number 3, May/June 2008, pp. 590-602.

133. *Visualization and Parallel I/O at Extreme Scale*. Rob Ross, Tom Peterka, Han-Wei Shen, Kwan-Liu Ma, Hongfeng Yu, and Ken Moreland. **Journal of Physics**, Volume 125, July 2008.

134. *Transform Coding for Hardware-Accelerated Volume Rendering*. Nathan Fout and Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics**, Volume 13, Number 6, November/December 2007, pp. 1600-1607 (also Visualization 2007 Proceedings).

135.   *Machine Learning to Boost the Next Generation of Visualization Technology*. Kwan-Liu Ma. **IEEE Computer Graphics and Applications**, Volume 27, Number 5, September/October, 2007, pp. 6-9.

136.   *3D Paper-Cut Modeling and Animation*. Y. Li, J. Yu, and J. Shi, and Kwan-Liu Ma. **The Journal of Computer Animation and Virtual Worlds**, Volume 18, Issue 4-5, 2007, pp. 395-403.

137.   *A Model and Framework for Visualization.* T. J. Jankun-Kelly, Kwan-Liu Ma and M. Gertz. **IEEE Transactions on Visualization and Computer Graphics**, Volume 13, Number 2, November/December 2007, pp. 357-369.

138.   *Visualizing Multivariate Volume Data from Turbulent Combustion Simulations*. H. Akiba, Kwan-Liu Ma, and J. Chen and E. Hawkes. **IEEE Computing in Science and Engineering**, March/April 2007, pp. 86-93.

139.   *Interactive Multi-Scale Exploration for Volume Classification*. Eric Lum, James Shearer, and K.-L. Ma. **Visual Computer**, Volume 22, Number 9-11, 2006, pp. 622-630.

140.   *Quantitative and Comparative Visualization Applied to Cosmological Simulations*. James Ahrens, Katrin Heitmann, Salman Habib, Lee Ankeny, Patrick McCormick, Jeff Inman, Ryan Armstrong, and K.-L. Ma. **Journal of Physics**: Conference Series, Volume 46, 2006, pp. 526-534.

141.   *Visual Analysis of Large Heterogeneous Social Networks by Utilizing Semantics and Structure.* Zeqian Shen, Kwan-Liu Ma, and Tina Eliassi-Rad. **IEEE Transactions on Visualization and Computer Graphics**, 12(6), 2006, pp. 1427-1439.

142.   *An Intelligent System Approach to Higher-Dimensional Classification of Volume Data*. Fan-Yin Tzeng, Eric B. Lum, and Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics**, Volume 11, Number 3, May/June 2005, pp. 273-284

143.   *Calculating Hierarchical Radiosity Form Factors using Programmable Graphics Hardware* . Eric B. Lum, Kwan-Liu Ma, and Nelson Max. **Journal of Graphics Tools,** 10(4), 2005, pp. 61-71.

144.   *A Study of I/O Techniques for Parallel Visualization*. Hongfeng Yu and Kwan-Liu Ma. **Journal of Parallel Computing**, Volume 31, Number 2, 2005, pp. 167-183.

145.   *Visualization for Security*. Kwan-Liu Ma. VisFiles, **ACM Computer Graphics Quarterly**, Volume 38, Number 4 , November 2004, ACM SIGGRAPH.

146.   *Visual Data Analysis for Detecting Flaws and Intruders in Computer Network Systems*. Soon Tee Teoh, TJ Jankun- Kelly, K.-L. Ma, and Felix Wu. **IEEE Computer Graphics and Applications**, special issue on Visual Analytics, September/October 2004.

147.   *Kinetic Visualization*. E. Lum, A. Stompel, and K.-L. Ma. **IEEE Transaction on Visualization and Graphics**, Volume 9, Number 2, April-June 2003, pp. 115-126.

148.   *Recent Advances in Hardware-accelerated volume rendering*. Eric Lum, Kwan-Liu Ma, and S. Muraki. **Computers & Graphics**, Volume 27, Number 5. 2003.

149.   *Visualizing Time-Varying Volume Data.* Kwan-Liu Ma, **IEEE Computing in Science and Engineering**, Volume 5, Number 3, March/April 2003, pp. 34-42.

150.   *Deploying Web-based Visual Exploration Tools on the Grid.* T. J. Jankun-Kelly, Oliver Kreylos, Kwan-Liu Ma, Bernd Hamann, Kenneth I. Joy, John Shalf, and E. Wes Bethel. **IEEE Computer Graphics and Applications**, Volume 23, Number 2, March/April 2003, pp. 40-50.

151.   *A Hardware-Assisted Scalable Solution for Interactive Volume Rendering of Time-Varying Data.* E. Lum, Kwan-Liu Ma, and J. Clyne. **IEEE Transactions on Visualization and Computer Graphics**, 8(3), July-September 2002, pp. 286-301.

152.   *Interactivity is the Key to Expressive Visualization.* E. Lum and K.-L. Ma. VisFiles, **Computer Graphics, ACM SIGGRAPH**, Volume 36, Number 3, August 2002.

153.   *An Interactive Segmentation & Visualization Technique for Multispectral Volume Data (in Japanese),* I. Takanashi, S. Muraki, E. Lum, and Kwan-Liu Ma, **Journal of the Institute of Image Information and Television Engineers**, Volume 56, Number 6, June 2002, pp. 963-972.

154.   *Visualization Exploration and Encapsulation via a Spreadsheet-Like Interface,* T.J. Jankun-Kelly and Kwan-Liu Ma, **IEEE Transactions on Visualization and Computer Graphics**, 7(3), July-September 2001, pp. 275–287.

155.   *Parallel Software Rendering for Large-Scale Volume Visualization,* Kwan-Liu Ma and Steve Parker, **IEEE Computer Graphics & Applications**, 21(4), July/August 2001, pp. 74-83.

156.   *Towards the Massively Parallel Simulation and Visualization of Human Neuron System (in Japanese), (with S. Muraki, K. Shimokawa, and M. Ogata, and K. Kajihara),* **Bit**, Vol.33, No. 3, pp.58-65, March 2001.

157.   *Large-Scale Data Visualization,* Kwan-Liu Ma, Guest Editor Introduction, **IEEE Computer Graphics & Applications**, 21(4), July/August 2001, pp. 22-23.

158.   *A Parallel Volume Rendering System using Space Partition and Ray Splitting (in Japanese), M. Ogata, K. Kajihara, S. Murakik, K. Shimokawa, Y. Dohi, and Kwan-Liu Ma,* **Journal of the Institute of Image Information and Television Engineers**, Volume 55, Number 7, July, 2001.

159.   *Visualizing Visualizations: Interfaces for Exploring and Managing Scientific Visualization Data.* Kwan-Liu Ma. Visualization Viewpoints, **IEEE Computer Graphics & Applications**, Volume 20, Number 5, September/October, 2000.

160.   *Out-of-core Streamline Visualization on 3D Unstructured Grids.* S. Ueng, K. Sikorksi, and Kwan-Liu Ma. **IEEE Trans. on Visualization and Computer Graphics,** Volume 3, Number 4, pp. 370-380, December 1997

161.   *Efficient Streamline, Streamribbon, and Streamtube Visualization on Unstructured Grids.* S. Ueng, K. Sikorksi, and Kwan-Liu Ma. **IEEE Transactions on Visualization and Computer Graphics**, Volume 2, Number 2, June 1996, pp. 100-110.

162. *Visualization of Particles and Gas Mixing*. Kwan-Liu Ma and Philip J. Smith. **International Journal of CAD/CAM and Computer Graphics**, Volume 10, Number 3, 1995, pp. 273-289.

163. *Parallel Volume Rendering Using Binary-Swap Image Composition*. Kwan-Liu Ma, James S. Painter, Charles D. Hansen and Michael F. Krogh. **IEEE Computer Graphics and Applications**, Volume 14, Number 4, July 1994, pp. 59-68.

164. *A Distributed 3D Navier-Stokes Solver in Express*, Kwan-Liu Ma and K. Sikorski. **Energy & Fuels**, Volume 7, Number 6, 1993, pp. 897-901.

165. *Distributed Combustion Simulations*, Kwan-Liu Ma, K. Silorski, Philip Smith, and Brad Adams, **Energy & Fuels**, Volume 7, Number 6, 1993, pp. 902-905.

166. *Parallel Volume Visualization on Workstations*. Kwan-Liu Ma and James Painter. **Computers and Graphics**, Volume 16, Number 4, 1992.

167. *Volume Seeds: An Interactive Volume Exploration Technique*. Kwan-Liu Ma, Michael Cohen and James Painter. **The Journal of Visualization and Computer Animation**, Volume 2, Number 4, 1991, pp. 135-140.

168. *A Type Inference System for Common Lisp*. Kwan-Liu Ma and Robert Kessler. **Software Practice and Experience**, Volume 20, Number 6, June 1990, pp. 596-623.

 In Proceedings: (Peer Reviewed)

1. Xiaoyu Zhang, Jianping Kevin Li, Po-Wei Chi, Senthil K. Chandrasegaran, Kwan-Liu Ma: ConceptEVA: Concept-Based Interactive Exploration and Customization of Document Summaries. CHI 2023: 204:1-204:16

2. Fei Xue, Rongchen Guo, Siyuan Yao, Luxin Wang, Kwan-Liu Ma:
From Artifacts to Outcomes: Comparison of HMD VR, Desktop, and Slides Lectures for Food Microbiology Laboratory Instruction. CHI 2023: 446:1-446:17

3. Hsiao-Ying Lu, Yiran Li, Brittany Garcia, Shin-Ping Tu, Kwan-Liu Ma. A Study of Healthcare Team Communication Networks using Visual Analytics. In Proceedings of 7th International Conference on Medical and Health Informatics (ICMHI 2023)

4. Yun-Hsin Kuo, Takanori Fujiwara, Charles C.-K. Chou, Chun-Houh Chen, Kwan-Liu Ma: A Machine-learning-Aided Visual Analysis Workflow for Investigating Air Pollution Data. PacificVis 2022: 91-100

5. Xiaoyu Zhang, Xiwei Xuan, Alden Dima, Thurston Sexton, Kwan-Liu Ma. LabelVizier: Interactive Validation and Relabeling for Technical Text Annotations. In Proceedings of PacificVis 2023: 167-176

6. Takanori Fujiwara, Yun-Hsin Kuo, Anders Ynnerman, Kwan-Liu Ma. Feature Learning for Nonlinear Dimensionality Reduction toward Maximal Extraction of Hidden Patterns. In Proceedings of PacificVis 2023: 122-131

7. Yun-Hsin Kuo, Beatriz Martínez-López, Kwan-Liu Ma. Investigating Animal Infectious Diseases with Visual Analytics. In Proceedings of PacificVis 2023: 71-81

8. Shilpika, Bethany Lusch, Murali Emani, Filippo Simini, Venkatram Vishwanath, Michael E. Papka, Kwan-Liu Ma: Toward an In-Depth Analysis of Multifidelity High Performance Computing Systems. CCGRID 2022: 716-725

9. Qi Wu, Michael J. Doyle, Kwan-Liu Ma: A Flexible Data Streaming Design for Interactive Visualization of Large-Scale Volume Data. EGPGV@EuroVis 2022: 37-47

10. Junhua Lu, Wei Chen, Hui Ye, Jie Wang, Honghui Mei, Yuhui Gu, Yingcai Wu, Xiaolong Luke Zhang, Kwan-Liu Ma: Automatic Generation of Unit Visualization-based Scrollytelling for Impromptu Data Facts Delivery. PacificVis 2021: 21-30

11. Xiaoyu Zhang, Takanori Fujiwara, Senthil K. Chandrasegaran, Michael P. Brundage, Thurston Sexton, Alden Dima, Kwan-Liu Ma: A Visual Analytics Approach for the Diagnosis of Heterogeneous and Multidimensional Machine Maintenance Data. PacificVis 2021: 196-205

12. Namitha V. Benjamin, Robert D. Boutin, Abhijit J. Chaudhari, Kwan-Liu Ma: Genetic Algorithm based L4 Identification and Psoas Segmentation. BIOIMAGING 2021: 120-127

13. Xiaoyu Zhang, Senthil K. Chandrasegaran, Kwan-Liu Ma: ConceptScope: Organizing and Visualizing Knowledge in Documents based on Domain Ontology. CHI 2021: 19:1-19:13

14. Lukas Maximilian Masopust, David Bauer, Siyuan Yao, Kwan-Liu Ma: A Comparison of the Fatigue Progression of Eye-Tracked and Motion-Controlled Interaction in Immersive Space. ISMAR 2021: 460-469

15. Yiran Li, Erin Musabandesu, Takanori Fujiwara, Frank J. Loge, Kwan-Liu Ma: A Visual Analytics System for Water Distribution System Optimization. IEEE VIS (Short Papers) 2021: 126-130

16. Jingming Hu, Seok-Hee Hong, Jialu Chen, Marnijati Torkel, Peter Eades, Kwan-Liu Ma: Connectivity-Based Spectral Sampling for Big Complex Network Visualization. COMPLEX NETWORKS (1) 2020: 237-248

17. Gennady L. Andrienko, Natalia V. Andrienko, Steven Mark Drucker, Jean-Daniel Fekete, Danyel Fisher, Stratos Idreos, Tim Kraska, Guoliang Li, Kwan-Liu Ma, Jock D. Mackinlay, Antti Oulasvirta, Tobias Schreck, Heidrun Schumann, Michael Stonebraker, David Auber, Nikos Bikakis, Panos K. Chrysanthis, George Papastefanatos, Mohamed A. Sharaf: Big Data Visualization and Analytics: Future Research Challenges and Emerging Applications. EDBT/ICDT Workshops 2020

18. Suyun "Sandra" Bae, Federico Rossi, Joshua Vander Hook, Scott Davidoff, Kwan-Liu Ma: A Visual Analytics Approach to Debugging Cooperative, Autonomous Multi-Robot Systems' Worldviews. IEEE VAST@IEEE VIS 2020: 24-35

19. Takanori Fujiwara, Jian Zhao, Francine Chen, Kwan-Liu Ma: A Visual Analytics Framework for Contrastive Network Analysis. IEEE VAST@IEEE VIS 2020: 48-59

20. Qi Wu, Tyson Neuroth, Oleg Igouchkine, Aditya Konduri, Jacqueline H. Chen, Kwan-Liu Ma: DIVA: A Declarative and Reactive Language for in situ Visualization. LDAV 2020: 1-11

21. *Spinneret: Aiding Creative Ideation through Non-Obvious Concept Associations.* Suyun "Sandra" Bae, Oh-Hyun Kwon, Senthil K. Chandrasegaran, Kwan-Liu Ma. In Proceedings of ACM CHI 2020, pp. 1-13.

22. *A Study of Mental Maps in Immersive Network Visualization.* Joseph T Kotlarek, Oh-Hyun Kwon, Kwan-Liu Ma, Peter Eades, Andreas Kerren, Karsten Klein, Falk Schreiber. In Proceedings of IEEE PacificVis 2020, pp. 1-10.

23. A Visual Analytics Framework for Analyzing Streaming Performance Data. Suraj Kesavan, Takanori Fujiwara, Kelvin Li, Caltlin Ross, Christopher Carothers, Misbah Mubarak, Robert Ross, Kwan-Liu Ma. In Proceedings of IEEE PacificVis 2020, pp. 206-215.

24. Representing Multivariate Data by Optimal Colors to Unvover Events of Interest in Time Series Data. Ding-Bang Chen, Chien-Hsun Lai, Yu-Hsuan Lin, Yu-Shuen Wang, Kwan-Liu Ma. In Proceedings of IEEE PacificVis 2020, pp. 156-165.

25. *TalkTraces: Real-Time Capture and Visualization of Verbal Content in Meetings.* Senthil Chandrasegaran, Chris Bryan, Hidekazu Shidara, Tung-Yen Chuang, Kwan-Liu Ma. In Proceedings of ACM CHI 2019. Paper No. 577.

26. *Collaborative Visual Analysis with Multi-Level Information Sharing using a Wall-size Display and See-through HMDs.* Tianchen Sun, Yucong Chris Ye, Issei Fujishiro, Kwan-Liu Ma. In Proceedings of IEEE PacificVis 2019.

27. *Interactive Spatiotemporal Visualization of Phase Space Particle Trajectories using Distance Plots.* Tyson Neuroth, Franz Sauer, Kwan-Liu Ma. In Proceedings of IEEE PacificVis 2019 VisNotes.

28. Maksim Gomov, Tarik Crnovrsanin, Keshav Dasu, Kwan-Liu Ma: An Interactive System for Exploring Historical Fire Data. PacificVis 2019: 277-281

29. Amyra Meidiana, Seok-Hee Hong, Jiajun Huang, Peter Eades, Kwan-Liu Ma: Topology-Based Spectral Sparsification. LDAV 2019: 73-82

30. Shilpika, Bethany Lusch, Murali Emani, Venkatram Vishwanath, Michael E. Papka, Kwan-Liu Ma: MELA: A Visual Analytics Tool for Studying Multifidelity HPC System Logs. DAAC@SC 2019: 13-18

31. *Improving Spatial Orientation in Immersive Environment.* Joseph Kotlarek, I-Chen Lin, Kwan-Liu Ma. In Proceedings of ACM SUI 2018, pp. 79-88.

32. *Visual Reasoning of Feature Attribution with Deep Recurrent Neural Networks.* Chuan Wang, Takeshi Onishi, Keiichi Nemoto, Kwan-Liu Ma. In Proceedings of IEEE BigData 2018, pp. 1661-1668.

33. *Visual Analysis of Simulation Uncertainty using Cost-Effective Sampling.* Annie Preston, Yiran Li, Franz Sauer, Kwan-Liu Ma. (to appear) In Proceedings of IEEE Symposium on Large Data Analysis and Visualization (LDAV 2018).

