Kwan-Liu Ma

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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
- **Chair Professor**, Computer Science, National Chiao Tung University, Taiwan, 2012-present
- **Chair Professor**, Computer Science and Information Engineering, National Taipei University of Technology, Taiwan, May 2012-April 2013
- **Visiting Professor,** Computer Science and Information Engineering, National Taiwan University, Taiwan, 2013-present
- **Visiting Professor,** Keio University, Japan, December 2016-March 2017
- **Qiushi Chair Professor**, Zhejiang University, China, 2013-2015
- **Chair Professor,** School of Software, Tsinghua University, Beijing, China, Jan. 2009-Dec. 2011
- **Director**, DOE SciDAC Institute for Ultra-Scale Visualization, September 2006-December 2012
- **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

- 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
- 2015 SciVis Contest Honorable Mention Award, IEEE VIS
- 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 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**

INVITED TALKS, KEYNOTE and PLENARY SPEECHES (since 1999)

1. Visualization Research: Reviews and Perspectives, **Keynote** Speech, Sino-German Workshop on Visualization, Berlin, Germany, October 21, 2018
2. Audience-Targeted Exploratory and Explanatory Visualization Designs, **Capstone** Speech, InfoVis Camp, Hachioji, Japan, September 7, 2018
3. Visualization: A Tool for Data Exploration and Storytelling, **Keynote** Speech, International Conference on Biological Ontology (ICBO 2018), Corvallis, Oregon, August 7, 2018
4. Big Data Visualization Workshop, Invited talk, ICBO 2018, Corvallis, Oregon, August 7, 2018
5. Interactive Visualization and Visual Analytics, Invited lecture, Summer School on Visualization, Zhejiang University, Hangzhou, China, July 28-August 8, 2018
6. Emerging Topics in Data Visualization, Invited seminar, Tianjin University, Tianjin, China, July 22, 2018
7. Audience-Targeted Exploratory and Explanatory Visualization Designs, Invited lecture, Summer School on Visual Computing, Shandong University, Qingdao, China, July 18-20, 2018
8. Data Visualization for Discovery and Storytelling, Invited talk, UC Davis Chancellor with Alumni in Taiwan, Taipei, Taiwan, June 27, 2018
9. Effective Visualization Designs, Invited lecture, National Chiao Tung University, April 18, 2018, HsinChu, Taiwan
10. Visualization: An Essential Tool for Scientific Discovery and Storytelling, Invited talk, Riken Center on Biosystems Dynamics Research, April 12, 2018, Kobe, Japan
11. Audience-Targeted Exploratory and Explanatory Visualization Designs, **Keynote**, Visual and Data Analysis Conference (VDA 2018), January 28-February 1, San Francisco, CA
12. Exploratory and Explanatory Visualization, Invited Talk, Visualization Workshop, Hyatt Regency, Kyoto, Japan, January 19, 2018
13. Big Data Visualization, Invited talk, CREST International Symposium on Big Data Application, Akihabara Convention Hall, Tokyo, Japan, January 16-17, 2018
14. Big Data Visualization, **Keynote**, Taiwan Data Science Conference, November 11, 2017, Taipei, Taiwan
15. Visualization for Scientific Discovery and Storytelling, Invited talk, Oak Ridge National Laboratory, August 24, 2017, Tennessee
16. Audience Targeted Exploratory and Explanatory Visualization, **Keynote,** SCCG 2017, May 15-17, 2017, Czech Republic
17. Emerging Topics in Visual Analytics, IEEE PacificVAST 2017, **Keynote**, April 18, Seoul, South Korea
18. IEEE PacificVAST 2017, Panelist, April 18, 2017, Seoul, South Korea
19. *Data Visualization*, Invited Lecture, NRS212, February 8, 2017, UC Davis Medical School, Sacramento

