

KWAN-LIU MA

Home Page: <http://www.cs.ucdavis.edu/~ma>

PROFESSIONAL PREPARATION

University of Utah, Computer Science B.S. (1986), M.S. (1988), Ph.D. (1993)

APPOINTMENTS

Distinguished Professor (Computer Science), 7/2018 –
Professor (Computer Science), 7/2003 – 6/2018
Chair (Graduate Group of Computer Science), 7/2009 -
Associate Professor (Computer Science) 7/1999 – 6/2003
University of California at Davis

Senior Staff Scientist, 8/1998 – 6/1999
Staff Scientist, 6/1993 – 7/1998
ICASE, NASA Langley Research Center, Hampton, VA

RECENT PUBLICATIONS

1. Senthil Chandrasegaran, Cis Bryan, Hidekazu Shidara, Tung-Yen Chuang, Kwan-Liu Ma. TalkTraces: Real-Time Capture and Visualization of Verbal Content in Meetings. In Proceedings of ACM CHI Conference on Human Factors in Computing Systems (CHI 2019).
2. Min Shih, Charles Rozhon, Kwan-Liu Ma: A Declarative Grammar of Flexible Volume Visualization Pipelines. *IEEE Transactions on Visualization and Computer Graphics* 25(1): 1050-1059 (2019)
3. Xu-Meng Wang, Wei Chen, Jia-Kai Chou, Chris Bryan, Huihua Guan, Wenlong Chen, Rusheng Pan, Kwan-Liu Ma: GraphProtector: A Visual Interface for Employing and Assessing Multiple Privacy Preserving Graph Algorithms. *IEEE Transactions on Visualization and Computer Graphics* 25(1): 193-203 (2019)
4. Oh-Hyun Kwon, Tarik Crnovrsanin, Kwan-Liu Ma: What Would A Graph Look Like in This Layout? A Machine Learning Approach to Large Graph Visualization. *IEEE Transactions on Visualization and Computer Graphics* 24(1): 478-488 (2018)
5. Oleg Igouchkine, Yubo Zhang, Kwan-Liu Ma: Multi-Material Volume Rendering with a Physically-Based Surface Reflection Model. *IEEE Transactions on Visualization and Computer Graphics* 24(12): 3147-3159 (2018)
6. Yang Shi, Chris Bryan, Sridatt Bhamidipati, Ying Zhao, Yaoxue Zhang, Kwan-Liu Ma: MeetingVis: Visual Narratives to Assist in Recalling Meeting Context and Content. *IEEE Transactions on Visualization and Computer Graphics* 24(6): 1918-1929 (2018)
7. Chris Bryan, Kwan-Liu Ma, J. Woodring: *Temporal Summary Images: An Approach to Narrative Visualization via Interactive Annotation Generation and Placement*. *IEEE Transactions on Visualization & Computer Graphics*, 23(1):511-520 (2017)
8. Chris Bryan, Gregory Guterman, Kwan-Liu Ma, Harris Lewin, Denis Larkin, Jaebum Kim, Jian Ma, Marta Farre: Synteny Explorer: An Interactive Visualization Application for Teaching Genome Evolution. *IEEE Transactions on Visualization and Computer Graphics* 23(1): 711-720 (2017)
9. Tyson Neuroth, Franz Sauer, Weixing Wang, Stéphane Ethier, Choong-Seock Chang, Kwan-Liu Ma: Scalable Visualization of Time-varying Multi-parameter Distributions Using Spatially Organized Histograms. *IEEE Transactions on Visualization and Computer Graphics* 23(12): 2599-2612 (2017)
10. F. Sauer, K.-L. Ma: Spatio-Temporal Feature Exploration in Combined Particle/Volume Reference Frames. *IEEE Transactions on Visualization and Computer Graphics* 23(6): 1624-1635(2017)

SYNERGISTIC ACTIVITIES

Director, UC Davis Center for Visualization

This Center promotes interdisciplinary research and education in data visualization. (since 2013)

Director, DOE SciDAC Institute for Ultra-Scale Visualization

Ma led this 5-year project (2006-2011) involving five other institutions to make the visualization research innovations enabling scientific discovery in petascale and exascale.

Founding Members of New Conferences and Workshops

Ma is the lead founding member of the IEEE Pacific Visualization Symposium, which provides researchers in the Asian Pacific region an international forum for greater exchange with others in the field since 2008. Ma is also a founding member of the IEEE Symposium on Large Data Analysis and Visualization, which has been held annually in conjunction with IEEE VIS since 2011. Ma has been the leading organizer of the Ultrascale Visualization Workshop at the annual Supercomputing Conference since 2006.

Keynote/Plenary Speaker

International Symposium on Visualization 2018, Sino-German Workshop on Visualization 2018, Big Data Visualization 2018, VDA 2018, PacificVAST 2017, ozCHI 2016, VIZBI 2016, ACM Visualization Symposium 2015, Graph Drawing 2015, China Vis 2015, ChinaGraph 2014, TextVis 2013, TopolnVis 2013, SIBGRAPI 2012, Pacific Visualization 2011, Pacific Graphics 2009, ICAP 2009, ChinaGraph 2008, SIAM Parallel Processing for Scientific Computing 2008, ISVC 2007, Computer Graphics Workshop 2007, CAD&CG 2006, and APVis 2006

Selected Professional Service

- Papers Co-Chair, Graph Drawing 2017, EuroVis 2015, 2016 and InfoVis 2015, 2016
- Area Chair, Storage, Visualization, and Analytics, SC 2013
- Co-Chair, Ultrascale Visualization Workshop, SC 2006-2015
- Papers Co-Chair, VizSec 2013
- Symposium Co-Chair, IEEE Symposium on Large Data Analysis and Visualization, 2011
- Symposium Co-Chair, IEEE Pacific Visualization Symposium, 2010
- Paper Co-Chair, IEEE Visualization Conference, 2008 and 2009
- Paper Co-Chair, IEEE Pacific Visualization 2008 Symposium
- Paper Co-Chair, Eurographics Parallel Graphics and Visualization 2008 Symposium (EGPGV'08)
- Best Papers Committee, IEEE VAST 2017, IEEE SciVis 2017, ACM Vis 2017, ChinaVis 2018
- Steering Committee Member, VizSec (2009-14), EGPGV (2008-15), LDAH, PacificVis
- Associate Editor, IEEE Transactions on Visualization and Computer Graphics (2007-2011)
- Associate Editor, Journal of Computational Science and Discovery (2008-2014)
- Associate Editor-in-Chief, IEEE Computer Graphics and Applications
- Associate Editor, Journal of Visualization, J. of Visual Informatics, J. of Computational Visual Media

Honors & Awards

2018 Distinguished Professor, UC Davis

2018 Best Visual Storytelling Award, IEEE PacificVis

2017 Best Visual Storytelling Award, IEEE PacificVis

2017 Best Paper Award, IEEE Pacific Visualization Symposium (PacificVis 2017)

2015 Best Paper Award, Graph Drawing 2015

2015 Best VisNotes Award, IEEE Pacific Visualization Symposium (PacificVis 2015)

2013 IEEE VGTC Visualization Technical Achievement Award

2012 IEEE Fellow

2011 Best Paper Award, the 3rd Workshop on Large-Scale System & 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 Award, UC Davis

2001 Schlumberger Foundation Technical Award

2000 NSF Presidential Early Career Award for Scientists and Engineers (PECASE)

1999 NSF Career Award