34. *Uncertainty Aware Visualization for Analyzing Heterogeneous Wildfire Detections.* Annie Preston, *Maksim* Gomov, Kwan-Liu Ma. (to appear) In Proceeding of IEEE Symposium on Visualization in Data Science (VDS 2018).

35. *An Empirical Study on Perceptually Masking Privacy in Graph Visualization.* Jia-Kai Chou, Chris Bryan, Jing Li, Kwan-Liu Ma. (to appear) In Proceedings of Symposium on Visualization for Cyber Security (VizSec 2018).

36. *An Organic Visual Metaphor for Public Understanding of Conditional Co-occurrences.* Keshav Dasu, Takanori Fujiwara, Kwan-Liu Ma. (to appear) In Short Papers Proceedings of IEEE SciVis 2018.

37. *Cluster-Based Visualization for Merger Tree Data: The Challenge of Missing Expectations.* Annie Preston, Kwan-Liu Ma. (to appear) In Short Papers Proceedings of IEEE SciVis 2018.

38. *Exploring the Role of Sound in Augmenting Visualization to Enhance User Engagement.* Meng Du, Jia-Kai Chou, Chen Ma, Senthil Chandrasegaran, Kwan-Liu Ma. In Proceedings of PacificVis 2018: 225-229.

39. *Privacy preserving visualization for social network data with ontology information.* Jia-Kai Chou, Chris Bryan, Kwan-Liu Ma. In Proceedings of PacificVis 2017: 11-20.

40. *A gesture system for graph visualization in virtual reality environments.* Yi-Jheng Huang, Takanori Fujiwara, Yun-Xuan Lin, Wen-Chieh Lin, Kwan-Liu Ma. In Proceedings of PacificVis 2017: 41-45

41. *A visual analytics system for brain functional connectivity comparison across individuals, groups, and time points.* Takanori Fujiwara, Jia-Kai Chou, Andrew M. McCullough, Charan Ranganath, Kwan-Liu Ma. In Proceedings of PacificVis 2017: 250-259

42. *Enhancing volume visualization with lightness anchoring theory.* Lin Zheng, Kwan-Liu Ma. In Proceedings of CGI 2017: 20:1-20:6

43. *Visual Analytics Techniques for Exploring the Design Space of Large-Scale High-Radix Networks.* Jianping Kelvin Li, Misbah Mubarak, Robert B. Ross, Christopher D. Carothers, Kwan-Liu Ma. In Proceedings of CLUSTER 2017: 193-203

44. *Quantifying I/O and Communication Traffic Interference on Dragonfly Networks Equipped with Burst Buffers.* Misbah Mubarak, Philip H. Carns, Jonathan Jenkins, Jianping Kelvin Li, Nikhil Jain, Shane Snyder, Robert B. Ross, Christopher D. Carothers, Abhinav Bhatele, Kwan-Liu Ma. In Proceedings of CLUSTER 2017: 204-215

45. *IdeaWall: Improving Creative Collaboration through Combinatorial Visual Stimuli.* Yang Shi, Yang Wang, Ye Qi, John Chen, Xiaoyao Xu, Kwan-Liu Ma. In Proceedings of CSCW 2017: 594-603

46. *Navigable Videos for Presenting Scientific Data on Affordable Head-Mounted Displays.* Jacqueline Chu, Chris Bryan, Min Shih, Leonardo Ferrer, Kwan-Liu Ma. In Proceedings of MMSys2017: 250-260

19

47. Chuan Wang, Takeshi Onishi, Kwan-Liu Ma: Factorlink: a visual analysis tool for sales performance management. SIGGRAPH Asia Symposium on Visualization 2017: 5:1-5:9

48. Maksim Gomov, Jia-Kai Chou, Jianping Kelvin Li, Soman Sen, Kiho Cho, Nam K. Tran, Kwan-Liu Ma: Aiding infection analysis and diagnosis through temporally-contextualized matrix representations. VAHC 2017: 31-38

49. Misbah Mubarak, Nikhil Jain, Jens Domke, Noah Wolfe, Caitlin Ross, Jianping Kelvin Li, Abhinav Bhatele, Christopher D. Carothers, Kwan-Liu Ma, Robert B. Ross: Toward reliable validation of HPC network simulation models. WSC 2017: 659-674

50. Takanori Fujiwara, Preeti Malakar, Khairi Reda, Venkatram Vishwanath, Michael E. Papka, Kwan-Liu Ma: A Visual Analytics System for Optimizing Communications in Massively Parallel Applications. VAST 2017: 59-70

51. Nick Leaf, Bob Miller, Kwan-Liu Ma: In situ video encoding of floating-point volume data using special-purpose hardware for a posteriori rendering and analysis. LDAV 2017: 64-73

52. Alessio Arleo, Oh-Hyun Kwon, Kwan-Liu Ma: GraphRay: Distributed pathfinder network scaling. LDAV 2017: 74-83

53. Yi-Ling Chen, Jan Klopp, Min Sun, Shao-Yi Chien, Kwan-Liu Ma: Learning to Compose with Professional Photographs on the Web. ACM Multimedia 2017: 37-45

54. *Adaptively Tiled Image Mosaics Utilizing Measures of Color and Region Entropy*. Lina Zhang, Kwan-Liu Ma, Jinhui Yu. In Proceedings of VINCI 2016: 122-129

55. *Parallel distributed, GPU-accelerated, advanced lighting calculations for large-scale volume visualization.* Min Shih, Silvio Rizzi, Joseph A. Insley, Thomas D. Uram, Venkatram Vishwanath, Mark Hereld, Michael E. Papka, Kwan-Liu Ma. In Proceedings of LDAV 2016: 47-55

56. In situ generated probability distribution functions for interactive post hoc visualization and analysis. Yucong Chris Ye, Tyson Neuroth, Franz Sauer, Kwan-Liu Ma, Giulio Borghesi, Aditya Konduri, Hemanth Kolla, Jacqueline Chen. In Proceedings of LDAV 2016: 65-74

57. VIPACT: A Visualization Interface for Analyzing Calling Context Trees. Huu Tan Nguyen, Lai Wei, Abhinav Bhatele, Todd Gamblin, David Böhme, Martin Schulz, Kwan-Liu Ma, Peer-Timo Bremer. In Proceedings of VPA@SC 2016: 25-28

58. Visual Data-Analytics of Large-Scale Parallel Discrete-Event Simulations. Caitlin Ross, Christopher D. Carothers, Misbah Mubarak, Philip H. Carns, Robert B. Ross, Jianping Kelvin Li, Kwan-Liu Ma. In Proceedings of PMBS@SC 2016: 87-97

59. representation. Jia-Kai Chou, Yang Wang, Kwan-Liu Ma. In Proceedings of ACM SIGGRAPH Asia Symposium on Visualization 2016: 1:1-1:8

60. A visual analytics design for studying crowd movement rhythms from public transportation data. Wei Zeng, Chi-Wing Fu, Stefan Müller Arisona, Simon Schubiger, Remo Burkhard, Kwan-Liu Ma. In Proceedings of ACM SIGGRAPH Asia Symposium on Visualization 2016: 4:1-4:8

61. Volume rendering dark matter simulations using cell projection and order-independent transparency. Oleg Igouchkine, Nick Leaf, Kwan-Liu Ma. In Proceedings of ACM SIGGRAPH Asia Symposium on Visualization 2016: 8:1-8:8

62. *An Interactive Visual Analysis Tool for Cellular Behavior Studies using Large Collections of Microscopy Videos.* Chuan Wang, Jia-Kai Chou, Kwan-Liu Ma, Arpad Karsai, Ying X. Liu, Evgeny Ogorodnik, Victoria Tran, and Gang-Yu Liu. In Proceedings of BigMM 2016:1-8.

63. *An integrated visualization system for interactive analysis of large, heterogeneous cosmology data.* Annie Preston, Ramyar Ghods, Jinrong Xie, Franz Sauer, Nick Leaf, Kwan-Liu Ma, Esteban Rangel, Eve Kovacs, Katrin Heitmann, Salman Habib. In Proceedings of IEEE PacificVis 2016: 48-55

64. *A study of using motion for comparative visualization.* Chien-Hsin Hsueh, Jia-Kai Chou, Kwan-Liu Ma. In Proceedings of IEEE PacificVis 2016: 219-223

65.   A design study of personal bibliographic data visualization. Tsai-Ling Fung, Jia-Kai Chou, Kwan-Liu Ma. In Proceedings of IEEE PacificVis 2016: 244-248

66. *Designing an interactive exhibit that visualizes marine animal behaviors.* Chien-Hsin Hsueh, Jacqueline Chu, Kwan-Liu Ma, Joyce Ma, Jennifer Frazier: Fostering comparisons. In Proceedings of IEEE PacificVis 2016: 259-263

67. *Revealing the Fog-of-War: A Visualization-Directed, Uncertainty-Aware Aproach for Exploring High-Dimensional Data.* Yang Wang and Kwan-Liu Ma. In Proceedings of IEEE International Conference on BigData 2015: 629-638.

68. *An Incremental Layout Method for Visualizing Online Dynamic Graphs.* Tarik Crnovrsanin, Jacqueline Chu, and Kwan-Liu Ma. In Proceedings of the 23rd International Symposium on Graph Drawing and Network Visualization, 2015. (Best Paper Award)

69. *Spherical Layout and Rendering Methods for Immersive Graph Visualization.* Oh-Hyun Kwon, Chris Muelder, Kyungwon Lee, Kwan-Liu Ma. In VisNotes Proceedings of PacificVis 2015: 63-67 (Best VisNotes Paper Award)

70. *Advanced lighting for unstructured-grid data visualization.* Min Shih, Yubo Zhang, Kwan-Liu Ma. In Proceedigns of PacificVis 2015: 239-246

71. *Stock Lamp: An Engagement-Versatile Visualization Design.* Yuzuru Tanahashi, Kwan-Liu Ma. In Proceedings of CHI 2015: 595-604

72. *Integrating Predictive Analytics into a Spatiotemporal Epidemic Simulation.* Chris Bryan, Xue Wu, Susan M. Mniszewski, Kwan-Liu Ma. In Proceedings of VAST 2015: 17-24

73. *In Situ Depth Maps based Feature Extraction and Tracking.* Yucong Chris Ye, Yang Wang, Robert Miller, Kwan-Liu Ma, Kenji Ono. In Proceedings of LDAV 2015: 1-8

74. *Fast Uncertainty-driven Large-scale Volume Feature Extraction on Desktop PCs.* Jinrong Xie, Franz Sauer, Kwan-Liu Ma. In Proceedings of LDAV 2015: 17-24 (Best Paper Honorable

Mention Award)

75. *Scalable Visualization of Discrete Velocity Decompositions using Spatially Organized Histograms.* Tyson Neuroth, Franz Sauer, Weixing Wang, Stéphane Ethier, Kwan-Liu Ma. iN Proceedings of LDAV2015: 65-72 (Best Paper Honorable Mention Award)

76. *Let It Flow: A Static Method for Exploring Dynamic Graphs.* Weiwei Cui, Xiting Wang, Shixia Liu, Nathalie Henry Riche, Tara M. Madhyastha, Kwan-Liu Ma, Baining Guo. In Proceedings of PacificVis 2014, pp. 121-128.

77. *A Visual Analysis Approach to Cohort Study of Electronic Patient Records.* Chun-Fu Wang, Jianping Li, Kwan-Liu Ma, Chih-Wei Huang, Yu-Chuan Li. In Proceedings of BIBM 2014, pp. 521-528.

78. *Stimulating A Blink: Reduction of Eye Fatigue with Visual Stimulus.* Tarik Crnovrsanin, Yang Wang, Kwan-Liu Ma. In Proceedings of CHI 2014, pp. 2055-2064.

79. *A Study of Parallel Data Compression Using Proper Orthogonal Decomposition on the K Computer.* Chongke Bi, Kenji Ono, Kwan-Liu Ma, Haiyuan Wu, Toshiyuki Imamura. In Proceedings of EGPGV 2014, pp. 1-8.

80. *Finely-Threaded History-Based Topology Computation.* Robert Miller, Kenneth Moreland, Kwan-Liu Ma. In Proceedings of EGPGV 2014, pp. 41-48.

81. *A System for Visual Analysis of Radio Signal Data.* Tarik Crnovrsanin, Chris Muelder, Kwan-Liu Ma. In Proceedings of IEEE VAST 2014. pp. 33-42.

82. Visualizing large 3D geodesic grid data with massively distributed GPUs. Jinrong Xie, Hongfeng Yu, Kwan-Liu Ma. In Proceedings of LDAV 2014, pp. 3-10.

83. Out-of-core visualization of time-varying hybrid-grid volume data. Min Shih, Yubo Zhang, Kwan-Liu Ma, Jayanarayanan Sitaraman, Dimitri J. Mavriplis. In Proceedings of LDAV 2014, pp. 93-100.

84. Storytelling via Navigation: A Novel Approach to Animation for Scientific Visualization. Isaac Liao, Wei-Hsien Hsu, Kwan-Liu Ma. Smart Graphics 2014: 1-14

85. An interactive visualization interface for studying egocentric, categorical, contact diary datasets. Chris Bryan, Kwan-Liu Ma, Yang-chih Fu. In Proceedings of ASONAM 2013, pp. 771-778.

86. Visual exploration of academic career paths. Meng Qi Yelena Wu, Robert Faris, Kwan-Liu Ma. In Proceedings of ASONAM 2013, pp. 779-786.

87. *Visibility Guided Multimodal Volume Visualization.* Lin Zheng, Carlos D. Correa, Kwan-Liu Ma. In Proceedings of BIBM 2013: 297-304

88. Egocentric storylines for visual analysis of large dynamic graphs. Chris Muelder, Tarik Crnovrsanin, Arnaud Sallaberry, Kwan-Liu Ma. BigData Conference 2013: 56-62.

89. OnMyWay: A Task-Oriented Visualization and Interface Design for Planning Road Trip Itinerary. Yuzuru Tanahashi, Kwan-Liu Ma. In Proceedings of CW 2013, pp.199-205.

90. A Study on Enhancing Timeline-Like Visualization with Verbal Text. Jia-Kai Chou, Isaac Liao, Kwan-Liu Ma, Chuan-Kai Yang. In Proceedings of CW 2013, pp. 206-213.

91. Multivariate Social Network Visual Analytics. Multivariate Network Visualization. Chris Muelder, Liang Gou, Kwan-Liu Ma, Michelle X. Zhou. Springer Book. 2013, pp. 37-59.

92. Temporal Multivariate Networks. Multivariate Network Visualization, Daniel Archambault, James Abello, Jessie Kennedy, Stephen G. Kobourov, Kwan-Liu Ma, Silvia Miksch, Chris Muelder, Alexandru C. Telea. Springer Book, 2013 pp. 151-174.

93. *In Situ Pathtube Visualization with Explorable Images.* Yucong Ye, Robert Miller, Kwan-Liu Ma. EGPGV 2013: 9-16.

94. Scalable Parallel Feature Extraction and Tracking for Large Time-varying 3D Volume Data. Yang Wang, Hongfeng Yu, Kwan-Liu Ma. EGPGV 2013: 17-24

95. Efficient parallel volume rendering of large-scale adaptive mesh refinement data. Nick Leaf, Venkatram Vishwanath, Joseph A. Insley, Mark Hereld, Michael E. Papka, Kwan-Liu Ma. In Proceedings of LDAV 2013, pp. 35-42.

96. Proper orthogonal decomposition based parallel compression for visualizing big data on the K computer. Chongke Bi, Kenji Ono, Kwan-Liu Ma, Haiyuan Wu, Toshiyuki Imamura. In Proceedings of LDAV 2013, pp. 121-122.

97. *A Visual Network Analysis Methodology for Large Scale Parallel I/O Systems.* C. Sigovan, C. Muelder, K.-L. Ma, J. Cope, K. Iskra, and R. Ross. In Proceedings of IPDPS 2013. (Accepted for publication)

98. *Fast Global Illumination for Interactive Volume Visualization.* Y. Zhang and K-L. Ma. In Proceedings of ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games (I3D '13), pp. 55-62.

99. *Inferring Human Mobility Patterns from Anonymized Mobile Communication Usage.* In Proceedings of MoMM 2012, pp. 151-160.

100. *Visual Cluster Exploration of Web Clickstream Data.* J. Wei, Z. Shen, N. Sundaresan, and K-L. Ma. In Proceedings of the Visual Analytics Science and Technology Conference (VAST 2012), pp. 3-12.

101. *Scalable Training of Sparse Linear SVM.* G.-X. Yuan and K.-L. Ma. In Proceedings of the IEEE International Conference on Data Mining (ICDM), December 2012, pp. 775-784.

102. *Breaking News on Twitter.* M. Hu, S. Liu, F. Wei, Y. Wu, J. Stasko, and K.-L. Ma. In Proceedings of CHI 2012, pp. 2751-2754.

103. *Clustering, Visualizing, and Navigating for Large Dynamic Graphs*. A. Sallaberry, C. Muelder, and K.-L. Ma. In Proceedings of Graph Drawing 2012, pp. 487-498.

104. A Job Scheduling Design for Visualization Services using GPU Clusters. W.-H. Hsu, C.-F. Wang, K.-L. Ma, H. Yu, and J. H. Chen. In Proceedings of IEEE Cluster 2012, 525-533.

105. *Parallel Clustering for Visualizing Large Scientific Line Data.* J. Wei, H. Yu, and K.-L. Ma. In Proceedings of IEEE Symposium on Large Data Analysis and Visualization, October 2011.

106. *EVEVis: A Multi-Scale Visualization System for Dense Evolution Data*. R. Miller, V. Mozhayskiy, I. Tagkopoulos, and K.-L. Ma. In Proceedings of BioVis 2011, pp. 143-150.