20. Visualization for the Public, Invited Seminar, University of Tokyo, Tokyo, Japan, December 19, 2016
21. Big Data Visualization, invited talk, Fuji Xerox, Yokohama, Japan, December 15, 2016
22. Introduction to Data Visualization, Invited lecture to undergraduate students, Keio University, Yokohama, Japan, December 13, 2016
23. Auidence-Targeted Visualization Designs for Effective Storytelling, Invited seminar, Keio University, Yokohama, Japan, December 8, 2016
24. Visualization for You, **Keynote** speech, OzCHI, Tasmania, Australia, November 30, 2016
25. Emerging Topics for Visualization Research, invited seminar, Linkoping University, Norrkoping, Sweden, October 20, 2016
26. Emerging Topics for Visualization Research, invited seminar, Vienna University of Technology, Vienna, Austria, October 17, 2016
27. Data Visualization, invited talk, Fall Seminar, Center for Healthcare Policy and Research, University of California, Davis, September 28, 2016
28. Visualization: A Tool for Data Exploration and Storytelling, invited lecture, Hokudai University, Hokkaido, Japan, August 9, 2016
29. *Scientific Visualization for the Public*, invited talk, Hanzhou Low Carbon Science & Technology Museum, Hangzhou, China, July 8, 2016
30. *Visualization: An Exploratory and Explanatory Tool*, invited talk, International Symposium on Visual Computing, Hangzhou, China, July 7, 2016
31. *Recent Advances in Visualization Research*, invited seminar, National Chiao Tung University, Hsinchu, Taiwan, June 29, 2016
32. *Big-Data Visualization Techniques for Studying Behaviors, Connections, and Evolution*. Invited Talk, Institute of Statistical Science, Academia Sinica, Taipei, Taiwan, June 17, 2016
33. *Visualization: An Essential Tool for Scientific Discovery and Storytelling*. Invited Talk, 2016 Pacific Science Congress, Academia Sinica, Taipei, Taiwan, June 16, 2016
34. *Visualization: A Tool for Exploration and Storytelling*, inited talk, Biophotonics Seminar, UC Davis, June 2, 2016
35. *Visualizing Extreme-Scale CFD Simulations*. **Plenary Talk**, Parallel CFD 2016, May 9-12, Kobe, Japan
36. *Visualization: A Tool for Data Exploration and Storytelling*. Invited Lecture, April 28, Taipei Medical University, Taiwan
37. *Recent Advances in Visualization Research*. Invited Talk, April 27, Institute of Sociology, Academia Sinica, Taiwan
38. Big Data Visualization, 2016 Summit Forum on Big Data Visualization, invited talk, April 24, Fudan University, Shanghai, China.
39. *Topics in Visualization*. Invited Seminar, Institute for Visualization and Interactive Systems, University of Stuttgart, March 11, Germany
40. *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
41. *Visualization and High-Performance Visualization,* **Keynote** Speech, Symposium on

Visualization in HPC, ACM SIGGRAPH Asia, November 2, 2015

42. *Advanced Concepts and Strategies for Visualizing Large-Scale, Complex Simulation Data*, Invited Talk, International Computational Accelerator Physics, Shanghai, China, October 12-14
43. *Emerging Topics in Network Visualization,* Invited Speech, Graph Drawing 2015, Los Angeles, CA, September 24-26
44. *Topics in Data Visualization*, Invited Seminar, Beijing Technology and Business University, September 2, 2015
45. *New Techniques for Visualizing Large-Scale Scientific Data*, Invited Talk, CAEP-SCNS, Beijing, China, September 2, 2015
46. *Big Data Visualization,* Invited Talk, Qinghai University, China, August 28, 2015
47. Trends and Advanced Concepts for Scientific Visualization, **Keynote**, China Scientific Data Conference, Lanzhou, China, August 26-27
48. Frontiers of Visualization Research, **Keynote**, ChinaVis 2015, Tianjin, China, July 17
49. Network Visualization, Invited lecture, National Chiao Tung University, Hsinchu City, Taiwan, July 2
50. Visual Summarization and Analysis of Big Biomedical Data, Clinical and Translational Science Center, UC Davis Health System, Sacramento, CA, February 19, 2015
51. Volume Data Visualization, Network Data Visualization, Dynamic Network Data Visualization. Invited lectures, International Winter School on Big Data, Tarragona, Spain, January 26-30, 2015
52. Emerging Topics for Big Graph Visualization, invited talk, Shonan Seminar on Big Graph Drawing, Kanagawa, Japan, January 12, 2015
53. *Advances in Network Visualization*, invited seminar, Academia Sinica, Taipei, Taiwan, December 31, 2014
54. *Big Data Visualization*, **Keynote** speech, ChinaGraph 2014, Wuhan, China, October 18, 2014
55. *Advanced Volume Visualization*, invited talk, National Chiao Tung University, Hsinchu, Taiwan, September 9, 2014
56. *Big-Data Visualization Techniques for Studying Behaviors, Connections, and Evolution*, **Keynote**, the 1st China Visual Analytics Conference, Beijing, China, July 19, 2014
57. *Emerging Research Topics in Visualization*, Invited Seminar, Zhejiang University of Technology, Hangzhou, China, July 4, 2014
58. *Emerging Research Topics in Visualization*, Invited Seminar, Zhejiang University, Hangzhou, China, July 3, 2014
59. *Advanced Concepts and Techniques for Visualization*, Invited Talk, High Performance Computing and Geospatial Analytics Workshop, Argonne National Laboratory, April 29, 2014
60. *Explorable Images for Extreme-Scale Visualization*, Invited Talk, Shonan Seminar, Japan, March 11, 2014
61. *Center of Excellence for Visualization*, Invited Talk, RISE Symposium, Davis, CA, January 27, 2014
62. *Big Data Visualization*. Invited Talk, CA Technologies, Santa Clara, CA, January 22, 2014
63. *Visual Analytics: Opportunities and Challenges*. National Taiwan University, Invited Seminar, Taipei, Taiwan, December 6, 2013

64. *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

65. *Visualization Techniques for Assisting Heterogeneous Text Analysis*. The 3rd IEEE Workshop on Interactive Visual Text Analytics, **Keynote** Speech, Atlanta, GA, October 14, 2013

66. *Big-Data Visualization*, HRL Laboratory, Invited Talk, Malibu, CA, October 3, 2013

67. *Visual Analytics Techniques for Gleaning Insight from Big Data*, Statistical Science Camp, Academia Sinica, Invited Talk, Taipei, Taiwan, September 4, 2013

68. *Advanced Visualization Techniques for Scientific Research and Education*, Invited Talk, Zhejiang University, Hangzhou, China, September 2, 2013

69. *Big Data Visualization*, Invited Talk, Trend Micro, Taipei, Taiwan, August 30, 2013

70. *Advanced Concepts and Techniques for Visualizing Large, Complex Data*, Invited Talk, Los Alamos National Laboratory, New Mexico, August 8, 2013.