107. *TVi*: A Visual Querying System for Network Monitoring and Anomaly Detection. A. Boschetti, C. Muelder, L. Salgarelli, and K.-L. Ma. In Proceedings of VizSEC 2011.

108. *Visual analysis of I/O System Behavior for High*-End Computing. C. Muelder et al. In Proceedings of 3rd Workshop on Large-Scale System and Application Performance, HDPC 2011.

109. *A Preview and Exploratory Technique for Large*-Scale Scientific Simulations. A. Tikhonova, H. Yu, C. Correa, J. Chen, and K.-L. Ma. In Proceedings of Eurographics Parallel Graphics and Visualization Symposium (EGPGV 2011).

110. *Dual Space Analysis of Turbulent Combustion Particle Data.* Jishang Wei, Hongfeng Yu, Ray Grout, Jackie Chen, and Kwan-Liu Ma. In Proceedings of 2011 IEEE Pacific Visualization Symposium. (Accepted for publication)

111. *Static Correlation Visualization for Large Time-Varying Volume Data.* Cheng-Kai Chen, Chaoli Wang, and Kwan-Liu Ma. In Proceedings of 2011 IEEE Pacific Visualization Symposium. (Accepted for publication)

112. *Analyzing Information Transfer in Time-Varying Multivariate Data*. Chaoli Wang, Hongfeng Yu, Ray Grout, Jackie Chen, and Kwan-Liu Ma. . In Proceedings of 2011 IEEE Pacific Visualization Symposium. (Accepted for publication)

113. *An Interface Design for Future Cloud-based Visualization Service.* Yuzuru Tanahashi, Cheng-Kai Chen, Stephane Marchesin, and Kwan-Liu Ma. In Proceedings of the CloudCom 2010.

114. *Visualizing the Commonalities between Hierarchically Structured Data Queries*. Chad Jones, Ryan Armstrong, and Kwan-Liu Ma. In Proceedings of the International Conference on Distributed Multimedia Systems, 2010, pp. 251-256.

115. *Interactive Visual Analysis of Hierarchical Enterprise Data.* Yu-Hsuan Chan, Kwan-Liu Ma, and Kimberley Keeton. (to appear) In Proceedings of 2010 IEEE Conference on Commerce and Enterprise Computing, November 2010.

116. *Flow-based Scatterplots for Sensitivity Analysis*. Yu-Hsuan Chan, Carlos Correa, and Kwan-Liu Ma. In IEEE Visual Analytics Science and Technology Conference, October 2010.

117. *Software Evolution Storylines*. Michael Ogawa and Kwan-Liu Ma. ACM Software Visualization

Symposium, October 2010.

118. *Relation*-Aware Spreadsheet for Multimodal Volume Segmentation and Visualization. Lin Zheng, Yingcai Wu, and Kwan-Liu Ma. MICCAI Workshop on Machine Learning in Medical Imaging, September 2010.

119. *Parallel Mean Shift for Interactive Volume Segmentation*. Fangfang Zhou, Yig Zhao, and Kwan-Liu Ma. MICCAI Workshop on Machine Learning in Medical Imaging, September 2010.

120. *Multi-GPU Volume Rendering using MapReduce*. Jeff Stuart, Cheng-Kai Chen, John Owens, and K.-L. Ma. In Proceedings of MapReduce 2010, pp. 841-848.

121. *Explorable Images for Visualizing Volume Data.* Anna Tikhonova, Carlos Correa, and Kwan-Liu Ma. In Proceedings of IEEE Pacific Visualization Symposium, March 2010, pp. 177-184.

122. *Visualizing Field-Measured Seismic Data*. Tung-Ju Hsieh, Cheng-Kai Chen, and Kwan-Liu Ma. In Proceedings of IEEE Pacific Visualization Symposium, March 2010, pp. 65-72.

123. *A Sketch-Based Interface for Classifying and Visualizing Vector Fields.* Jishang Wei, Chaoli Wang, Hongfeng Yu, and Kwan-Liu Ma. In Proceedings of IEEE Pacific Visualization Symposium, March 2010, pp. 129-136.

124. *Cross-Node Occlusion in Sort-Last Volume Rendering.* Stephane Marchesin and Kwan-Liu Ma. In Proceedings of Eurographics Parallel Graphics and Visualization Symposium (EGPGV), May 2010.

125. *Social Network Discovery based on Sensitivity Analysis.* Tarik Crnovsanin, Carlos Correa, and Kwan-Liu Ma. In Proceedings of International Conference on on Advances in Social Networks Analysis and Mining (ASONAM 2009)July, 2009.

126. *Depicting Time Evolving Flow with Illustrative Visualization Techniques.* Wei-Hsien Hsu, Jianqiang Mei, Carlos Correa, and Kwan-Liu Ma. In Proceedings of International Conference on Arts & Technology (ArtsIT 2009 Best Paper Award), September, 2009.

127. *A Framework for Uncertainty Aware Visual Analytics.* Carlos D. Correa, Yu-Hsuan Chan, and Kwan-Liu Ma. In Proceedings of IEEE Symposium on Visual Analytics Science and Technology (VAST 2009).

128. *Proximity-based Visualization of Movement Trace Data.* Tarik Crnovrsanin, Chris Muelder, Carlos Correa, and Kwan-Liu Ma. In Proceedings of IEEE Symposium on Visual Analytics Science and Technology (VAST 2009).

129. *Visibility Driven Transfer Functions*. Carlos Correa and Kwan-Liu Ma. In Proceedings of IEEE Pacific Visualization 2009 Symposium.

130. *Correlation Study of Time-Varying Multivariate Climate Data Sets.* Jeffrey Sukharev, Chaoli Wang, and Kwan-Liu Ma. . In Proceedings of IEEE Pacific Visualization 2009 Symposium.

131. *A Hybrid Space-Filling and Force-Directed Layout Method for Visualizing Multiple Category Graphs.* Takayuki Itoh, Chris Muelder, Kwan-Liu Ma, and Jun Sese. . In Proceedings of IEEE Pacific Visualization 2009 Symposium.

132. Interactive Feature Extraction and Tracking by Utilizing Region Coherency. Chris Muelder and Kwan-Liu Ma. In Proceedings of IEEE Pacific Visualization 2009 Symposium.

133. *Parallel Volume Rendering using 2-3 Swap Image Compositing for an Arbitrary Number of Processors.* Hongfeng Yu, Chaoli Wang, and Kwan-Liu Ma. In Proceedings of IEEEACM Supercomputing 2008 Conference (SC08).

134. *BGPeep: an IP-Space Centered View for Internet Routing Data.* James Shearer, Kwan-Liu Ma, and Toby Kohlenberg,. In Proceedings of VizSEC 2008.

135. *Social-Aware Collaborative Visualization for Large Scientific Projects.* Kwan-Liu Ma and Chaoli Wang. In Proceedings of International Symposium on Collaborative Technologies and Systems. May 2008, pp. 190-195.

136. *A Scalable Parallel Force-Directed Graph Layout Algorithm.* Anna Tikhonova and Kwan-Liu Ma. In Proceedings of Eurographics/ACM SIGGRAPH Symposium on Parallel Graphics and Visualization, April 2008, pp. 25-32.

137. *MobiVis: A Visualization System for Exploring Mobile Data.* Zeqian Shen and Kwan-Liu Ma. In Proceedings of 2008 IEEE Pacific Visualization Symposium, March 2008, pp. 175-182.

138. *StarGate: A Unified, Interactive Visualization of Software Projects.* Michael Ogawa and Kwan-Liu Ma. In Proceedings of 2008 IEEE Pacific Visualization Symposium, March 2008, pp. 191-198.

139. *Pixelplexing: Gaining Display Resolution Through Time.* James Shearer, Michael Ogawa, Kwan-Liu Ma, and Toby Khlenberg. In Proceedings of 2008 IEEE Pacific Visualization Symposium, March 2008, pp. 159-266.

140. *Multiple Uncertainties in Time-Varient cosmological Particle Data.* Steve Haroz, Kwan-Liu Ma, and Katrin Heitmann. In Proceedings of 2008 IEEE Pacific Visualization Symposium, March 2008, pp. 207-214.

141. *Parallel Hierarchical Visualization of Large 3D Time-Varying Vector Fields.* Hongfeng Yu, Chaoli Wang, and Kwan-Liu Ma. Proceedings of the Supercomputing 2007 Conference (SC '07), November, 2007

142. *VICA: A Voronoi Interface for Visualizing Collaborative Annotations.* Yue Wang, James Shearer, and Kwan-Liu Ma. In Proceedings of the 4th International Conference on Cooperative Design, Visualization, and Engineering, Springer-Verlag, September, 2007

143. *Automatic Feature Modeling Techniques for Volume Segmentation Applications.* Runzhen Huang, Hongfeng Yu, Kwan-Liu Ma, and Oliver Staadt, Proceedings of Volume Graphics 2007.

144. *Path Visualization for Adjacency Matrices*. Zeqian Shen and Kwan-Liu Ma. In Proceedings of Eurographics/IEEE VGTC Syposium on Visualization, May, 2007, pp. 83-90

145. *A Tri-Space Visualization Interface for Analyzing Time-Varying Multivariate Volume Data*. Hiroshi Akiba and Kwan-Liu Ma. In Proceedings of Eurographics/IEEE VGTC Symposium on Visualization, May, 2007, pp. 115-122.

146. *Visualizing Social Interaction in Open Source Software Projects*. M. Ogawa, K.-L. Ma, C. Bird, P. Devanbu, and A. Gourley. In Proceedings of Asia-Pacific Symposium on Visualization, 2007, pp. 25-32.

147. *Multi-Scale Morphological Volume Segmentation and Visualization*. R. Huang, E. Lum, and K.-L. Ma. In Proceedings of Asia-Pacific Symposium on Visualization, 2007, pp. 121-128.

148. *Visualization of Sanitized Email Logs for Spam Analysis*. Chris Muelder and Kwan-Liu Ma. In Proceedings of Asia-Pacific Symposium on Visualization, 2007, pp. 9-16.

149. *Layout of Multiple Views for Volume Visualization: A User Study.* Daniel Lewis. Steve Haroz, and Kwan-Liu Ma. In Proceedings of International Symposium on Visual Computing, November 2006, pp. 215-226.

150. *From Physical Modeling to Scientific Understanding – An End-to-End Approach to Parallel Supercomputing.* Tiankai Tu, Hongfeng Yu, Leonardo Ramirez-Guzman, Jacobo Bielak, Omar Chattas, Kwan-Liu Ma, and David R. O'Hallaron. Proceedings of Supercomputing 2006 Conference, 15 pages.

151. *Ultra Scale Visualization*. Kwan-Liu Ma. In Proceedings of TFI 2006 (Third International Symposium on Transdisciplinary Fluid Integration), pp. 7-14.

152. *A Scalable, Hybrid Scheme for Volume Rendering Massive Data Sets*. Hank Childs, Mark Duchaineau, and Kwan-Liu Ma. In Proceedings of Eurographics Symposium on Parallel Graphics and Visualization, May 11-12, 2006, pp. 153-162.

153. *Multi-Layered Image Caching for Distributed Rendering of Large Multiresolution Data*. Jonathan Strasser, Kwan-Liu Ma, and Valerio Pascucci), Proceedings of Eurographics Symposium on Parallel Graphics and Visualization, May 11-12, 2006, pp. 171-177.

154. *Natural Visualization*. Steve Haroz and Kwan-Liu Ma, Proceedings of Eurographics Visualization Symposium, May 8-10, 2006, pp. 43-50.

155. *Simultaneous Classification of Time-Varying Volume Data Based on the Time Histogram*, Hiroshi Akiba, Nathan Fout, and Kwan-Liu Ma, Proceedings of Eurographics Visualization Symposium, May 8-10, 2006, pp. 171-178.

156. *BiblioViz: A System for Visualizing Bibliography Information*, Zeqian Shen, Michael Ogawa, Soon Tee Teoh, Kwan-Liu Ma, In Proceedings of the 2006 Asia-Pacific Symposium on Information Visualization, pp. 93-102

157. *Cyber Securty through Visualization*, Extended abstract for Keynote Speech, in Proceedings of the 2006 Asia-Pacific symposium on Information Visualization, pp. 3-7.

158. *An Intelligent System Approach to Visualizing Large-Scale 4D Flow Simulations*, Fan-Yin Tzeng and Kwan-Liu Ma, in Proceedings of the Supercomputing 2005 Conference, 11 pages.

159. *Opening the Black Box - The Data Driven Visualizatio of Neural Networks*. Fan-Yin Tzeng and Kwan-Liu Ma, in Proceedings of the Visualization 2005 Conference, pp. 49-56.

160. *Expressive Line Selection by Example*, Eric B. Lum and Kwan-Liu Ma, in Proceedings of the Pacific Graphics 2005 Conference, pp. 811-820.

161. *Interactive Visualization for Network and Port Scan Detection*, Chris Muelder, Kwan-Liu Ma, Tony Bartoletti, in Proceedings of RAID 2005, 11 pages.

162. *End-to-end Data Reduction and Hardware Accelerated Rendering Techniques for Visualizing Time-Varying Non-uniform Grid Volume Data*. Hirosh Akiba, Kwan-Liu Ma, and John Clyne. In Proceedings of the Volume Graphics 2005 Conference, June 2005, pp. 31-39.

163. *High quality Rendering of compressed Volume Data Formats*. Nathan Fout, Hiroshi Akiba, Aaron lefohn, Joe Kniss, and Kwan-Liu Ma. In Proceedings of the EuroVis 2005, June 2005, pp. 77-84.

164. *Time-Varying Multivariate Volume Data Reduction*. Nathan Fout, Kwan-Liu Ma, and James Ahrens. in Proceedings of ACM SAC 2005, March 2005, pp. 1224-1230.

165. *Discovering Parametric Clusters in Social Small-World Graphs*, Jonathan McPherson, Kwan-Liu Ma, and Michael Ogawa, in Proceedings of ACM SAC 2005, March 2005, pp. 1231-1238.

166. *Performing BGP Experiments on a Semi-Realistic Internet Testbed Environment*, Ke Zhang, Soon Tee Teoh, Shih-Ming Tseng, Rattapon Limprasittipom, K.-L. Ma, S. Felix Wu, and Chen-Nee Chuah, in Proceedings of the 3nd International Workshop on Security in Distributed Computing Systems, June 2005.

167. *A Parallel Visualization Pipeline for Terascale Earthquake Simulations*. Hongfeng Yu, Kwan-Liu Ma, and Joel Welling. In Proceedings of the Supercomputing 2004 Conference, November 2004.

168. *PortVis: A Tool for Port-Based Detection of Security Events*, Jonathan McPherson, Kwan-Liu Ma, Paul Krystosek, Tony Bartoletti, Marvin Christensen, in Proceedings of CCS Workshop on Visualization and Data Mining for Computer Security, ACM Conference on Computer and Communications Security, October 29, 2004.

169. *Combining Visual and Automated Data Mining for Near-Real-Time Anomaly Detection and Analysis in BGP*, Soon Tee Teoh, Ke Zhang, Shih Ming Tseng, K.-L. Ma, and Felix Wu, in Proceedings of CCS Workshop on Visualization and Data Mining for Computer Security, ACM Conference on Computer and Communications Security, October 29, 2004.

170. *Lighting Transfer Functions for Direct Volume Rendering*, Eric Lum and Kwan-Liu Ma, in Proceedings of the IEEE Visualization 2004 Conference, October 2004.

171. *Anisotropic Volume Rendering for Extremely Dense, Thin Line Data*, Greg Schussman and Kwan-Liu Ma, in Proceedings of the IEEE Visualization 2004 Conference, October 2004.

172. *Visualizing Gyrokinetic Simulations*, David Crawford, Min-Yu Huang, Kwan-Liu Ma, Scott Klasky, and Stephane Ethier, in Proceedings of the IEEE Visualization 2004 Conference, October 2004.

173. *Representing Complexity in Computer-Generated Pen-and-Ink Illustrations*, Brett Wilson and Kwan-Liu Ma, in Proceedings of the International Symposium on NonPhotorealistic Animation and Rendering (NPAR) 2004, June 7-9, 2004.

174. *I/O Strategies for Parallel Rendering of Large Time-Varying Volume Data*, Hongfeng Yu, K.-L. Ma, and Joel Welling, in Eurographics/ACM SIGGRAPH Symposiumm Proceedings of Parallel Graphics and Visualization 2004, June 10-11 2004, pp. 31-40.

175. *High-Quality Lighting and Efficient Pre-Integration for Volume Rendering*, Eric Lum, Brett Wilson, Kwan-Liu Ma, in Proceedings of the Joint Eurographics-IEEE TVCG Symposium on Visualization 2004, May 2004.

176. *A Cluster-Space Visual Interface for Arbitrary Dimensional Classification of Volume Data*, Fan-Yin Tzeng and Kwan-Liu Ma, in Proceedings of the Joint Eurographics-IEEE TVCG Symposium on Visualization 2004, May 2004.

177. *Visualizing Large-Scale Earthquake Simulations*, A. Stompel, K.-L. Ma, J. Bielak, O. Ghattas, and E. Kim, in Proceedings of the Supercomputing 2003 Conference, November 15-21.

178. *RGVis: Region Growing Based Visualization Techniques for Volume Visualization*, R. Huang and Kwan-Liu Ma, in Proceedings of the Pacific Graphics 2003 Conference.

179. *Visual-based Anomaly Detection for BGP Orign AS Change Events*, S. Teoh, K.-L. Ma, and F. Wu, in Proceedings of the 14th IFIP/IEEE Workshop on Distributed Systems: Operations and Management, October 20-22, 2003.

180. *MoireGraphs: Radial Focus+Context Visualization and Interaction for Graphs with Visual Nodes*, T. J. Jankun-Kelly and Kwan-Liu Ma, in Proceedings of the InfoVis 2003, October 20-21.

181. *A Novel Interface for Higher-Dimensional Classification of Volume Data*, F.-Y. Tzeng, E. Lum, K.-L. Ma, in Proceedings of the IEEE Visualization 2003 Conference, October 20-24.

182. *Visualizing Industrial CT Volume Data for Nondestructive Testing Applications*, R. Huang, K.-L. Ma, P. McCormick, and W. Ward, in Proceedings of the IEEE Visualization 2003 Conference, October 20-24.

183. *Visualization Techniques for Internet Routing Data*, S. T. Teoh, K.-L. Ma, and F. Wu, to appear in Proceedings of the IEEE Visualization 2003 Conference, October 20-24.

184. *SLIC: Scheduled Linear Image Compositing for Parallel Vollume Rendering*, A. Stompel, E. Lum, K.-L. Ma, J. Ahrens, and J. Patchett), in Proceedings of Parallel Visualization and Graphics 2003, October 20-21.

185. *A PC Cluster System for Simultaneous Interactive Volumetric Modeling and Visualization*, S. Muraki, E. Lum, K.-L. Ma, M. Ogata, and X. Liu, in Proceedings of Parallel Visualization and Graphics 2003, October 20-21.

186. *PaintingClass: Interactive Construction, Visualization and Exploration of Decision Trees*, Soon Tee Teoh and K.-L. Ma, in Proceedings of ACM KDD 2003 Conference, August 24-27.

187. *An Interactive Volume Visualization System for Transient Flow Analysis*, G. Rosa, E. Lum, K.-L. Ma, and K. Ono, in Proceedings of Volume Graphics 2003.

188. *The Design and Evaluation of a Pipelined Image Compositing Device for Massively Parallel Volume Rendering*, Masato Ogata, S. Muraki, X. Liu, K.-L. Ma, in Proceedings of Volume Graphics 2003.

189. *An Interactive Isosurface Visualization Cluster*, C. Tse, S. T. Teoh, K.-L. Ma, in Proceedings of HPC 2003.

190. *StarClass: Interactive Visual Classification Using Star Coordinates*, S. T. Teoh and K.-L. Ma, in Proceedings of the 3rd SIAM International Conference on Data Mining, 2003.

191. *Advanced Visualization Technology for Terascale Particle Accelerator Simulations*, G. Schussman, B. Wilson, K.-L. Ma, K. Ko, J. Qiang, and R. Ryne, in Proceedings of Supercomputing 2002 Conference, November 16-22, Baltimore, MD.

192. *A Hardware-Assisted Hybrid Rendering Technique for Interactive Volume Visualization*, B. Wilson, Kwan-Liu Ma, and P. McCormick, in Proceedings of IEEE/ACM 2002 Volume Visualization and Graphics Symposium, Boston, MA, October 28-29.

193. *A Model for the Visualization Exploration Process*, T.J. Jankun-Kelly, Kwan-Liu Ma and M. Gertz, in Proceedings of IEEE Visualization 2002 Conference Boston, MA, October 27 - November 1.

194. *Kinetic Visualization: A Technique for Illustrating 3D Shape and Structure*, E. Lum, A. Stompel, K.-L. Ma, in Proceedings of IEEE Visualization 2002 Conference

195. *Case Study: Interactive Visualization for Internet Security*, S. T. Teoh, K.-L. Ma, F. Wu, and X. Zhao, in Proceedings of IEEE Visualization 2002 Conference.

196. *ISpace: Interactive Volume Data Classification Techniques Using Independent Component Analysis*, I. Takanashi, E. Lum, K.-L. Ma, S. Muraki, in Proceedings of Pacific Graphics 2002, October 9-11

197. *Feature-Enhanced Visualization of Multidimensional, Multivariate Volume Data Using Non-photorealistic Rendering Techniques*, A. Stompel, E. Lum, K.-L. Ma, in Proceedings of Pacific Graphics 2002 Conference

198. *Scalable Self-Orienting Surfaces: A Compact, Texture-Enhanced Representation for Interactive Visualization Of 3D Vector Fields*, G. Schussman and K.-L. Ma, in Proceedings of Pacific Graphics 2002 Conference

199. *RINGS: A Technique for Visualizing Large Hierarchies*, S. Teoh and K.-L. Ma, in Proceedings of Graph Drawing 2002 Conference, August 26-28.

200. *A Visual Technique for Internet Anomaly Detection*, S.T. Teoh, K.-L. Ma, S.F. Wu, and X. Zhao, in Proceedings of Computer Graphics and Imaging 2002, IASTED International Hawaiian Conference Series, Kauai, Hawaii, August 12-14, 2002.

201. *Hardware-Accelerated Parallel Non-Photorealistic Volume Rendering*, E. Lum and K.-L. Ma, in Proceedings of International Symposium on Nonphotorealistic Rendering and Animation, France, June 3-5, 2002, pp. 67-74.

202. *Interactive Visualization of Particle Beams for Accelerator Design*, B. Wilson, K.-L. Ma, J. Qiang, and R. Ryne, in Proceedings of ICCS 2002 Workshop on High Performance Computing in Particle Accelerator Science and Technology, April 21-24, 2002

203. *Virtual Clay Modeling using Adaptive Distance Fields*, P.-T. Bremer, S. Porumbescu, F. Kuester, B. Hamann, K. Joy, K.-L. Ma, in Proceedings of the 2002 International Conference on Imaging Science, Systems, and Technology (CISST 2002).

204. *VG Cluster: A Low-Cost Solution for Large-Scale Volume Visualization*, S. Muraki, M. Ogata, E. Lum, X. Liu, K.-L. Ma, in Proceedings of NICOGRAPH International Conference, Tokyo, Japan, May 2002.

205. *Interactive Multi-Volume Visualization*, B. Wilson, E. Lum, K.-L. Ma, in Proceedings of ICCS 2002 Workshop on Computer Graphics and Geometric Modeling, April 21-24, 2002

206. *Segmentation and 3D Visualization of High-Resolution Human Brain Cryosections* (with I. Takanashi, E. Lum, J. Meyer, B. Hamann, and A. Olson), in Proceedings of Visualization and Data Analysis 2002 Conference, January 21-23, 2002

207. *High-Quality Volume Rendering of Adaptive Refinement Data*, (with G. Weber, O. Kreylos, T. Ligocki, J. Shalf, H. Hagen, B. Hamann, and K. Joy), in Proceedings of the 6th International Workshop on Vision, Modeling, and Visualization, Stuttgart, Germany, November 21-23, 2001

208. *Next Generation Supercomputing using PC Clusters with Volume Graphics Hardware Devices*, (with S. Muraki, M. Ogata, K. Kohizuka, K. Kajihara, X. Liu, Y. Nagano, and K. Shimokawa), in Proceedings of Supercomputing 2001 Conference, November 2001.

209. *Multiresolution View-Dependent Splat Based Volume Rendering of Large Irregular Data*, (with J. Meredith) in Proceedings of 2001 Parallel and Large Data Visualization Symposium, October 2001.

210. *Texture Hardware Assisted Rendering of Time-Varying Volume Data*, (with E. Lum and J. Clyne) in Proceedings of IEEE Visualization 2001 Conference, October 2001.

211. *Nonphotorealistic Rendering using Watercolor Inspired Textures and Illumination*, (with E. Lum) in Proceedings of Pacific Graphics 2001, October 2001.

212. *Visualization Techniques for Time-Varying Volume Data*, (with E. Lum) in Proceedings of CAD/Graphics 2001, August 22-24, 2001.

213. *Transfer Functions Generation for Time-Varying Volume Data*. TJ Jankun-Kelly and Kwan-Liu Ma.

In Proceedings of Volume Graphics 2001, June 21-22, 2001.

214. *VG Cluster: A Scalable Visual Computing System (in Japanese)*, (with S. Muraki, M. Ogata, K. Koshizuka, K. Kajihara, X. Liu, Y. Nagona, and K. Shimokawa), in Proceedings of Visual Computing, June 2001.

215. *Visualization of Adaptive Mesh Refinement Data*, (with G. Weber, H. Hagen, B. Hamann, K. Joy, T. Ligocki, and J. Shalf), in Proceedings of Visual Data Exploration and Analysis VIII, San Jose, CA, January 2001.

216. *Layer Data Organization for Visualizing Unstructured-Grid Data*. G. Abla, E. Lum, and Kwan-Liu Ma. In Proceedings of Visual Data Exploration and Analysis VIII, 2001.

217. *A Multi-resolution Interactive Previewer for Volumetric Data on Arbitrary Meshes*. O. Kreylos, Kwan-Liu Ma, and B. Hamann. In Proceedings of the Workshop on Computer Graphics and Virtual Reality, Chiayi, Taiwan, December 6-8, 2000.

218. *Compression and Accelerated Rendering of Time-Varying Volume Data*. Kwan-Liu Ma and Han-Wei Shen. In Proceedings of the Workshop on Computer Graphics and Virtual Reality, Chiayi, Taiwan, December 6-8, 2000.

219. *A Spreadsheet Interface for Visualization Exploration*. T.J. Jankun-Kelly and Kwan-Liu Ma. In Proceedings IEEE Visualization 2000 Conference, October 8-13, 2000.

220. *High Performance Visualization of Time-Varying Volume Data over a Wide-Area Network*. Kwan-Liu Ma and D. Camp. In Proceedings Supercomputing 2000 Conference, Dallas, TX, November 4-10, 2000.

221. *Visualizing DIII-D Tokamak Magnetic Field Lines*. G. Schussman, Kwan-Liu Ma, D. Schissel, and T. Evans. In Proceedings IEEE Visualization 2000 Conference, October 8-13, 2000.

222. *Multi-Threaded Rendering Unstructured-Grid Volume Data on SGI Origin 2000* (with C. Hofsetz), in Proceedings Eurographics Workshop on Paralell Graphics & Visualization, Girona, Spain, September 28-29, 2000.

223. *Designer Workbench: Toward Real-time Immersive Clay Modeling*. F. Kuester, Bernd Hamann, Ken Joy, and Kwan-Liu Ma. In Proceedings SPIE Vol. 3957, Stereoscopic Displays and Virtual Reality System VII, IS&T/SPIE's Electronic Imaging 2000: Science and Technology, January 2000.

224. *A Fast Volume Rendering Algorithm for Time-varying Fields Using a Time-Space Partition Tree*. Han-Wei Shen, L. Chiang, and Kwan-Liu Ma. In Proceedings IEEE Visualization 1999 Conference, San Francisco, California, October 24-29, 1999.

225. *Parallel Visualization of Large-Scale Aerodynamic Calculations: A Case Study on T3E*. Kwan-Liu Ma and T. Crockett. In Proceedings IEEE 1999 Symposium on Parallel Visualization and Graphics, Annapolis, Maryland, October 25-26, 1999.

226. *Image Graphs - A Novel Interface for Visual Data Exploration*. Kwan-Liu Ma. In Proceedings IEEE Visualization 1999 Conference, San Francisco, California, October 24-29, 1999.

227. *Parallel Rendering of 3D AMR Data on the Cray T3E*. Kwan-Liu Ma. In Proceedings the 7th Symposium on the Frontiers of Massively Parallel Computation, Annapolis, Maryland, February 21-25, 1999.

228. *A Java-Based Testbed for Volume Visualization*. Kwan-Liu Ma. In Proceedings ICS '98 Workshop on Computer Graphics and Virtual Reality, 1998 International Computer Symposium, Tainan, Taiwan, December 17-19, 1998.

229. *Fast Retrieval of Disk-Resident Unstructured Volume Data for Visualization*. Scott Leutenegger and Kwan-Liu Ma. In Proceedings DIMACS Workshop on External Memory Algorithms and Visualization, Piscataway, NJ, May-20-22, 1998.

230. *A Graph Based Interface for Representing Volume Visualization Results*, (with James Patten), in Proceedings Graphics Interface '98, Vancouver, B.C. Canada, June 18-20 1998, pp. 117-124.

231. *A Parallel Pipelined Renderer for Time-Varying Volume Data*. Kwan-Liu Ma and Tzi-Cker Chiueh. In Proceedings 1997 International Symposium on Parallel Architectures, Algorithm, and Networks.

232. *A Scalable Parallel Cell-Projection Volume Rendering Algorithm for Three-Dimensional Unstructured Data*. Kwan-Liu Ma and Thomas W. Crockett. In Proceedings Parallel Rendering '97, October 1997.

233. *Extracting Feature Lines from 3D Unstructured Grids*. Kwan-Liu Ma and Victoria Interrante. In Proceedings IEEE Visualization '97 Conference, October 1997.

234. *3D Shock Wave Visualization on Unstructured Grids*. Kwan-Liu Ma, J. van Rosendale and W. Vermeer. In Proceedings Volume Visualization '96 Symposium, October 1996.

235. *Global and Local Vector Field Visualization Using Enhanced Line Integral Convolution*. Han-Wei Shen, C. Johnson, and Kwan-Liu Ma. In Proceedings Volume Visualization '96 Symposium, Oct, 1996

236. *Fast Algorithms for Visualizing Fluid Motion in Steady Flow*. S. Ueng, K. Sikorski, and Kwan-Liu Ma. In Proceedings IEEE Visualization '95 Conference, Nov 1995

237. *Parallel Volume Ray-tracing on Unstructured Grids*. Kwan-Liu Ma. In Proceedings Parallel Rendering '95 Symposium, Oct 1995

238. *Cloud Dispersion Properties in Visualization of Gas and Particle Mixing*. Kwan-Liu Ma and Philip J. Smith. In Proceedings the 7th Inter. Symposium on Flow Visualization, September 1995.

239. *Volume Visualization of Airplane Wake Vortices*, Kwan-Liu Ma and Z. C. Zheng. In Proceedings the 7th Inter. Symposium on Flow Visualization, Sep 1995

240. *Runtime Volume Visualization of Parallel CFD*. Kwan-Liu Ma. In Proceedings Parallel CFD '95 Conference.

241. *3D Visualization of Unsteady 2D Airplane Wake Vortices*. Kwan-Liu Ma and Z. Zheng. In

Proceedings IEEE Visualization '94 Conference, Oct 1994

242. *Interactive Visualization of Multiple Phases Mixing in CFD*. Kwan-Liu Ma and Philip J. Smith. AIAA Paper 94-0325, AIAA 32nd Aerospace Sciences Meeting, Reno, Jan, 1994

243. *Cloud Tracing in Convection-Diffusion Systems*. Kwan-Liu Ma and Philip J. Smith. In Proceedings IEEE Visualization '93 Conference, Oct 1993

244. *A Data Distributed Parallel Algorithm for Ray-Traced Volume Rendering*. Kwan-Liu Ma, James S. Painter, Charles D. Hansen and Michael F. Krogh. In Proceedings Parallel Rendering 1993 Symposium.

245. *Virtual Smoke: An Interactive 3D Flow Visualization Technique*. Kwan-Liu Ma and Philip J. Smith. In Proceedings IEEE Visualization '92 Conference, Oct 1992

246. *Volume Seedlings*. Michael Cohen, James Painter, Mihil Mehta, and Kwan-Liu Ma. In Proceedings 1992 ACM Symposium on Interactive 3D Graphics

247. *Comparison of Maximum Intensity Projection and Volume Rendering Algorithms for Evaluation of Renal Artery Anatomy in Patients with Abdominal Aortic Aneurysm*. A. Sanderson, Kwan-Liu Ma, J. Painter, M. Cohen, M. Mehta and F. Miller. The 78th Scientific Assembly of the Radiological Society of North America, 1992

248. *A Distributed Solution and Visualization for 3D Flow Simulation*, Kwan-Liu Ma and K. Sikorski. In Proceedings of the 5th SIAM Conference on Parallel Processing for Scientific Computing, 1992

249. *Direct Numerical Simulation and Visualization of a 3D Planar Mixing Layer*, Kwan-Liu Ma and Randy Clarkean. In Proceedings 1991 AIAA Fluid Dynamics Conference

250. *A Distributed Algorithm for the 3D Compressible Navier-Stokes Equations*. Kwan-Liu Ma and K. Sikorski. Transputer Research and Application 4, IOS Press, 1990

INVITED TALKS, KEYNOTE and PLENARY SPEECHES (since 1999)

Including 38 Keynote Speeches, 4 Plenary Talks, and 1 Capstone Speeches

1. Invited talk, "Visualization: Data-Driven Art for Discovery, Decision Making, and Storytelling", Hong Kong Polytechnic University, Hong Kong, July 24, 2023

2. Invited talk, "Visual Analytics for Explainability to understand High Dimensional Data", Shonan Seminar, Japan, February 6, 2023

3. Lightning talk, "Smart HER Data Analytics to Enhance Cancer Care Multiteam Systems", NSF-NIH Smart Health Workshop 2022, October 7

4. Scientific presentation, "Intelligent Visual Analytics for Critical Care Monitoring", NCIBT Inaugural Symposium, UC Davis, September 30

5. Invited talk, National Center for High Performance Computing (NCHC), Hsinchu, Taiwan, September 2

6. Invited talk, National Cheng Kung University, Tainan, Taiwan, August 26, 2022

7. Invited talk, the 1st Visualization Workshop, Academia Sinica, Nangang, Taiwan, August 19

8. **Keynote speech**, "Machine Learning and Data Visualization", Computer Graphics Workshop (CGW), Taipei, Taiwan, July 19

9. Guest lecture, CS6635, School of Computing, University of Utah, March 16, 2022 (virtual)

10. Invited Talk, the Story of Storyline Visualization, Awards and MIP Talk session, VISSOFT 2021, September 28, 2021

11. Invited Talk (virtual), Intelligent Visual Analysis of High Dimensional Data, ChinaVis 2021, July 25, 2021

12. Invited Talk (virtual), A Machine Learning Approach to Data Visualization and Analysis, ISI World Statistics Congress (WSC) 2021, July 11-16

13. **Keynote Speech** (virtual), Intelligent Visualization Interfaces, the 27th Aannual Conference on Intelligent User Interfaces (ACM IUI 2021), April 13-17, 2021

14. Guest lecture, CS6635, School of Computing, University of Utah, March 10, 2021

15. Invited Talk, Big Data Visualization and Analysis: A Machine Learning Apprach, E.Sun Financial, Taipei, Taiwan, November 2, 2020.