71. *Big-Data Visualization Techniques for Studying Behaviors, Connections, and Evolution* , Invited Lecture, National Chao Tung University, HsinChu, Taiwan, July 10, 2013

72. *Big-Data Visualization*, Invited Talk, Industrial Technology Research Institute, HsinChu, Taiwan, July 9, 2013

73. *Visualization for Studying Social Networks*, Dagstuhl Seminar, Germany, May 14, 2013.

74. *Emerging Topics for Visualization Research*, **Keynote Speech,** TopoVis 2013, March 4.

75. *Extreme-Scale Data Visualization*, Invited Talk, AICS International Symposium, Kobe, Japan, March 1, 2013

76. *VIDI Research*, CS Club, UC Davis, February 13, 2013

77. *Big Data Visualization*, Electrical Engineering Department, Taipei Tech, December 26, 2012.

78. *Big Data Visualization*, Distinguished Lecture, Computer Science and Calit2, University of California at Irvine, November 16, 2012.

79. *Advanced Concepts and Techniques for Extreme-Scale Data Analysis and Visualization*, DOE Exascale Computing Conference, Washington DC, October 1-3, 2012.

80. *Information Visualization for Studying Behaviors, Connections and Evoluation*, Taiwan Tech, Taipei, Taiwan, September 20, 2012.

81. *Information Visualization for Studying Behaviors, Connections, and Evoluation*, Zhejiang University, Hangzhou, China, September 13, 2012.

82. *Information Visualization for Studying Behaviors, Connections, and Evoluation*, Zhegjiang University of Technology, Hangzhou, China, September 11, 2012.

83. *Big Data Visualization: Advanced Concepts and Techniques*, SIBGRAPI 2012, Ouro Preto, Brazil, August 24, 2012.

84. *VIDI Reserach Overview*, University of Sao Paulo, Brazil, August 21, 2012.

85. *Big Data Visualization*, HP Labs, Palo Alto, CA, July 23, 2012.

86. *Big Data Visualization*, Chunghwa Telecom Laboratories, Taipei, Taiwan, July 6, 2012.

87. *Large Data Visualization*, Invited Talk, National Chao Tung University, HsinChu, Taiwan, July 2, 2012.

88. *Visualization: An Enabling Tool for Discovery and Communication*, Invited Talk, St. John's University of Technology, Taiwan, June 27, 2012.

89. *Visualization Research Challenges and Opportunities*, Invited Talk, National Taipei University of Technology, Taipei, Taiwan, May 17, 2012.
90. *Recent Advances in Social Network Visualization*, Invited Talk, Academia Sinica, Taipei, Taiwan, May 14, 2012.
91. *Large Data Visualization*, Invited Talk, Zhejiang University of Technology, Hangzhou, China, May 8, 2012.
92. *Advanced Concepts for Large Data Visualization*, Invited Seminar, Seoul National University, South Korea, Feb 28, 2012.
93. *Visualizing Large and Complex Data*, Invited Talk, IBM Almaden Research, Febrary 8, 2012.
94. *Next-Generation Visualization Requirements for In-Situ Processing*, Invited Talk, SC11 BOF, Seattle, WA, November 15, 2011.
95. *Visualizing Large, Complex Data*, Invited Talk, 5th XLDB, Stanford, CA, October 18-19, 2011.
96. *Visualizing Large, Complex Data*, Invited Seminar, National Tsing Hua University, Taiwan, September 14, 2011.
97. *Research Directions in Data Visualization*, **Keynote Speech**, 2011 Computer Graphics Workshop, Taipei, Taiwan, July 14-15.
98. *Visualizing Large, Complex Data: An Overview*, June 14, 2011, CEA/EDF/INRIA Summer Schools, Cadarache, France.
99. *Parallel Visualization*, June 15, 2011, CEA/EDF/INRIA Summer Schools, Cadarache, France.
100. *Particle Data Visualization*, June 16, 2011, CEA/EDF/INRIA Summer Schools, Cadarache, France.
101. *Vector Field Visualization*, June 17*Network Visualization*, June 21, CEA/EDF/INRIA Summer Schools, Cadarache, France.
102. *Advanced Concepts for Large Data Visualization*, June 22, CEA/EDF/INRIA Summer Schools, Cadarache, France.
103. *In Situ Visualization*, June 23, CEA/EDF/INRIA Summer Schools, Cadarache, France
104. *Network Analysis and Visualization*, Invited Lecture, National Chiao Tung University, Taiwan, May 11
105. *Explorable Images: A New Approach to Large Data Visualization*, Invited Lecture, National Chiao Tung University, Taiwan, May 10
106. *Visualizing Large Data*, Invited Lecture, AMP Lab, Univesity of California, Berkeley, April 27
107. *New Approaches to Large Data Visualization*, **Keynote** speech. 2011 IEEE Pacific Visualization Symposium, March 3.
108. *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
109. *Visualization as a Knowledge Discovery and Communication Tool*, Undergraduate Seminar, Computer Science, National Chiao Tung University, Taiwan, December 21, 2010
110. *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
111. *Techniques for Visualizing Large, Complex Data.* SCI **Distinguished Lecture**, University of Utah, November 12, 2010