16. Invited Seminar, Big Data Visualization and Analytics: A Machine Learning Approach, Graduate Institute of Statistics, National Central University, Zhongli, Taiwan, October 27, 2020.

17. Information Interfaces. **Keynote** Speech, TaiCHI 2020, October 23, 2020

18. Invited Seminar, Data Driven Discovery and Storytelling using Visualization, National Chiao Tung University, Hsinchu, Taiwan, September 21, 2020.

19. Invited Seminar, Big Data Visualization and Analytics, Department of Statistics, National Cheng Kung University, Tainan, Taiwan, September 17, 2020.

20. Invited Lecture, Data Visualization and Analytics: A Machine Learning Approach, Department of Computer Science and Information Engineering, National Cheng Kung University, Tainan, Taiwan, September 16, 2020.

21. Invited Lecture, Visual Analytics: A Statistical and Machine Learning Approach, Statistical Science Camp, Academia Sinica, Taiwan, September 4, 2020.

22. Invited Lecture, Data Driven Discovery and Storytelling using Visualization, Statistical Science Camp, Academia Sinica, Taiwan, September 4, 2020.

23. Invited Talk. Data Driven Discovery and Storytelling using Visualization, Pathology and Laboratory Medicine, UC Davis, February 26, 2020.

24. Invited Talk, Data Driven Discovery and Storytelling using Visualization, College of Life Sciences, National Chung Hsing University, Taichung, Taiwan December 27, 2019.

25. Invited Talk, Machine Learning for Visualization, National Chiao Tung University, Taiwan, December 18, 2019

26. **Keynote** Speech, Big Data Visualization, International Forum on Innovation and Emerging Industries Development, Shanghai, China , September 18, 2019,

27. Invited Seminar, Data Driven Discovery and Storytelling using Visualization, Institute of Information Science, Academia Sinica, Nangang, Taiwan, September 5, 2019

28. Invtied Lecture, Visualize Your Data, Science Camp, Academia Sinica, Nangang, Taiwan, September 3-4, 2019

29. **Keynote** Speech, Data-intensive Discovery and Storytelling using Visualization, Data Science, Statistics & Visualization Conference (DSSV), August 13-15, 2019, Kyoto, Japan.

30. Invtied Lecture, Data Visualization, Statistical Summer School 2019, Academia Sinica, Nangang, Taiwan, July 19, 2019

31. Visualization: An Essential Tool for Data-driven Discovery and Storytelling, **Keynote** Speech, National Conference on Statistics Master Student Theses, Hsinchu, Taiwan, June 2, 2019.

32. Data Driven Discovery and Storytelling using Visualization, **Keynote** Speech, The 1st International Forum on Artificial Intelligence and Data Design, Tongji University, Shanghai, China, May 25, 2019

33. Data Driven Discovery and Storytelling using Visualization, Invited Lecture, NTU-AS Data Science Program, National Taiwan University, May 15, 2019, Taipei, Taiwan.

34. Smart Visualization and Group Support Systems, **Keynote** Speech, 1st Thailand-China Visualization Workshop, April 22, 2019, Bangkok, Thailand.

35. Emerging Visualization Research Directions, **Keynote** Speech, International Symposium on Visualization, Science Council of Japan, Nogizawa, Tokyo, Japan, December 15, 2018

36. VIDI Research, Invited Seminar, Watanave's Laboratory, Tokyo University, Tokyo, Japan, December 14, 2018

37. Visualization: A Powerful Tool for Data Exploration and Storytelling, Invited Seminar, National Sun Yat-sen University, Nangang, Taipei, Taiwan, December 5, 2018

38. Visualizing Large, Complex Data, Invited Talk, National Center for High-Perforamnce Computing (NCHC), Hsinchu, Taiwan, December 3, 2018

39. Big Data Visualization, Invited Seminar, Monash University, Melbourne, Australia, November 15, 2018

40. Big Data Visualization, Invited Seminar, University of Sydney, Sydney, Australia, November 14, 2018

41. Big Data Visualization, Invited Seminar, University of Technology Sydney (UTS), Sydney, Australia, November 13, 2018

42. Visualization Research: Reviews and Perspectives, **Keynote** Speech, Sino-German Workshop on Visualization, Berlin, Germany, October 21, 2018
43. Audience-Targeted Exploratory and Explanatory Visualization Designs, **Capstone** Speech, InfoVis Camp, Hachioji, Japan, September 7, 2018
44. Visualization: A Tool for Data Exploration and Storytelling, **Keynote** Speech, International Conference on Biological Ontology (ICBO 2018), Corvallis, Oregon, August 7, 2018
45. Big Data Visualization Workshop, Invited talk, ICBO 2018, Corvallis, Oregon, August 7, 2018
46. Interactive Visualization and Visual Analytics, Invited lecture, Summer School on Visualization, Zhejiang University, Hangzhou, China, July 28-August 8, 2018
47. Emerging Topics in Data Visualization, Invited seminar, Tianjin University, Tianjin, China, July 22, 2018
48. Audience-Targeted Exploratory and Explanatory Visualization Designs, Invited lecture, Summer School on Visual Computing, Shandong University, Qingdao, China, July 18-20, 2018
49. Data Visualization for Discovery and Storytelling, Invited talk, UC Davis Chancellor with Alumni in Taiwan, Taipei, Taiwan, June 27, 2018
50. Effective Visualization Designs, Invited lecture, National Chiao Tung University, April 18, 2018, HsinChu, Taiwan
51. Visualization: An Essential Tool for Scientific Discovery and Storytelling, Invited talk, Riken Center on Biosystems Dynamics Research, April 12, 2018, Kobe, Japan
52. Audience-Targeted Exploratory and Explanatory Visualization Designs, **Keynote**, Visual and Data Analysis Conference (VDA 2018), January 28-February 1, San Francisco, CA
53. Exploratory and Explanatory Visualization, Invited Talk, Visualization Workshop, Hyatt Regency, Kyoto, Japan, January 19, 2018
54. Big Data Visualization, Invited talk, CREST International Symposium on Big Data Application, Akihabara Convention Hall, Tokyo, Japan, January 16-17, 2018
55. Big Data Visualization, **Keynote**, Taiwan Data Science Conference, November 11, 2017, Taipei, Taiwan
56. Visualization for Scientific Discovery and Storytelling, Invited talk, Oak Ridge National Laboratory, August 24, 2017, Tennessee
57. Audience Targeted Exploratory and Explanatory Visualization, **Keynote,** SCCG 2017, May 15-17, 2017, Czech Republic
58. Emerging Topics in Visual Analytics, IEEE PacificVAST 2017, **Keynote**, April 18, Seoul, South Korea
59. IEEE PacificVAST 2017, Panelist, April 18, 2017, Seoul, South Korea
60. *Data Visualization*, Invited Lecture, NRS212, February 8, 2017, UC Davis Medical School, Sacramento
61. Visualization for the Public, Invited Seminar, University of Tokyo, Tokyo, Japan, December 19, 2016
62. Big Data Visualization, invited talk, Fuji Xerox, Yokohama, Japan, December 15, 2016
63. Introduction to Data Visualization, Invited lecture to undergraduate students, Keio University, Yokohama, Japan, December 13, 2016
64. Auidence-Targeted Visualization Designs for Effective Storytelling, Invited seminar, Keio University, Yokohama, Japan, December 8, 2016

65. Visualization for You, **Keynote** speech, OzCHI, Tasmania, Australia, November 30, 2016
66. Emerging Topics for Visualization Research, invited seminar, Linkoping University, Norrkoping, Sweden, October 20, 2016
67. Emerging Topics for Visualization Research, invited seminar, Vienna University of Technology, Vienna, Austria, October 17, 2016
68. Data Visualization, invited talk, Fall Seminar, Center for Healthcare Policy and Research, University of California, Davis, September 28, 2016
69. Visualization: A Tool for Data Exploration and Storytelling, invited lecture, Hokudai University, Hokkaido, Japan, August 9, 2016
70. *Scientific Visualization for the Public*, invited talk, Hanzhou Low Carbon Science & Technology Museum, Hangzhou, China, July 8, 2016
71. *Visualization: An Exploratory and Explanatory Tool*, invited talk, International Symposium on Visual Computing, Hangzhou, China, July 7, 2016
72. *Recent Advances in Visualization Research*, invited seminar, National Chiao Tung University, Hsinchu, Taiwan, June 29, 2016
73. *Big-Data Visualization Techniques for Studying Behaviors, Connections, and Evolution*. Invited Talk, Institute of Statistical Science, Academia Sinica, Taipei, Taiwan, June 17, 2016
74. *Visualization: An Essential Tool for Scientific Discovery and Storytelling*. Invited Talk, 2016 Pacific Science Congress, Academia Sinica, Taipei, Taiwan, June 16, 2016
75. *Visualization: A Tool for Exploration and Storytelling*, inited talk, Biophotonics Seminar, UC Davis, June 2, 2016
76. *Visualizing Extreme-Scale CFD Simulations*. **Plenary Talk**, Parallel CFD 2016, May 9-12, Kobe, Japan
77. *Visualization: A Tool for Data Exploration and Storytelling*. Invited Lecture, April 28, Taipei Medical University, Taiwan
78. *Recent Advances in Visualization Research*. Invited Talk, April 27, Institute of Sociology, Academia Sinica, Taiwan
79. Big Data Visualization, 2016 Summit Forum on Big Data Visualization, invited talk, April 24, Fudan University, Shanghai, China.
80. *Topics in Visualization*. Invited Seminar, Institute for Visualization and Interactive Systems, University of Stuttgart, March 11, Germany
81. *Exploratory and Explanatory Visualization*. **Keynote** Speech, VIZBI 2016 (the 3rd EMBO Conference on Visualizing Biological Data), March 9-11, 2016, Heidelberg, GermanyData Visualization, Invited Lecture, Medical Health Informatics, UCDMC, Sacramento, CA, November 25, 2015
82. *Visualization and High-Performance Visualization,* **Keynote** Speech, Symposium on Visualization in HPC, ACM SIGGRAPH Asia, November 2, 2015
83. *Advanced Concepts and Strategies for Visualizing Large-Scale, Complex Simulation Data*, Invited Talk, International Computational Accelerator Physics, Shanghai, China, October 12-14
84. *Emerging Topics in Network Visualization,* Invited Speech, Graph Drawing 2015, Los Angeles, CA, September 24-26
85. *Topics in Data Visualization*, Invited Seminar, Beijing Technology and Business University, September 2, 2015

86. *New Techniques for Visualizing Large-Scale Scientific Data*, Invited Talk, CAEP-SCNS, Beijing, China, September 2, 2015
87. *Big Data Visualization,* Invited Talk, Qinghai University, China, August 28, 2015
88. Trends and Advanced Concepts for Scientific Visualization, **Keynote**, China Scientific Data Conference, Lanzhou, China, August 26-27
89. Frontiers of Visualization Research, **Keynote**, ChinaVis 2015, Tianjin, China, July 17
90. Network Visualization, Invited lecture, National Chiao Tung University, Hsinchu City, Taiwan, July 2
91. Visual Summarization and Analysis of Big Biomedical Data, Clinical and Translational Science Center, UC Davis Health System, Sacramento, CA, February 19, 2015
92. Volume Data Visualization, Network Data Visualization, Dynamic Network Data Visualization. Invited lectures, International Winter School on Big Data, Tarragona, Spain, January 26-30, 2015
93. Emerging Topics for Big Graph Visualization, invited talk, Shonan Seminar on Big Graph Drawing, Kanagawa, Japan, January 12, 2015
94. *Advances in Network Visualization*, invited seminar, Academia Sinica, Taipei, Taiwan, December 31, 2014
95. *Big Data Visualization*, **Keynote** speech, ChinaGraph 2014, Wuhan, China, October 18, 2014
96. *Advanced Volume Visualization*, invited talk, National Chiao Tung University, Hsinchu, Taiwan, September 9, 2014
97. *Big-Data Visualization Techniques for Studying Behaviors, Connections, and Evolution*, **Keynote**, the 1st China Visual Analytics Conference, Beijing, China, July 19, 2014
98. *Emerging Research Topics in Visualization*, Invited Seminar, Zhejiang University of Technology, Hangzhou, China, July 4, 2014
99. *Emerging Research Topics in Visualization*, Invited Seminar, Zhejiang University, Hangzhou, China, July 3, 2014
100. *Advanced Concepts and Techniques for Visualization*, Invited Talk, High Performance Computing and Geospatial Analytics Workshop, Argonne National Laboratory, April 29, 2014
101. *Explorable Images for Extreme-Scale Visualization*, Invited Talk, Shonan Seminar, Japan, March 11, 2014
102. *Center of Excellence for Visualization*, Invited Talk, RISE Symposium, Davis, CA, January 27, 2014
103. *Big Data Visualization*. Invited Talk, CA Technologies, Santa Clara, CA, January 22, 2014
104. *Visual Analytics: Opportunities and Challenges*. National Taiwan University, Invited Seminar, Taipei, Taiwan, December 6, 2013
105. *Big Data Visualization*. SEAIP (Southeast Asia International Program), Joint Research and Training Program in High-Performance Computing Applications and Networking Technology, Invited Talk, Taichung, Taiwan, October 2, 2013
106. *Visualization Techniques for Assisting Heterogeneous Text Analysis*. The 3rd IEEE Workshop on Interactive Visual Text Analytics, **Keynote** Speech, Atlanta, GA, October 14, 2013
107. *Big-Data Visualization*, HRL Laboratory, Invited Talk, Malibu, CA, October 3, 2013
108. *Visual Analytics Techniques for Gleaning Insight from Big Data*, Statistical Science Camp, Academia Sinica, Invited Talk, Taipei, Taiwan, September 4, 2013

109. *Advanced Visualization Techniques for Scientific Research and Education*, Invited Talk, Zhejiang University, Hangzhou, China, September 2, 2013
110. *Big Data Visualization*, Invited Talk, Trend Micro, Taipei, Taiwan, August 30, 2013
111. *Advanced Concepts and Techniques for Visualizing Large, Complex Data*, Invited Talk, Los Alamos National Laboratory, New Mexico, August 8, 2013.
112. *Big-Data Visualization Techniques for Studying Behaviors, Connections, and Evolution* , Invited Lecture, National Chao Tung University, HsinChu, Taiwan, July 10, 2013
113. *Big-Data Visualization*, Invited Talk, Industrial Technology Research Institute, HsinChu, Taiwan, July 9, 2013
114. *Visualization for Studying Social Networks*, Dagstuhl Seminar, Germany, May 14, 2013.
115. *Emerging Topics for Visualization Research*, **Keynote Speech,** TopoVis 2013, March 4.
116. *Extreme-Scale Data Visualization*, Invited Talk, AICS International Symposium, Kobe, Japan, March 1, 2013
117. *VIDI Research*, CS Club, UC Davis, February 13, 2013
118. *Big Data Visualization*, Electrical Engineering Department, Taipei Tech, December 26, 2012.
119. *Big Data Visualization*, Distinguished Lecture, Computer Science and Calit2, University of California at Irvine, November 16, 2012.
120. *Advanced Concepts and Techniques for Extreme-Scale Data Analysis and Visualization*, DOE Exascale Computing Conference, Washington DC, October 1-3, 2012.
121. *Information Visualization for Studying Behaviors, Connections and Evoluation*, Taiwan Tech, Taipei, Taiwan, September 20, 2012.
122. *Information Visualization for Studying Behaviors, Connections, and Evoluation*, Zhejiang University, Hangzhou, China, September 13, 2012.
123. *Information Visualization for Studying Behaviors, Connections, and Evoluation*, Zhegjiang University of Technology, Hangzhou, China, September 11, 2012.
124. *Big Data Visualization: Advanced Concepts and Techniques*, SIBGRAPI 2012, Ouro Preto, Brazil, August 24, 2012.
125. *VIDI Reserach Overview*, University of Sao Paulo, Brazil, August 21, 2012.
126. *Big Data Visualization*, HP Labs, Palo Alto, CA, July 23, 2012.
127. *Big Data Visualization*, Chunghwa Telecom Laboratories, Taipei, Taiwan, July 6, 2012.
128. *Large Data Visualization*, Invited Talk, National Chao Tung University, Taiwan, July 2, 2012.
129. *Visualization: An Enabling Tool for Discovery and Communication*, Invited Talk, St. John's University of Technology, Taiwan, June 27, 2012.
130. *Visualization Research Challenges and Opportunities*, Invited Talk, National Taipei University of Technology, Taipei, Taiwan, May 17, 2012.
131. *Recent Advances in Social Network Visualization*, Invited Talk, Academia Sinica, Taipei, Taiwan, May 14, 2012.
132. *Large Data Visualization*, Invited Talk, Zhejiang University of Technology, Hangzhou, China, May 8, 2012.
133. *Advanced Concepts for Large Data Visualization*, Invited Seminar, Seoul National University, South Korea, Feb 28, 2012.
134. *Visualizing Large and Complex Data*, Invited Talk, IBM Almaden Research, Febrary 8, 2012.

135. *Next-Generation Visualization Requirements for In-Situ Processing*, Invited Talk, SC11 BOF, Seattle, WA, November 15, 2011.

136. *Visualizing Large, Complex Data*, Invited Talk, 5th XLDB, Stanford, CA, October 18-19, 2011.

137. *Visualizing Large, Complex Data*, Invited Seminar, National Tsing Hua University, Taiwan, September 14, 2011.

138. **Keynote Speech,** *Research Directions in Data Visualization*, Computer Graphics Workshop, Taipei, Taiwan, July 14-15, 2011

139. *Visualizing Large, Complex Data: An Overview*, June 14, 2011, CEA/EDF/INRIA Summer Schools, Cadarache, France.

140. *Parallel Visualization*, June 15, 2011, CEA/EDF/INRIA Summer Schools, Cadarache, France.

141. *Particle Data Visualization*, June 16, 2011, CEA/EDF/INRIA Summer Schools, Cadarache, France.

142. *Vector Field Visualization*, June 17*Network Visualization*, June 21, CEA/EDF/INRIA Summer Schools, Cadarache, France.

143. *Advanced Concepts for Large Data Visualization,* June 22, CEA/EDF/INRIA Summer Schools, Cadarache, France.

144. *In Situ Visualization*, CEA/EDF/INRIA Summer Schools, Cadarache, France, June 23, 2011

145. *Network Analysis and Visualization*, Invited Lecture, National Chiao Tung University, Taiwan, May 11, 2011

146. *Explorable Images: A New Approach to Large Data Visualization*, Invited Lecture, National Chiao Tung University, Taiwan, May 10, 2011

147. *Visualizing Large Data*, Invited Lecture, AMP Lab, Univesity of California, Berkeley, April 27

148. *New Approaches to Large Data Visualization*, **Keynote** speech. 2011 IEEE Pacific Visualization Symposium, March 3.

149. *Data Analysis and Visualization Computing Requirements: A Case Study*, invited talk, Workshop on Large Scale Computing and Storage Requirements for ASCR, DOE, January 5-6, 2011

150. *Visualization as a Knowledge Discovery and Communication Tool*, Undergraduate Seminar, Computer Science, National Chiao Tung University, Taiwan, December 21, 2010

151. *Modeling the Uncertainty due to Data/Visual Transformations using Sensitivity Analysis*, NSF FODAVA Project Review Meeting, Georgia Institute of Technology, Atlanta, GA, December 10, 2010

152. *Techniques for Visualizing Large, Complex Data.* SCI **Distinguished Lecture**, University of Utah, November 12, 2010

153. Drawing Insight from Large Networks with Visual Analytics. Invited talk, NPUC 2010, Harnessing the Buzz of the Crowd: Technologies and Applications, IBM Almaden Symposium, San Jose, CA, October 22, 2010

154. *Distance Visualization of Ultrascale Data*, invited talk, Argonne National Laboratory, IL, September 30, 2010

155. *Centrality Based Visual Analysis of Networks***, Distinguished Lecture**, Peking University, Beijing, China, September 17, 2010

156. *A New Approach to Distance Visualization of Large Volume Data*, invited lecture,Tsinghua University, Beijing, China, September 16, 2010

157. *Distance Visualization of Ultrascale Data with Explorable Images*, invited lecture, National Taiwan University of Science and Technology, Taipei, Taiwan, August 11, 2010

158. *Visual Analysis of Networks*, invited lecture, Academia Sinica, Taipei, Taiwan, August 9, 2010

159. *Ultrascale Visualization*, invited lecture, Academia Sinica, Taipei, Taiwan, August 4, 2010

160. *Advanced Volume Classification and Vsiualization*, invited lecture, Academia Sinica, Taipei, Taiwan, August 2, 2010

161. *Distance Visualization of Ultrascale Data with Explorable Images*, SIGGRAPH 2010 Talk, LA, CA, July 26, 2010.

162. *Visualization: An Emerging Discipline*, National Cheng Kung University, Taiwan, May 20, 2010

163. *Hot Topics in Visualization*, National Cheng Kung University, Tainan, Taiwan, May 19, 2010

164. *Visualization: An Emerging Discipline*, National Kaohsiung Normal University, Kaohsiung, Taiwan, May 18, 2010.

165. *Multivariate Data Visualization*, **Keynote** speech, MADAI Sandia Workshop, Sandia National Laboratory, New Mexico, May 12, 2010

166. *Large Data Visualization*, IS&T Colloquium, NASA/GSFC, Baltimore, Maryland, April 21, 2010

167. *Visualizing Large, Complex Data*, Keio University, Yokohama, Japan, December 14, 2009

168. *Introduction to Visuaization*, Nara Women University, Nara, Japan, December 11, 2009

169. *Visualizing Social Networks*, Nara Women University, Nara, Japan, December 10, 2009

170. *Uncertainty-Aware Data Transformations for Collaborative Reasoning*, NSF FODAVA Review Meeting, Georgia Tech, Atlanta, GA, December 3, 2009

171. *Recent Advances in Volume Visualization*, invited lecture, Tsinghua University, Beijing, China, November 26, 2009

172. *Visualizing Large, Complex Data*, Microsoft Research in Asia, Beijing, China, November 25, 2009

173. *Recent Adavnces in Information Visualization*, invited lecture, Tsinghua University, Beijing, China, November 25, 2009

174. *Recent Advances in Large Data Visualization*, invited lecture, Tsinghua University, Beijing, China, November 24, 2009

175. *In Situ Data Reduction and Visualization*, Panel on Challenges on Large Data Visualization: A Visualization Community Call to Action, Visualization 2009 Conference, Atlantic City, NJ, October 15, 2009

176. *Uncertainty-Aware Visualization of Networks*, invited talk, Forum FODAVA, VisWeek 2009, Atlantic City, NJ, October 11, 2009

177. *Space for Visualization*, **Keynote** speech, Pacific Graphics 2009, Jeju, Korea, October 7-9, 2009

178. *Next Generation Visualization Technology for Computational Sciences*, plenary speech, 10th International Computational Accelerator Physics Conference (ICAP 2009), San Francisco, September 2, 2009

179. *Information Visualization*, invited seminar, National Taipei University of Technology, Taipei, Taiwan, August 25, 2009

180. *Parallel Visualization*, invited lectures, Peking University, China, August 17-18, 2009

181. *Recent Advances in Visualization*, invited seminar, National Chiao Tung University, Hsinchu, Taiwan, July 30, 2009

182. *VIDi Research Overview*, invitaed talk, National Taiwan University, Taipei, Taiwan, July 14.

183. *Scientific Visualization at Extreme Scale*, invited lecture, National Cheng-Kung University, Taiwan, June 1, 2009
184. *Scientific Visualization at Extreme Scale*, invited lecture, National Taiwan University of Science and Technology, Taiwan, May 27, 2009
185. Advanced Concepts and Techniques for Medical Image Data Visualization, invited talk, ASNR (American Society of Neuroradiology) 2009, Vancouver, Canada, May 19, 2009
186. Ultravis Institute Accomplishments, SciDAC Midterm Review meeting, DC, April 27, 2009
187. Space for Visualization, Neyman seminar, University of California at Berkeley, April 8, 2009
188. VIDI Research Overview, the Exploratorium, San Francisco, March 13, 2009
189. Visualization in the Right Space, Invited Talk, Statistical Computation and Visualization 2008, Academic Sinica, Taipei, Taiwan, December 1-3, 2008
190. *Ultrascale Visualization,* **Distinguished Lecture**, Brown University, November 6, 2008
191. **Keynote** speech, Chinagraph, Changsha, China, September 26-28, 2008
192. Invited Speech, Information Visualization Workshop, Taiwan, September 24-25, 2008
193. *Ultrascale Visualization*, ACM SIGGRAPH 2008 Conference, Los Angeles, August 15, 2008
194. *Novel Transfer Functions for Volume Visualization*, **Keynote** Speech, Computer Graphics Workshop, Taiwan, July 24-25, 2008
195. **Keynote** speech, Visualization Workshop, Peking University, Beijing, June 24, 2008
196. *Novel Transfer Functions for Volume Visualization*. **Keynote** Speech, Computer Graphics Workshop, Taiwan, July 24-25, 2008
197. Depicting beyond Terascale, CSE, Georgia Institute of Technology, March 14, 2008
198. *Parallel Visualization Technology*, **Plenary Speech**, SIAM Conference on Parallel Processing for Scientific Computing, Atlanta, GA, March 12-14, 2008
199. VIDi Research, WesternGeco, Houston, TX, February 18, 2008
200. *Visualizing Extreme-Scale Data*, Invited talk, Visualization and Data Analysis 2008 Conference, San Jose, January 28, 2008
201. *Advanced Visualization Technology for Gyrokinetics Particle Simulations*, invited talk, SciDAC GPS project meeting, Irvine, January 24, 2008
202. *Data to Knowledge: A Visual Approach*, Nokia Research Center, Palo Alto, CA, December 13, 2007
203. **Keynote** Speech, 3rd International Symposium on Visual Computing (ISVC 2007), Lake Tahoe, Nevada, November 26-28, 2007
204. *Visualizing Ultra-Scale Data*, Invited Talk, IIC, Harvard University, October 24, 2007
205. *Ultrascale Visualization*, **Keynote** speech, , Computer Graphics Workshop, Taiwan, October 18, 2007
206. *In-Situ Visualization for Ultra-Scale Simulations,* National Center for High-Performance Computing, Taiwan, October 15, 2007
207. *Key Challenges in Computational Science at the Petascale*, **Plenary Speech**, , 2007 Fall Creek Falls Conference, ORNL, Tennessee, September 24-25, 2007
208. *Information Visualization*, invited Lecture, National Chiao-Tong University, Taiwan, August 16
209. *Scientific Visualization*, National Chiao-Tong University, Taiwan, August 16, 2007
210. *In-Situ Visualization for Ultra-Scale Simulations*, SciDAC 2007 Conference, June 24-28, 2007

211. *Tired of Parallel Coordinates*?, Dagstuhl Seminar on Information Visualization, May 29-June 1, 2007
212. *Multidimensional Particle Data Analysis and Visualization*, DOE Computer Graphics Forum, May 1, 2007
213. *SciDAC Institute for Ultrascale Visualization: Mission and Strategic Plan*, DOE Computer Graphics Forum, April 30, 2007
214. *Envisioning Scientific Data: Challenges and Research*, invited Lecture, UCLA, April 23, 2007
215. *Simulation-Time Visualization,* Workshop on Ultra-Scale Visualization, Supercomputing 2006 Conference, November 13, 2006
216. *Ultrascale Visualization,* Invited Seminar, Institute of Applied Physics and Computational Mathematics, Beijing, China, October 23, 2006
217. *Ultrascale Visualization,* Invited Seminar, Chinese Academy of Sciences, Beijing, China, Oct 22, 2006
218. *Ultrascale Visualization,* Invited Seminar, National Taiwan University, Taipei, October 16, 2006
219. *Information Visualization*, **Keynote** Speech, 2006 Chinese CAD&CG Conference, Shandong, China, Oct 18-20, 2006
220. *Information Visualization for Security*, Invited Seminar, National Taiwan University, July 11, 2006
221. *Ultra-Scale Visualization*, Invited Lecture, National Center for High Performance Computing, Taiwan, July 6, 2006
222. *Advanced Volume Visualization Technologies*, Invited Lecture, Chang Gung Hospital, Taiwan, July 5, 2006
223. *Future Visualization Technologies*, Invited Lecture, Kyoto University, Japan, June 22, 2006
224. *High-Performance Visualization*, Invited Lecture, Nara Women University, Japan, June 19, 2006
225. *Visual Analysis of Complex Networks*, Invited Lecture, Ochanomizu University, Japan, June 16, 2006
226. *Ultrascale Visualization*, **Keynote** Speech, 2006 Transdisciplinary Fluid Integration Symposium, Sendai, Japan, June 12
227. *Visual Analysis of Large, Heterogeneous Social Networks*, Invited Lecture, University of Konstanz, Germany, May 31, 2006
228. *Visual Analysis of Large, Heterogeneous Social Networks*, Invited Lecture, University of Zurich, Switzerland, May 30, 2006
229. *Parallel Rendering Algorithms for Large-Scale Data Visualization*, Invited Lecture, ETH Zurich, Switzerland, May 29, 2006
230. *Ultra-Scale Visualization*, Invited Lecture, UCLA Institute for Digital Research and Education, May 15
231. *Cyber Security through Visualization*, **Keynote** Speech, 2006 Asia-Pacific Symposium on Information Visualization, Tokyo, Japan, February 1, 2006
232. *Visualization Technologies for Combustion Science*, NSF Workshop on Cyber-based Combustion Science, Arlington, VA, April 19, 2006
233. *Illustrative Visualization*, Panel on Illustrative Visualization, Visualization 2005 Conference, Minneapolis, MN, October 23-28, 2005
234. Expressive Line Selection By Example, Pacific Graphics 2005 Conference, Macau, October 12-14, 2005

235. Next Generation Visualization Interfaces, Invited Seminar, HKUST, Hong Kong, October 10, 2005.
236. Visualizing Supernova Simulations, Invited Talk, Terascale Supernova Initiate (TSI) Review Meeting, San Diego, September 10, 2005.
237. Next Generation Visualization Interfaces, Invited Talk, Tsinghua University, China, July 14, 2005.
238. Next Generation Visualization Interfaces, Invited Talk, Zhejiang University, China, July 11, 2005.
239. Next Generation Visualization Interfaces, Invited Talk, Fudan University, China, July 8, 2005.
240. Introduction To Visualization. 2) Volume Visualization. 3) High- Quality Volume Visualization. 4) Large Data Visualization. Invited Lectures, Fudan University, China, July 6-7, 2005.
241. Scientific Discovery Through Advanced Visualization, Invited Talk, DOE SciDAC 2005 Conference, San Francisco, CA, June 26-29, 2005.
242. Panel presentation, Panel on Volume Graphics: What in the Cards, International Workshop on Volume Graphics 2005, Stony Brook, NY, June 20-21.
243. Information Interfaces, Invited Talk, Nissan Motor Co., Japan, June 15, 2005.
244. Visualization And Computational Science & Engineering, Invited Talk, NIH-NSF Workshop on Visualization Research Challenges, Salt Lake City., Utah, May 1-3, 2005
245. Advanced Visualization Techniques For Complex Biomedical Data, Invited Talk, UC Davis Cancer Center, November 30, 2004.
246. Visualization For Security, Invited Talk, Lawrence Berkeley National Laboratory, September 14, 2004.
247. Large Volume Data Visualization, Invited Talk, DOE VIEWS Workshop, Salt Lake City, July 20, 2004.
248. Advanced Volume Visualization Technologies, Invited Talk, National Taiwan University, Taiwan, July 9, 2004.
249. An Efficient Pre-Integrated Volume Rendering Algorithm, Invited Talk, National Chiao Tung University, Taiwan, July 7, 2004.
250. Volume Visualization. High Quality Volume Rendering Techniques. Future Research Directions In Data Visualization, Invited Lectures, National Cheng Kung University, Taiwan, July 6, 2004.
251. Advanced Visualization Technologies, Invited Talk, Nissan Motor Co., Japan, June 24, 2004.
252. Visualizing Large-Scale Earthquake Simulations, Supercomputing 2003 Conference, November 15-21.
253. Emerging Interface Technologies for Data Visualization, Iwate Prefectural University, July 18, 2003.
254. Emerging Interface Technologies for Data Visualization, Invited Talk, the Yamanashi University, Japan, July 16, 2003.
255. An Interactive Volume Visualization System for Transient Flow Analysis, the International Workshop on Volume Graphics, Tokyo, Japan, July 7-8, 2003.
256. Interactive Visualization of Transient Flow, Invited Talk presented at Nissan Motor Co., Japan, July 4, 2003.
257. Emerging Interactive Visualization Technologies, University of Tokyo, Japan, June 30, 2003
258. New Technologies for Interactive Visualization, Invited Talk, ARMY AHPCRC Workshop on Graphics Modeling, Simulation and Visualization, Tallahassee, FL, June 23-24, 2003.

259. Emerging Interface Technology for Data Visualization, DIMACS Workshop on Visualization and Data Mining, October 24-25, 2002

260. Interactive Visualization Techniques for Terascale Particle Accelerator Simulations, Invited talk, the DoE SciDEC Visualization Workshop, Salt Lake City, UT, September 10, 2002.

261. Next-Generation Visualization Technologies, Invited Talk, Los Alamos National Laboratory, Los Alamos, NM, August 13, 2002.

262. New Technologies for Data Visualization, **Keynote** Speech, Annual Computer Graphics Workshop, Tainan, Taiwan, June 26-27, 2002

263. Hardware-Accelerated Volume Rendering, Invited Talk, the National Center for High Performance Computing, HsinChu, Taiwan, June 31, 2002

264. Visualization Techniques for Time-Varying Volume Data, invited talk, the CAD/Graphics 2001 Conference, Kunming, China, August 22-24.

265. Large-Scale Scientific Data Visualization, Invited Talk, Tokyo University, Tokyo, Japan, July 9, 2001

266. A Multi-Resolution Interactive Previewer for Volumetric Data on Arbitrary Meshes, invited talk, the Workshop on Computer Graphics and Virtual Reality, Chiayi, Taiwan, December 6-8, 2000.

267. Compression and Accelerated Rendering of Time-Varying Volume Data, invited talk, the Workshop on Computer Graphics and Virtual Reality, Chiayi, Taiwan, December 6-8, 2000

268. Large-Scale Medical Data Visualization, Invited Talk, the National Institutes of Health, Bethesda, MD, October 25, 2000.