112. 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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

134. *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

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

136. *Space for Visualization*, **Keynote** speech, Pacific Graphics 2009, Jeju, Korea, October 7-9, 2009
137. *Next Generation Visualization Technology for Computational Sciences*, plenary speech, 10th International Computational Accelerator Physics Conference (ICAP 2009), San Francisco, September 2, 2009
138. *Information Visualization*, invited seminar, National Taipei University of Technology, Taipei, Taiwan, August 25, 2009
139. *Parallel Visualization*, invited lectures, Peking University, China, August 17-18, 2009
140. *Recent Advances in Visualization*, invited seminar, National Chiao Tung University, Hsinchu, Taiwan, July 30, 2009
141. *VIDi Research Overview*, invitaed talk, National Taiwan University, Taipei, Taiwan, July 14.
142. *Scientific Visualization at Extreme Scale*, invited lecture, National Cheng-Kung University, Taiwan, June 1, 2009
143. *Scientific Visualization at Extreme Scale*, invited lecture, National Taiwan University of Science and Technology, Taiwan, May 27, 2009
144. Advanced Concepts and Techniques for Medical Image Data Visualization, invited talk, ASNR (American Society of Neuroradiology) 2009, Vancouver, Canada, May 19, 2009
145. Ultravis Institute Accomplishments, SciDAC Midterm Review meeting, DC, April 27, 2009
146. Space for Visualization, Neyman seminar, University of California at Berkeley, April 8, 2009
147. VIDI Research Overview, the Exploratorium, San Francisco, March 13, 2009
148. Visualization in the Right Space, Invited Talk, Statistical Computation and Visualization 2008, Academic Sinica, Taipei, Taiwan, December 1-3, 2008
149. *Ultrascale Visualization,* **Distinguished Lecture**, Brown University, November 6, 2008
150. **Keynote** speech, Chinagraph, Changsha, China, September 26-28, 2008
151. Invited Speech, Information Visualization Workshop, Taiwan, September 24-25, 2008
152. *Ultrascale Visualization*, ACM SIGGRAPH 2008 Conference, Los Angeles, August 15, 2008
153. *Novel Transfer Functions for Volume Visualization*, **Keynote** Speech, Computer Graphics Workshop, Taiwan, July 24-25, 2008
154. **Keynote** speech, Visualization Workshop, Peking University, Beijing, June 24, 2008
155. *Novel Transfer Functions for Volume Visualization*. **Keynote** Speech, Computer Graphics Workshop, Taiwan, July 24-25, 2008
156. Depicting beyond Terascale, CSE, Georgia Institute of Technology, March 14, 2008
157. *Parallel Visualization Technology*, **Plenary Speech**, SIAM Conference on Parallel Processing for Scientific Computing, Atlanta, GA, March 12-14, 2008
158. VIDi Research, WesternGeco, Houston, TX, February 18, 2008
159. *Visualizing Extreme-Scale Data*, Invited talk, Visualization and Data Analysis 2008 Conference, San Jose, January 28, 2008
160. *Advanced Visualization Technology for Gyrokinetics Particle Simulations*, invited talk, SciDAC GPS project meeting, Irvine, January 24, 2008
161. *Data to Knowledge: A Visual Approach*, Nokia Research Center, Palo Alto, CA, December 13, 2007
162. **Keynote** Speech, 3rd International Symposium on Visual Computing (ISVC 2007), Lake Tahoe, Nevada, November 26-28, 2007
163. *Visualizing Ultra-Scale Data*, Invited Talk, IIC, Harvard University, October 24, 2007

164. *Ultrascale Visualization*, **Keynote** speech, , Computer Graphics Workshop, Taiwan, October 18, 2007

165. *In-Situ Visualization for Ultra-Scale Simulations,* National Center for High-Performance Computing, Taiwan, October 15, 2007

166. *Key Challenges in Computational Science at the Petascale*, **Plenary Speech**, , 2007 Fall Creek Falls Conference, ORNL, Tennessee, September 24-25, 2007

167. *Information Visualization*, invited Lecture, National Chiao-Tong University, Taiwan, August 16