269. Scientific Visualization Research, Invited Talk, CIPIC, Biotechnology Seminar, University of California, Davis, November 17, 2000

270. User Interface Technology for Data Visualization, Invited talk, Tamkang University, Tamsui, Taiwan, May 16, 2000

271. Parallel Volume Visualization, Invited talk, Tamkang University, Tamsui, Taiwan, May 15, 2000

272. Large-Data Visualization, Invited talk, Tamkang University, Tamsui, Taiwan, May 14, 2000

273. Parallel Scientific Visualization, Invited talk, Bay Area Scientific Computing Day, Berkeley, CA, February 26, 2000

274. Plasma Physics Data Visualization, Invited Talk, General Atomics, San Diego, CA, August 22, 2000

275. Large-Scale Data Visualization, Invited Talk, Chevron Petroleum Technology Company, June 5, 2000

276. Visualizing Large-Scale 3-D Irregular Grid Data, Invited talk, Lawrence Berkeley National Laboratory, May 8, 2000.

277. Parallel Rendering, Invited talk, Presented at the Parallel and Distributed System Software Laboratory, Real World Computing Partnership, Japan, February 14-16, 2000

278. Massively Parallel Visualization Systems, Invited talk, Mitsubishi Electronic Corporation, Japan, December 10, 1999.

279. Massively Parallel Visualization Systems, Invited talk, Mitsubishi Precision Co., Ltd., Japan, December 9, 1999.

280. Massively Parallel Visualization Systems, Invited lecture, Ochanomizu University, Japan, December 8, 1999.

281. Massively Parallel Visualization Systems, Invited talk, Electrotechnical Laboratory, Japan, December 7, 1999.
282. Scientific Visualization, invited talk, the University of California, Davis, Medical Informatics, Davis, CA, November 16, 1999.
283. Parallel Visualization Systems, the ACM SIGGRAPH '99 Conference, Course 9: System Designed for Visualizing Large-Scale Scientific Data, August 8, 1999.
284. Image Graphs - A Novel Approach to Visual Data Exploration. IEEE Visualization '99 Conference, October 27.
285. Image Graphs - A Novel Approach to Visual Data Exploration. Invited talk, the Department of Computer Science, University of California, Davis, March 1, 1999.
286. Parallel Rendering of 3d AMR Data on The Cray T3e, the 7th Symposium on the Frontiers of Massively Parallel Computation, February 24, 1999.
287. Image Graphs - A Novel Approach to Visual Data Exploration. Invited talk, the Department of Computer and Information Science, Ohio State University, February 10, 1999.
288. Image Graphs - A Novel Approach to Visual Data Exploration. Invited talk, the Department of Computer Science, Purdue University, January 25, 1999.

EXTERNAL FUNDINGS

- PI:K.-L. Ma, Tachyon: Intelligent Multi-Scale Modeling of Distributed Resilient Infrastructure and Workflows for Data Intensive HEP Analyses, DOE ASCR, $1,500,000, 2023-2028
- PI:Ted Grantham (Co-PI:K.-L. Ma), COEQWAL: Equitable stewardship of California's water in a changing climate, UCOP Climate Action 2023 Matching Award, $8,200,000
- PI: Holly Doremus (Co-Investigator: K.-L. Ma), Just Transitions In Large Socioecological Systems: Drought, Sea-level Rise & Salinity In the Delta, UC MRPI, $2,455,739, 2023-2027
- PI: Shin-Ping Tu (Co-PI: K.-L. Ma), SMART Cancer Care Teams: Enhancing EHR Communication to Improve Interprofessional Teamwork, National Institute of Health, $3,255,908, 2022-2027
- PI: K.-L. Ma, Co-PI: Shin-Ping Tu, Smart EHR Data Analytics to Enhance Cancer Care Multiteam Systems, National Institute of Health, $810,171, 2022-2024
- PI: Laura Marcu (Co-Investigator: K.-L. Ma), The National Center for Interventional Biophotonic Technologies, National Institute of Health, $6.3M, 2022-2027
- PI: Beatriz Martinez Lopez, Co-PI: Xin Liu (Co-Investigator: K.-L. Ma), Track-D: Data-Driven Disease Prevention and Control in Animal Health, Convergence Accelerator Research Program, National Science Foundation, $4,990,591, 2021-2023
- PI: K.-L. Ma, Visual and Predictive Analysis of Error Logs in HPC, Argonne National Laboratory, $88,470, 2022-2023
- PI: K.-L. Ma, Visual and Predictive Analysis of Error Logs in HPC, Argonne National Laboratory, $89,259, 2021-2022
- PI: K.-L. Ma, Visualization-Guided Technical Language Processing for Machine Maintenance Logs, NIST $89,607, 2021-2022
- PI: K.-L. MA, Callflow Visualization, LLNL, $62,275, 2020-2021
- PI: K.-L. Ma, Visual and Predictive Analysis of Error Logs in HPC, Argonne National Laboratory, $89,038, 2020-2021

- PI: K.-L. Ma, Visualization-Guided Technical Language Processing for Machine Maintenance Logs, NIST $89,505, 2020-2021
- PI: K.-L. MA, Callflow Visualization, LLNL, $60,275, 2019-2020
- PI: K.-L. Ma, A Visual Analytics Framework for Analysis, Presentation, and Prognostics of Machine Maintenance Logs, NIST $124,314, 2019-2020.
- PI: K.-L. Ma, New Patient-centered Visualization Methods for Predictive Learning Algorithms: A Pilot Study in Heart Failure Decision Support, CITRIS $60,000, 2019-2020.
- PI: K.-L. Ma, In Situ Visual Analytics Technologies for Extreme Scale Combustion Simulations, DOE ASCR $796,746.00, 2018-2021
- PI: K.-L. Ma, Critical Visualization Technologies for Analyzing and Understanding Big Network Data NSF IIS $550,000.00, 2017-2020
- PI: K.-L. Ma, Technologies for Creating Explanatory and Exploratory Animations from Scientific Data, NSF IIS $499,996.00, 2015-2018
- PI: K.-L. Ma, Supporting Co-Design of Extreme-Scale Systems with In Situ Visual Analysis of Event-Driven Simulations, DOE ASCR $632,589.00, 2015-2018
- PI: K.-L. Ma, XVis: Visualization for the Extreme-Scale Scientific Computation Ecosystem, DOE ASCR $524,000.00, 2014-2017
- PI: K.-L Ma, Full-Scale Development: Living Liquid: Creating Interactive Visualization Tools to Explore Large Ocean Datasets, NSF $329,598.00, 2013-2016
- PI: K.-L. Ma, A General Framework for Expressing, Navigating, and Querying Uncertainty in Data Analysis and Visualization Tasks, NSF $498,196.00, 2013-2016
- PI: K.-L. Ma (with one Co-PI), Scalable Data Management, Analysis, and Visualization Institute, DOE $2,125,000.00, 2012-2017.
- PI: K.-L. Ma, Interactive Correlation Analysis and Visualization of Climate Data, DOE $550,000.00, September 2010 – August 2012.
- PI: K.-L. Ma (with one Co-PI), Modeling the Uncertainty due to Data/Visual Transformation using Sensitivity Analysis, NSF FODAVA $316,918.00, September 2010 – August 2012.
- PI: K.-L. Ma, Pervasive Parallel Processing Framework for Data Visualization and Analysis at Extreme Scale, DOE $460,116.00, September 210-August 2013.
- PI: K.-L. Ma (and three Co-PIs), Algorithms, codes and data analysis in quantum simulations of materials for renewable energy applications, DOE $1,091,118.00, July 1, 2010 – September 2011.
- PI: K.-L. Ma (and one Co-PI), In Situ Processing and Visualization for Peta- and Exascale Simulations, NSF, $425,000.00, July 1, 2009- June 30, 2012.
- PI: K.-L. Ma, Visual Characterization of I/O System Behaviors, NSF HECULA, $470,600.00, September 15, 2009- September 14, 2012.
- PI: K.-L. Ma, Advanced Visual Analytics Technology, HP $75,796.00, June 2009 – May 2012.
- PI: K.-L. Ma, Uncertainty-Aware Data Transformations for Collaborative Reasoning, NSF FODAVA, $300,000.00, June 1, 2009 – May 31, 2010.
- PI: Francois Gygi, Co-PI: K.-L. Ma, First-Principles Molecular Dynamics for Petascale Computers, NSF PetaApps, $1,100,000.00, 2007 – 2011
- PI: Jacob Bielak, Co-PI: K.-L. Ma, Towards Petascale Simulation of Urban Earthquake Impacts, NSF PetaApps, $1,200,000.00, 2007 – 2011
- PI: K.-L. Ma (and seven Co-PIs), Institute on Ultra Scale Visualization, Department of Energy, $8,400,000.00, September 2006 - September 2011.
- PI: K.-L. Ma, Intelligence Augmented Visualization, NSF 325,000.00, July 2008 – June 2011.
- PI: K.-L. Ma, CRI: A Cluster Infrastructure for High Performance Visualization and Interface Research, National Science Foundation, $155,978.00, March 2006 - March 2007.
- PI: K.-L. Ma, Intelligent Visualization Interface, National Science Foundation, $98,423.00, November 2005 - November 2006.

- PI: K.-L. Ma, Workshop on Visualization for Computer Security, NSF $9,980.00, September 2005 - May 2006.
- PI: K.-L. Ma (and three Co-PIs), ITR for Gleaning Insights in Large Time-Varying Scientific and Engineering Data, Co-PI: Amenta, N., National Science Foundation, $2,000,000.00, October 2003 - September 2008.
- PI: K.-L. Ma, Network Security Visualization, Lawrence Livermore National Laboratory, $50,000, 2004-2005
- PI: K.-L. Ma, Large Graph Visualization, Lawrence Livermore National Laboratory, $50,000, 2004-2005
- PI: K.-L. Ma, Advanced Visualization Technology for Accelerator Modeling, Department of Energy, $220,000.00, October 2004 - September 2006.
- PI: K.-L. Ma, Advavnced Visualization Technology for Gyrokinetic Particle Simulations, Department of Energy, $120,000.00, Janurary 2005 - December 2006.
- PI: K.-L. Ma, A Metadata-Driven Visualization Interface Technology for Scientific Data Exploration, Co-PI: Gertz, M., National Science Foundation, $265,000.00, October 2002 - September 2005.
- PI: K.-L. Ma, Interactive Visualization of Large Mixed-Resolution Volume Data, Department of Energy, ASCI VIEWS Program, $450,000.00, June 2002 - May 2005.
- PI: F. Wu, An Interactive Visual Anomaly Detection System for Faults and Intrusions on Network Protocols, Co-PI: K.-L. Ma, National Science Foundation, ITR, $400,172.00, October 2002 - September 2005.
- PI: K.-L. Ma, Parallel Visualization & Interaction Techniques for Exploring Large-Scale Volume Data, PECASE Award, National Science Foundation, $521,000, January 2000 - July 2005.
- PI: K.-L. Ma, Visualization Thrust of the SciDAC project: Advanced Computing for 21st Century Accelerator Science and Technology Department of Energy, $261,500.00, January 2001 - December 2004.
- PI: B. Hamann, Visualization of Adaptive Mesh Refinement Data, Co-PIs: K. Joy, K.-L. Ma, and N. Max, Lawrence Berkeley National Laboratory, $62,500, October 2001 - September 2002.
- PI: B. Kutter, A NEES Geotechnical Centrifuge Facility, Co-PI: R. Boulanger, B. Hamann, B. Jeremic, K.-L. Ma, J. C. Santamarina, S. Velinsky, D. Wilson, and B. Yoo., National Science Foundation, NEES Program, Division of Civil and Mechanical Systems, $4,614,294, October 2000-September 2004.
- PI: E. Jones, Information of Human and Monkey Brain Atlases, Co-PIs: M. Gertz, F. Gorin, B. Hamann, M. Hogarth, K. Joy, H. Karten, P. Kelly, K.-L. Ma, N. Max, J. Meyer, B. Olshausen, G. Popken, J. Wagner, and R. Walters, National Institutes of Health, The Human Brain Project, $6,905,744, July 2001 - June 2006.
- PI: B. Hamann, Multiresolution and Topology Based Visualization of Large Scientific Data Sets in Parallel and Distributed Computing Environments, Co-PIs: R. Algazi, M. Gertz, K. Joy, K.-L. Ma, and N. Max, LSSDSV Program, National Science Foundation, $750,000, June 2000 - May 2003.
- PI: K.-L. Ma, Schlumbeger Foundation Technical Award, Schlumbeger Foundation, $30,000, June 2000 - May 2003.
- PI: Valerio Pascucci (LLNL), ViSUS: Visualization Streams for Ultimate Scalability, Co-PIs: M. Duchaineau, B. Hamann, K. Joy, P. Lindstrom, K.-L. Ma, and S. Uselton, LLNL, Department of Energy, $300,000, October 2001 - September 2004.
- PI: B. Hamann, Multiresolution-based Volume Visualization Supporting Interactive Data Viewing, Co-PIs: K. Joy, K.-L. Ma, and N. Max, National Science Foundation NPACI (through UCSD). $75,000, October 2001 - September 2002; $75,000, October 2000 - September 2001; $75,447, October 1999 - September 2000.
- PI: K. Joy, Multiresolution Methods for the Representation and Exploration of Terascale Data, Co-PIs: B. Hamman and K.-L. Ma, Department of Energy, $100,035, October 2001-January 2002.

- PI: B. Hamann, Hierarchical Methods for the Representation and Visualization of Terascale Data on Arbitrary Grids, Co-PIs: K. Joy, K.-L. Ma, and N. Max, ASCI, Department of Energy, $322,000, July 2000- June 2001.
- PI: K.-L. Ma, Interactive Data Analysis and Visualization Technology for Plasma Physics Data, Co-PIs: B. Hamann, K. Joy, and N. Max, General Atomics and UC DiMI program, $87,991, June 2000 - May 2001.
- PI: B. Hamann, A Study of Multiresolution Methods and Visualization in Immersive Environment, Co-PIs: K. Joy, K.-L. Ma, and N. Max, LLNL, Department of Energy, $154,558, April 2000-March 2001.
- PI: N. Max, Image-Based Rendering for Interactive TV Viewpoint Choice, Co-PIs: B. Hamann, K. Joy, and K.-L. Ma, ST Microelectronics and DiMI, $115,307, May 2000 - May 2001.
- PI: K.-L. Ma, New Faculty Research Grant, Academic Senate, UC Davis, $3,000.00, January 2000 - June 2000. PI: K.-L. Ma, Equipment Donation, Chevron Petroleum Technology Company, $95,000, February 2000.
- PI: K.-L. Ma, NSF Workshop on Large-scale Visualization and Data Management, Co-PI: C. Johnson (Utah), National Science Foundation, $39,600, May-October 1999.
- PI: K.-L. Ma, Massively Parallel Rendering Algorithms for Large-Scale Unstructured-grid Data, ASCI Level 3, LANL, Department of Energy, $55,000, April 1998 - March 1999.

In addition, Professor Ma has also received a total of near a million dollars of research donations from industry.

PROFESSIONAL SERVICES (Since 1999)

Current Services:

- **Member, Faculty Representative Committee**, Computer Science Department, 2023-2024
- **Member, Awards Committee**, Computer Science Department, 2023-2024
- **Member, Executive Committee**, Graduate Group in Computer Science, 2023-2024
- **CS Mentor,** Cal-Bridge, UC Davis, 2022-2023
- **VIS Steering Committee, IEEE VGTC** (Visualization and Graphics Technical Committee)
- **Chair, Steering Committee,** IEEE Pacific Visualization Symposium
- **Member, Steering Committee,** Visualization Meets AI Workshop, since 2020
- **Associate Editor,** IEEE Transactions on Interactive Intelligent Systems, 2021-present
- **Associate Editor,** Journal of Visualization, 2010 — 2023
- **Associate Editor,** Journal of Computational Visual Media, 2015 — present
- **Associate Editor,** Journal of Visual Informatics, 2016 – present
- **Area Co-Chair,** ACM/IEEE Supercomputing Conference (SC) 2023
- **Member, Best Papers Committee**, IEEE VIS 2023
- **Member, Best Papers Committee**, TAICHI 2023
- **Member, Best Papers Committee**, LDAV 2023
- **Program Committee**: IEEE PacificVIS 2023, ACM IUI 2023, EuroVis 2023, IEEE VIS 2023, IEEE

LDAV 2023

- Member, **IEEE VGTC Service Awards Committee** 2023

Past University Services

- Co-Chair, Faculty Recruitment Committee, Computer Science Department, 2022-2023
- Member, GGCS Chair Nomination Committee, UC Davis, 2022
- Member, GGCS Admission Committee, UC Davis, 2022
- Member, Ad Hoc Review Committee, Energy and Efficiency Institute, UC Davis, 2022
- Co-lead, Computing Sciences, LBL-UCD Workshop, 2020-2021
- Member, Department Award Committee, 2020-2022
- Chair, Visualization and Graphics Faculty Search Committee, 2019-2020
- Member, Ad Hoc Committee, Graduate Group in Applied Mathematics Program Review, 2019
- Member, Planning Group, M. Eng in Data Science and Engineering Program, College of Engineering, 2019
- Chair, Department Award Committee, 2018-2019
- Chair, GGCS (Grouduate Group in Computer Science), 2009 - 2018
- Chair, GGCS Executive Committee, 2009 - 2018
- Member, Working Group for Online Graduate Education in Engineering, College of Engineering, January-June, 2018
- Member, College of Engineering Dean's Advisory Council, 2014 - 2016
- Member, Department Space Committee, 2015-2017
- Member, Department Award Committee, 2013-2015
- Member, Department Executive Committee, 2009-2018
- Member, College of Engineering Committee for Gradaute Study, 2009 - 2018
- Member, Review Committee, Data,Informatics & Application Launch (DIAL) Grant Pilot Porgram, 2017 and 2018
- Member, Technocultural Studies Program Review, 2015
- Member, Big Data Implementation Committee, 2013
- Chair, Department Award Committee, 2010-2012
- Member, Academic Senate Committee on Academic Freedom and Resonsibility, 2009 - 2011
- Chair, College of Engineering Committee for Gradaute Study, 2013
- Chair, GGCS Graduate Student Advising Committee, 2006 - 2009
- Chair, Faculty Representitive Committee (CSFRC) , 2008 - 2009
- Member, Department Personnel Committee, 2008-2009
- Member, Graduate Admission Committee, 2008-2009