168. *Scientific Visualization*, National Chiao-Tong University, Taiwan, August 16, 2007

169. *In-Situ Visualization for Ultra-Scale Simulations*, SciDAC 2007 Conference, Boston, June 24-28, 2007

170. *Tired of Parallel Coordinates*?, Dagstuhl Seminar on Information Visualization, May 29-June 1, 2007

171. *Multidimensional Particle Data Analysis and Visualization*, DOE Computer Graphics Forum, May 1, 2007

172. *SciDAC Institute for Ultrascale Visualization: Mission and Strategic Plan*, DOE Computer Graphics Forum, April 30, 2007

173. *Envisioning Scientific Data: Challenges and Research*, invited Lecture, UCLA, April 23, 2007

174. *Simulation-Time Visualization,* Workshop on Ultra-Scale Visualization, Supercomputing 2006 Conference, November 13, 2006

175. *Ultrascale Visualization,* Invited Seminar, Institute of Applied Physics and Computational Mathematics, Beijing, China, October 23, 2006

176. *Ultrascale Visualization,* Invited Seminar, Chinese Academy of Sciences, Beijing, China, Oct 22, 2006

177. *Ultrascale Visualization,* Invited Seminar, National Taiwan University, Taipei, October 16, 2006

178. *Information Visualization*, **Keynote** Speech, 2006 Chinese CAD&CG Conference, Shandong, China, Oct 18-20, 2006

179. *Information Visualization for Security*, Invited Seminar, National Taiwan University, July 11, 2006

180. *Ultra-Scale Visualization*, Invited Lecture, National Center for High Performance Computing, Taiwan, July 6, 2006

181. *Advanced Volume Visualization Technologies*, Invited Lecture, Chang Gung Hospital, Taiwan, July 5, 2006

182. *Future Visualization Technologies*, Invited Lecture, Kyoto University, Japan, June 22, 2006

183. *High-Performance Visualization*, Invited Lecture, Nara Women University, Japan, June 19, 2006

184. *Visual Analysis of Complex Networks*, Invited Lecture, Ochanomizu University, Japan, June 16, 2006

185. *Ultrascale Visualization*, **Keynote** Speech, 2006 Transdisciplinary Fluid Integration Symposium, Sendai, Japan, June 12

186. *Visual Analysis of Large, Heterogeneous Social Networks*, Invited Lecture, University of Konstanz, Germany, May 31, 2006

187. *Visual Analysis of Large, Heterogeneous Social Networks*, Invited Lecture, University of Zurich, Switzerland, May 30, 2006

188. *Parallel Rendering Algorithms for Large-Scale Data Visualization*, Invited Lecture, ETH Zurich, Switzerland, May 29, 2006

189. *Ultra-Scale Visualization*, Invited Lecture, UCLA Institute for Digital Research and Education, May 15
190. *Cyber Security through Visualization*, **Keynote** Speech, 2006 Asia-Pacific Symposium on Information Visualization, Tokyo, Japan, February 1, 2006
191. *Visualization Technologies for Combustion Science*, NSF Workshop on Cyber-based Combustion Science, Arlington, VA, April 19, 2006
192. *Illustrative Visualization*, Panel on Illustrative Visualization, Visualization 2005 Conference, Minneapolis, MN, October 23-28.
193. Expressive Line Selection By Example, Pacific Graphics 2005 Conference, Macau, October 12-14.
194. Next Generation Visualization Interfaces, Invited Seminar, HKUST, Hong Kong, October 10, 2005.
195. Visualizing Supernova Simulations, Invited Talk, Terascale Supernova Initiate (TSI) Review Meeting, San Diego, September 10, 2005.
196. Next Generation Visualization Interfaces, Invited Talk, Tsinghua University, China, July 14, 2005.
197. Next Generation Visualization Interfaces, Invited Talk, Zhejiang University, China, July 11, 2005.
198. Next Generation Visualization Interfaces, Invited Talk, Fudan University, China, July 8, 2005.
199. Introduction To Visualization. 2) Volume Visualization. 3) High- Quality Volume Visualization. 4) Large Data Visualization. Invited Lectures, Fudan University, China, July 6-7, 2005.
200. Scientific Discovery Through Advanced Visualization, Invited Talk, DOE SciDAC 2005 Conference, San Francisco, CA, June 26-29, 2005.
201. Panel presentation, Panel on Volume Graphics: What in the Cards, International Workshop on Volume Graphics 2005, Stony Brook, NY, June 20-21.
202. Information Interfaces, Invited Talk, Nissan Motor Co., Japan, June 15, 2005.
203. Visualization And Computational Science & Engineering, Invited Talk, NIH-NSF Workshop on Visualization Research Challenges, Salt Lake City., Utah, May 1-3, 2005
204. Advanced Visualization Techniques For Complex Biomedical Data, Invited Talk, UC Davis Cancer Center, November 30, 2004.
205. Visualization For Security, Invited Talk, Lawrence Berkeley National Laboratory, September 14, 2004.
206. Large Volume Data Visualization, Invited Talk, DOE VIEWS Workshop, Salt Lake City, July 20, 2004.
207. Advanced Volume Visualization Technologies, Invited Talk, National Taiwan University, Taiwan, July 9, 2004.
208. An Efficient Pre-Integrated Volume Rendering Algorithm, Invited Talk, National Chiao Tung University, Taiwan, July 7, 2004.
209. Volume Visualization. High Quality Volume Rendering Techniques. Future Research Directions In Data Visualization, Invited Lectures, National Cheng Kung University, Taiwan, July 6, 2004.
210. Advanced Visualization Technologies, Invited Talk, Nissan Motor Co., Japan, June 24, 2004.
211. Visualizing Large-Scale Earthquake Simulations, Supercomputing 2003 Conference, November 15-21.
212. Emerging Interface Technologies for Data Visualization, Iwate Prefectural University, July 18, 2003.

213. Emerging Interface Technologies for Data Visualization, Invited Talk, the Yamanashi University, Japan, July 16, 2003.
214. An Interactive Volume Visualization System for Transient Flow Analysis, the International Workshop on Volume Graphics, Tokyo, Japan, July 7-8, 2003.
215. Interactive Visualization of Transient Flow, Invited Talk presented at Nissan Motor Co., Japan, July 4, 2003.
216. Emerging Interactive Visualization Technologies, University of Tokyo, Japan, June 30, 2003
217. New Technologies for Interactive Visualization, Invited Talk, ARMY AHPCRC Workshop on Graphics Modeling, Simulation and Visualization, Tallahassee, FL, June 23-24, 2003.
218. Emerging Interface Technology for Data Visualization, DIMACS Workshop on Visualization and Data Mining, October 24-25, 2002
219. Interactive Visualization Techniques for Terascale Particle Accelerator Simulations, Invited talk, the DoE SciDEC Visualization Workshop, Salt Lake City, UT, September 10, 2002.
220. Next-Generation Visualization Technologies, Invited Talk, Los Alamos National Laboratory, Los Alamos, NM, August 13, 2002.
221. New Technologies for Data Visualization, **Keynote** Speech, Annual Computer Graphics Workshop, Tainan, Taiwan, June 26-27, 2002
222. Hardware-Accelerated Volume Rendering, Invited Talk, the National Center for High Performance Computing, HsinChu, Taiwan, June 31, 2002
223. Visualization Techniques for Time-Varying Volume Data, invited talk, the CAD/Graphics 2001 Conference, Kunming, China, August 22-24.
224. Large-Scale Scientific Data Visualization, Invited Talk, Tokyo University, Tokyo, Japan, July 9, 2001
225. 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.
226. 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
227. Large-Scale Medical Data Visualization, Invited Talk, the National Institutes of Health, Bethesda, MD, October 25, 2000.
228. Scientific Visualization Research, Invited Talk, CIPIC, Biotechnology Seminar, University of California, Davis, November 17, 2000
229. User Interface Technology for Data Visualization, Invited talk, Tamkang University, Tamsui, Taiwan, May 16, 2000
230. Parallel Volume Visualization, Invited talk, Tamkang University, Tamsui, Taiwan, May 15, 2000
231. Large-Data Visualization, Invited talk, Tamkang University, Tamsui, Taiwan, May 14, 2000
232. Parallel Scientific Visualization, Invited talk, Bay Area Scientific Computing Day, Berkeley, CA, February 26, 2000
233. Plasma Physics Data Visualization, Invited Talk, General Atomics, San Diego, CA, August 22, 2000
234. Large-Scale Data Visualization, Invited Talk, Chevron Petroleum Technology Company, June 5, 2000
235. Visualizing Large-Scale 3-D Irregular Grid Data, Invited talk, Lawrence Berkeley National Laboratory, May 8, 2000.

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

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

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

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

240. Massively Parallel Visualization Systems, Invited talk, Electrotechnical Laboratory, Japan, December 7, 1999.

241. Scientific Visualization, invited talk, the University of California, Davis, Medical Informatics, Davis, CA, November 16, 1999.

242. Parallel Visualization Systems, the ACM SIGGRAPH '99 Conference, Course 9: System Designed for Visualizing Large-Scale Scientific Data, August 8, 1999.

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In Journal:

1. P4: Portable Parallel Processing Pipelines for Interactive Information Visualization. Kelvin Jianping Li and K.-L. Ma. **IEEE Transactions on Visualization and Computer Graphics** (Accepted 2018 to appear) DOI: 10.1109/TVCG.2018.2871139

2. Deep Neural Representation Guided Face Sketch Synthesis. B. Sheng, P. Li, C. Gao, K.-L. Ma. . **IEEE Transactions on Visualization and Computer Graphics** (Accepted 2018 to appear) DOI: 10.1109/TVCG.2018.2866090

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5. 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** (Accepted 2018 to appear) DOI: 10.1109/TVCG/2018.2833113

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7. 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)

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10. 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)

11. *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)

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14. *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)

15. *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)

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132. *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.

133. *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.

134. *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.

135. *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.

136. *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.