- Member, Research and Outreach Committee, 2006 - 2007
- Chair, Research and Outreach Committee, 2004-2006
- Member, GGCS Graduate Admission Committee, 2004-2007
- Member, GGCS Educational Policy Committee, 2007-2009
- Member, Information Technology Committee, 2002-2004<
- Member, GGCS Graduate Advising Committee, 2002-2003, 2005-2006
- Member, Undergraduate Affairs (CSUGA) Committee, 1999-2002
- Member, Industry Relations (CSIAP) Committee, 2000-2002
- Member, College of Engineering Awards and Recognition Committee, 2002-2004
- Member, College of Engineering Undergraduate Educational Policy Committee, 2000-2001
- Member, College of Engineering Student Petitions Committee, 2000-2001
- College L&S Assembly Representative, 2000-2005

Past Editorial Activities

- Associate Editor in Chief, IEEE Computer Graphics & Applications, 2013 — July 2019
- Associate Editor, IEEE Transactions on Visualization and Computer Graphics, 2007-2011
- Associate Editor, IEEE Computer Graphics and Applications, 2006 - 2013
- Associate Editor, Journal of Computational Science and Discovery, 2009 – 2014
- VisFiles Editor, ACM SIGGRPH Computer Graphics Quarterly, 2003 - 2010
- Guest Editor, IEEE Transactions on Visualization and Computer Graphics, 11(5) 2005
- Guest Editor, IEEE Computer Graphics and Applications, 19(5) 1999, 20(5) 2000, 21(4) 2001, 26(2) 2006.
- Guest Editor, Computer & Graphics, 30(5) 2009.
- Co-Editor, IEEE Visualization Conference Proceedings, 2008 and 2009
- Co-Editor, 2009 Ultrascale Visualization Workshop Proceedings, ACM
- Co-Editor, 2008 Ultrascale Visualization Workshop Proceedings, IEEE.
- Co-Editor, IEEE Pacific Visualization 2008 Symposium Proceedings, IEEE VGTC.
- Co-Editor, VizSEC Proceedings, 2007 and 2008

Past Conference Organizational Activities

- Co-Chair, the 1st Visualization Workshop, Academia Sinica, Taiwan, August 19, 2022
- Session Chair, ACM CHI 2021, IEEE VIS 2021
- Workshop co-Chair, Visualization Meets AI, IEEE PacificVis 2019 and 2020
- Papers Co-Chair, International Symposium on Graph Drawing and Network Visualization, 2017
- Papers Co-Chair, EuroVis 2015 and 2016
- Papers Co-Chair, InfoVis 2015 and 2016
- Area Co-Chair, Storage, Visualization, and Analysis, Supercomputing Conference (SC) 2013.
- Program Chair, VizSec 2013
- Workshop Chair, BigDataVis 2013
- Symposium Co-Chair, IEEE Symposium on Large Data Analysis and Visualization, Oct 24, 2011
- Symposium Co-Chair, IEEE Pacific Visualization Symposium, March 1-4 2010
- Workshop Chair, Scientific Storytelling, Davis, CA, November 1, 2010

- Paper Co-Chair, IEEE Visualization Conference, 2008 and 2009
- Workshop Chair, Ultra-Scale Visualization, 2006-2015 in conjunction with Annual ACM/IEEE
- Supercomputing Conference (SC).
- Paper Co-Chair, IEEE Pacific Visualization Symposium, 2008
- Paper Co-Chair, VizSEC 2007 and 2008
- Paper Co-Chair, Eurographics/ACM SIGGRAPH 2008 Symposium on Parallel Graphics and
- Visualization
- Paper Co-Chair, Knowledge-Assisted Visualization Workshop, 2007
- Workshop Chair, Workshop on Feature Extraction and Tracking, Davis, CA, August 1-2, 2007
- Program Co-Chair, 2007 Asia-Pacific Visualization Symposium, February 5-7.
- Poster Chair, InfoVis 2006.
- Workshop Chair, Visualization on Computer Security (VizSEC 2005)
- Application Paper Co-Chair, IEEE Visualization 2004 Conference, Austin, TX
- Co-Chair, Posters, IEEE Visualization 2002 Conference, Boston, MA, Oct 27-Nov 1, 2002
- Co-Chair, Work-in-Progress, IEEE Visualization 2001 Conference, San Diego, Oct 21-26, 2001
- Program Chair, NSF Workshop on Large Sci. & Eng. Data Visualization, Utah, May 20-22 1999.
- Case Studies Co-Chair,
- IEEE Visualization '99 Conference, San Francisco, CA, Oct. 24-29, 1999.
- IEEE Visualization '98 Conference, Research Triangle Park, NC, Oct. 18-23, 1998
- Co-Chair, IEEE 1997 Parallel Rendering Symposium, Phoneix, AZ.
- Chair, Visualizing Large Data, BOF at Visualization '97, Phoneix, AZ.

Past Program Committee Duties

- IEEE VIS 2022, IEEE PacificVis 2022, IEEE LDAV 2022
- IEEE BigData 2019 and 2020, IEEE VAST 2019, IEEE InfoVis 2020,
- IEEE SciVis 2019 and 2020, Graph Drawing 2019 and 2020
- Big Data Engineering 2019, CDVE 2019, IEEE LDAV 2019, Pacific Graphics 2019, VRST 2019
- IEEE VAST 2018, IEEE SciVis 2018, IEEE LDAV 2018, IEEE Big Data 2018
- IPDPS 2018, Pacific Graphics 2018, VRST 2018, SC 2007, 2011, and 2018
- IEEE Big Data 2017, Pacific Graphics 2017, IEEE VAST 2017, VISSOFT 2017
- ACM SIGGRAPH Asia 2016 Visualization Symposium
- Graph Drawing 2016, VizSec 2016, BigMM 2016, LDAV 2016, CDVE 2016
- EmoVis 2016, ChinaVis 2015, Vis in HPC 2015, BigData Visual Analytics 2015
- IEEE BigDataService 2015 and 2016, IEEE Multimedia Big Data 2015 and 2016
- VHPC 2015, Smart Graphics 2015, SciVis 2014, VISSOFT 2014 and 2017
- EGPGV 2014, EuroVis 2014, VizSec 2013, IEEE Big Data 2013, SciVis 2013, InfoVis 2013,
- LDAV 2013, CAD/Graphics 2013, VISSOFT 2013, IEEE PacificVis 2013, EuroVis 2013,
- 3DV 2013, IEEE Visualization Conference 2000, 2004, 2005, 2006, 2012
- InfoVis 2004-2006 and 2011 and 2012, IEEE VAST 2012, IEEE LDAV 2012
- IVAPP 2012, CDVE 2012, eScience Track, IEEE CloudCom 2011, VISSOFT 2011
- ACM SIGGRAPH Asia 2011 Sketches & Posters
- AAAI-11 Workshop on Scalable Integration of Analytics and Visualization
- Eurographics Parallel Graphics and Visualization Symposium (EGPGV) 2000, 2002, 2004, 2006,
- 2009, 2010, 2011
- EuroVis 2007, 2008, 2009, 2010, SoftVis 2010, CloudCom 2010, 3DPVT 2010, VisMing 2009
- Pacific Graphics 2002, 2003, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012
- SIGGRAPH Asia 2009-2010 Sketches & Posters
- IEEE CAD/Graphics 2009 and 2011, NPAR 2004, 2006, 2007, 2008

- Volume Graphics 2001, 2003, and 2005-2008, SIGGRAPH 2007 Sketch and Poster,
- 3rd International Symposium on Visual Computing, CAD/Graphics 2001, 2003, 2005, and 2007,
- APVIS 2007, Computer Graphics International 2006
- 2006 International Symposium on Visual Computing
- Fourth International Conference on Intelligent Multimedia Computing and Networking, July 2005
- Symposium on Volume Visualization (VolVis) 1998, 2000, 2002, 2004
- International Workshop on Intelligent Multimedia Computing & Networking, 2003.
- 8th International Conference on Distributed Multimedia Systems, September 26-28, 2002
- International Workshop on Intelligent Multimedia Computing and Networking, March 8-12, 2002
- IEEE 2001 Symposium on Parallel and Large Data Visualization, October 22-23, 2001
- Workshop on CG * VR, International Computer Symposium, Dec 2000
- IEEE 1999 Symposium on Parallel Visualization and Graphics
- Visualization and Mathematics '97

Other Past Conference Committee Duties

- Steering Committee, IEEE Symposium on Large Data Analysis & Visualization (LDAV), 2011-2019
- Steering Committee, International Conference on Graph Drawing and Network Visualization, 2016-2018
- Steering Committee, VizSec, 2009-2019
- Steering Committee, EGPGV, 2008-2015
- VGTC Awards Committee, IEEE, 2019-2021
- Test of Time Award Committee, IEEE SciVis 2018
- Best Papers Committee, ChinaVis 2018
- Best Papers Committee, ACM SIGGRAPH Asia 2017 Symposium on Visualization
- Best Papers Committee, IEEE VAST 2017
- Best Papers Committee, IEEE SciVis 2017
- Fernbach Award Committee, SC07 and IEEE Computer Society.
- Best-Paper Committee, IEEE Visualization 2005 Conference, Minneapolis, MN, October 23-28

Other Past Services

- Panelist, ChinaVis 2018, Shanghai, China
- Panelist, IEEE PacificVAST 2017
- Panelist, Challenges in Large Data Visualization: A Visualization Community Call to Action, IEEE Visualization 2009 Conference
- Panel Organizer: Meet the Scientists, IEEE Visualization 2007 Conference
- Panelist, Future Research Cahllenges of Parallel Graphics and Visualization. 2008 Symposium on Parallel Graphics and Visualization
- Panelist, DOE SciDAC Organization Meeting, February 5, 2007
- Panelist, IEEE Visualization 2006 Conference
- Panelist, Volume Graphics 2005

- Panel Organizer: Visualizing Large-Scale Data Sets: Challenges and Opportunties, ACM SIGGRAPH '99
- Course Organizer: Recent Advances in Non-Photorealistic Rendering for Art and Science, ACM SIGGRAPH 2002 Conference
- Course Organizer: System Designs for Large-Scale Data Visualization, ACM SIGGRAPH '99
- Course Organizer: Parallel Graphics and Visualization Technology, ACM SIGGRAPH '98
- Course Organizer: Texture Synthesis with LIC, ACM SIGGRAPH '97 Conference

TEACHING AND MENTORING

Current PhD Students
- Yun-Hsin Kuo, PhD Student
- Yiran Li, PhD Candidate
- Hsiao-Ying Lu, PhD Student
- Seyed Mak Ahmad, PhD Student
- Qi Wu, PhD Candidate
- David Bauer, PhD Candidate
- Yu-Chia Huang, PhD Student
- Yuya Kawakami, PhD Student
- Oleg Igouchkine, PhD Student
- Xiwei Xuan, PhD Candidate
- Allison Austin, PhD Student
- Yu-Te Lee, PhD Student

Current M.S. Students
- Sarah Yuniar
- Ying-Cheng Chen
- Kai-Chen Tung
- Arisa Cowe
- Ujwal Thyagarajan
- Aryaman Bahukhandi

Supervised Postdocs
- Senthil Chandrasegaran, September 2017 – August 2020, Assistant Professor, TU Delft
- Min Shih, October 2018 – January 2019, Google
- Jia-Kai Chou, January 2015 – August 2018, FICO
- Franz Sauer, Disney Animation, July 2017 – February 2018, Disney
- Yi-Ling Chen, Microsoft, April 2016 – January 2018, Microsoft
- Meng Du, September 2015 – September 2017, Beijing Institute of Graphic Communication
- Chris Muelder, October 2011 – May 2015, LinkedIn
- Isaac Liao, October 2010 – June 2014, Riot Games
- Arnaud Sallaberry, August 2011 – July 2012, Associate Professor, LIRMM, France,

- Yingcai Wu, May 2010- March 2012, Professor, Zhejiang University

- Stephane Marchesin, January-November 2010, Google

- Carlos Correa, September 2008 – April 2010, Google

- Chaoli Wang, January 2007 – August 2009, Associate Professor, Notre Dame University

<u>Past Ph.D. Students</u>

1. Keshav Dasu, PhD, 09-2023
2. Suraj Kesavan, PhD, 09-2023
3. Shilipika, PhD, 06-2023 (Argonne National Laboratory)
4. Xiaoyu Zhang, PhD, 06-2023 (ETH AI Center)
5. Tyson Neuroth, PhD, 12-2022
6. Fei Xue, PhD Education, 09-2022 (UC Davis)
7. Takanori Fujiwara, PhD, 12-2021 (Linköping University)
8. Oh-Hyun Kwon, PhD 12-2020 (Apple)
9. Chuan Wang, PhD 12-2020 (Splunk)
10. Jianping Li, PhD 8-2020 (Databricks)
11. Annie Preston, PhD 12-2019 (ClimateCheck)
12. Tarik Crnovrsanin, PhD 6-2019 (Northeastern University)
13. Chris Bryan, PhD 8-2018 (Arizona State University)
14. Min Shih, PhD 8-2018 (Google)
15. Chris Yucong Ye, PhD 8-2018 (Google)
16. Franz Sauer, PhD 06-2017 (Disney)
17. Lin Zheng, PhD 12-2017 (GE)
18. Jinrong Xie, PhD 03-2016 (e-Bay)
19. Yuzuru Tanahashi, PhD 6-2015 (Google)
20. Yubo Zhang, PhD 12-2014 (NVIDIA)
21. Jishang Wei, PhD 9-2014 (HP Lab)
22. Yu-Hsuan Chan, PhD 12-2014
23. Nathan Fout, PhD 8-2012 (Providence Regional Medical Center Everett)
24. Anna Tikhonova, PhD 12-2012 (Apple)
25. Michael Ogawa, PhD 3-2011 (Youtube)
26. Chris Muelder, PhD 9-2011 (Google)
27. Cheng-Kai Chen, PhD 12-2011 (Apple)
28. Zeqing Shen, PhD 8-2009 (TikTok)
29. Hongfeng Yu, PhD 6-2008 (University of Nebraska-Lincoln)
30. Hiroshi Akiba, PhD 8-2008 (Intel)
31. Runzhen Huang , PhD 6-2007 (Microsoft)
32. Fan-Yin Tzeng, PhD 12-2006 (NVIDIA)
33. Brett Wilson, PhD 9-2005 (Google)
34. Eric Lum, PhD 6-2004 (NVIDIA)
35. Soon Tee Teoh, PhD 9-2004 (Google)

36. T.J. Jankun-Kelly, PhD 6-2003 (Mississippi State University)
37. Greg Schussman, PhD 12-2003 (Kontagent)

Past M.S. Students

1. Lukas Masopust, M.S., 09-2022
2. Amy Woods, M.S., 06-2022
3. Celine Shenny, M.S., 12-2021
4. Shidi Yu, M.S., 12-2021
5. Dingheng (Bruce) Zhang, M.S. ECE, 12-2021
6. Michael Sun, M.S. 6-2021
7. Po-Wei Chi, M.S., 6-2021
8. Xinlin Shuai, M.S. ECE, 06-2021
9. Maksim Gomov, M.S., 06-2020
10. Sandra Bae, M.S., 06-2020
11. Zhiyi Xu, M.S., 06-2019
12. Joseph Kotlarek, M.S., 06-2019
13. Tan Huu Nguyen, M.S., 08-2017
14. Jacqueline Chu, M.S., 08-2016
15. Ramyar Ghods, M.S., 08-2016
16. Chien-Hsin Hsueh, M.S., 08-2016
17. Tsai-Ling Fung, M.S., 03-2016
18. Hendrik Schroots, M.S., 09-2015, Intel
19. Yuqi Yang, M.S., 6-2015
20. Chun-Fu Wang, M.S., 12-2014
21. Shu-Wei Hsu, M.S., 12-2014
22. Yeseul Park, M.S., 9-2013,
23. Guo-Xun Yuan, M.S., 6-2013,
24. Yelena Wu, M.S., 6-2013,
25. Carmen Sigovan, M.S., 6-2012
26. Dan Potter, M.S., 12-2011
27. Wei-Hsien Hsu, M.S., 8-2011
28. Yu-Hsin Shih, M.S., 12-2011
29. Yue Wang, M.S., 6-2008
30. Jonathan Strasser, M.S., 3-2007
31. Lei Chen, M.S., 12-2007
32. Eric Sunalp, M.S., 6-2005
33. Jonathan McPherson, M.S., 6-2004
34. Ian Bowman, M.S., 6-2004
35. Aleksander Stompel, M.S. 9-2003
36. Conrad Tse, M.S. 9-2002
37. David Camp, M.S. 6-2000

Professor Ma has also engaged a large number of undergraduate students in his research projects.

Courses Taught at UC Davis

- ECS20 Discrete Mathematics
- ECS163 Information Interfaces
- ECS175 Introduction to Computer Graphics
- ECS177 Introduction to Visualization
- ECS275 Advanced Computer Graphics
- ECS272 Information Visualization
- ECS277 Advanced Visualization
- ECS276 Advanced Volume Visualization
- ECS289 Big Data Visualization
- ECS289 Immersive Visualization
- ECS273 Visual Analytics

Other Teaching Activities

- Invited Lecturer, Statistical School, Academia Sinica, Taipei, Taiwan, July 15-31, 2019
- Invited Lecturer, Summer School on Visual Analytics, Zhejiang University, Hangzhou, China, July 29, 2018
- Invited Lecturer, Visual Computing Summer School, Shandong University, Qingdao, China, July 19, 2018
- Invited Lecturer, International Winter School on Big Data , Tarragona, Spain, January 26-30, 2015
- Invited Lecturer, CEA/EDF/INRIA Summer Schools, Cadarache, France, June 14-23, 2011