137. *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.

138. *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.

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

140. *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.

141. *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.

142. *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.

143. *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.

144. *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.

145. *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.

146. *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.

147. *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.

148. *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.

149. *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.

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

151. *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.

152. *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.

153. *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.

154. *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.

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

156. *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.

157. *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

158. *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

159. *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

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

161. *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.

162. *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.

163. *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

164. *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).

165. *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.

166. *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

167. *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

168. *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

169. *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.

170. *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.

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

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

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

174. *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.

175. *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.

176. *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.

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188. *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.

189. *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.

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Kwan-Liu Ma. In Proceedings DIMACS Workshop on External Memory Algorithms and Visualization, Piscataway, NJ, May-20-22, 1998.

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196. *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

197. *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

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

199. *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.

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

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

202. *3D Visualization of Unsteady 2D Airplane Wake Vortices*. Kwan-Liu Ma and Z. Zheng. In Proceedings IEEE Visualization '94 Conference, Oct 1994

203. *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

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

205. *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.

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

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

208.   *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

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

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

EXTERNAL FUNDINGS

- 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 over half a million dollars of research donations from industry.

SUPERVISING & TEACHING (since joining UCD)

Supervision

Postdocs:
1. Min Shih (Current)
2. Senthil Chandrasegaran (Current)

3. Jia-Ka Chou (FICO)

4. Franz Sauer (Disney)
5. Carlos Correa (Google)
6. Eric Lum (NVIDIA)
7. Chaoli Wang (Faculty, Notre Dame University)
8. Stephane Marchesin (Google)
9. Yingcai Wu (Faculty, Zhejiang University, China)
10. Isaac Liao (Riot Games)
11. Arnaud Sallaberry (Faculty, Université Paul Valéry, France)
12. Christopher Muelder (Google)
13. Yi-Ling Chen (Microsoft)
14. Meng Du (Peking University)

Current Ph.D. Students:

1. Oleg Igouchkine
2. Takanori Fujiwara
3. Jing Li
4. Tyson Neuroth
5. Tianchen Sun
6. Shipika
7. Tarik Crnovrsanin
8. Kelvin Jianping Li
9. Annie Preston
10. Oh-Hyun Kwon
11. Keshav Dasu
12. Yiran Li
13. Xiaoyu Zhang
14. Qi Wu
15. Nick Leaf (part time)
16. Namitha Benjamin (part time)
17. Robert Miller (part time)
18. Yang Wang (part time)
19. Chuan Wang (part time)

Past Ph.D. Students:

1. Chris Bryan, PhD 8-2018 (Arizona State University)
2. Min Shih, PhD 8-2018 (UC Davis)
3. Chris Yucong Ye, PhD 8-2018 (UC Davis)
4. Franz Sauer, PhD 06-2017 (Disney)
5. Lin Zheng, PhD 12-2017 (GE)
6. Jinrong Xie, PhD 03-2016 (e-Bay)
7. Yuzuru Tanahashi, PhD 6-2015 (Google)
8. Yubo Zhang, PhD 12-2014 (NVIDIA)
9. Jishang Wei, PhD 9-2014 (HP Lab)
10. Yu-Hsuan Chan, PhD 12-2014
11. Nathan Fout, PhD 8-2012
12. Anna Tikhonova, PhD 12-2012 (Apple)
13. Michael Ogawa, PhD 3-2011 (Youtube)
14. Chris Muelder, PhD 9-2011 (Google)
15. Cheng-Kai Chen, PhD 12-2011 (Apple)
16. Zeqing Shen, PhD 8-2009 (Alibaba)
17. Hongfeng Yu, PhD 6-2008 (University of Nebraska-Lincoln)
18. Hiroshi Akiba, PhD 8-2008 (Intel)

19. Runzhen Huang , PhD 6-2007 (Microsoft)
20. Fan-Yin Tzeng, PhD 12-2006 (NVIDIA)
21. Brett Wilson, PhD 9-2005 (Google)
22. Eric Lum, PhD 6-2004 (NVIDIA)
23. Soon Tee Teoh, PhD 9-2004 (Google)
24. T.J. Jankun-Kelly, PhD 6-2003 (Mississippi State University)
25. Greg Schussman, PhD 12-2003 (Kontagent)
26. Chad Jones (Apple)
27. Robert Hero (NVIDIA)
28. Steve Haroz (Northwestern University)
29. Carmen Sigovan (Amazon)
30. Wei-Hsien Hsu (Yahoo)

Visiting PhD Students:

Siwei Fu, Hong Kong University of Science and Technology
Chaoqing Xu, Zhejiang University of Technology, China
Junhua Lu, Zhejiang University, China
Jiarui Niu, Shandong University, China
Jia-Kai Chou, National Taiwan University of Science and Technology
Ken Nagao, Keio University, Japan
Yi-Jheng Huang, National Chiao tung University, Taiwan
Yang Shi, Central South University, China
Biao Zhu, Zhejiang University, China
Oh-Hyun Kwon, Ajou University, South Korea
Jun Ma, Wuhan University, China
Derek Gerstmann, University of Western, Australia
Weiwei Cui, HKUST, Hong Kong
Lei Tang, Shandong University, China
Alberto Boschetti, Universita Degli Studi Di, Italy
Steffen Frey, University of Stuttgart, Germany
Jianqiang Mei, Tianjin University
Yu-Shuen Wang, National Cheng-Kung University, Taiwan
Ove Lampe, University of Bergen, Norway

Current MS Students:

Maxim Gomov, Suraj Kesavan, Joseph Kotlarek, Zhiyi Xu, Sandra Bae

Past MS Students:

D. Camp, L. Chen, J. McPherson, A. Stompel, J. Strasser
E. Sunalp, C. Tse, R. Armstrong, Yue Wang, Y.-H. Shih
D. Potter, Yelena Wu, Guo-Xun Yuan, Yeseul Park, Shu-Wei Hsu
Chun-Fu Wang, Chien-Hsin Hsueh, Ramyar Ghods, Xue Wu,
Tsai-Ling Fung, Jacqueline Chu, Hendrik Schroots, Yuqi Young, Tan Huu Nguyen

Visiting MS Student:

Yi-Chia Tsai, NCTU, Taiwan
Jain-Xun Lai, NCTU, Taiwan
Tim van Dijk, Eindhoven University of Technology, Nettherland

Current Undergraduate Students:

Hidekazu Shidara

Past Undergraduate Students:

Shenyu Xu, Sandra Bae, Chen Ma, Alex Kong, G. Guterman, J. Chen, B. Becker,
T. Neuroth, A. Garbutt, M. Nguyen, A. Kim, D. Lewis, R. Armstrong, D. Durkin, R. Hero,
E. Lin, M. Nguyen, M. Ogawa, G. Rosa, F. Vivodtzev, W. Wong, Z. Margolis,
Chris Ho, T. Provan, Vivian Ho, Ashish Subedy, Tan Huu Nguyen,
Sridatt Bhamidipati, Yuting Han,

Teaching

- UC Davis 2000-2018
  - 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

- 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

PROFESSIONAL SERVICES (since joining UCD)

Editorial Activities

- **Associate Editor in Chief,** IEEE Computer Graphics & Applications, 2013 — present

- **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

- **Associate Editor,** Journal of Visualization, 2011 — present

- **Associate Editor,** Journal of Computational Visual Media, 2015 — present

- **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

Conferences
- **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, October 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, October 27 - November 1, 2002

- **Co-Chair**, Work-in-Progress, IEEE Visualization 2001 Conference, San Diego, October 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.

Program Committees

IEEE VAST 2018, IEEE SciVis 2018, IEEE LDAV 2018, IEEE Big Data 2018
IPDPS 2018, Pacific Graphics 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
ACM SIGGRAPH Asia 2011 Sketches & Posters
AAAI-11 Workshop on Scalable Integration of Analytics and Visualization
VISSOFT 2011
Eurographics Parallel Graphics and Visualization Symposium (EGPGV)
    2000, 2002, 2004, 2006, 2009, 2010, 2011
EuroVis 2007, 2008, 2009, 2010
Pacific Graphics 2002, 2003, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012
SoftVis 2010, CloudCom 2010, 3DPVT 2010
VisMing 2009
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

Panels/Tutorials/Courses

- 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 Conference
- Course Organizer: Parallel Graphics and Visualization Technology, ACM SIGGRAPH '98 Conference
- Course Organizer: Texture Synthesis with LIC, ACM SIGGRAPH '97 Conference

Other Activities

- Steering committee,
    - EGPGV (2008-2015)
    - IEEE PacificVis (Chair since 2008)
    - IEEE LDAV (Large Data Analysis and Visualization)
    - International Symposium on Graph Drawing and Network Visualization (since 2015)
    - VIzSec (since 2009)
- Best papers committee
    - ACM SIGGRAPH Asia 2017 Symposium on Visualization
    - IEEE VAST 2017
    - IEEE SciVis 2017
    - IEEE Visualization 2005

- Secretary, Executive Committee, IEEE-CS TCVG (Technical Committee on Visualization and Graphics), October 2001 - September 2003.
- Organizer, Session on Visualization and Collaboration, CTS 2008
- Fernbach Award Committee, SC07 and IEEE Computer Society
- Organizing committee
    - Workshop on Commodity-Based Visualization Clusters, IEEE Visualization 2002 Conference,
    - Symposium on Visualizing Time-Varying Data, Williamsburg, VA, 1995
- Review panelist, U.S. National Science Foundation and Department of Energy
- Reviewers, IEEE Computer, IEEE Transactions on Visualization and Computer Graphics, IEEE Transactions on Parallel and Distributed Systems, ACM Transactions on Graphics, NSF, Army, DOE and various conferences
- Session Chair, Visualization '98 Conference, Volume Graphics 2003, Visualization 2004 Conference, VolVis 2004, CCS 2004 Workshop on Visualization and Data Mining for Computer Security, ACM SAC 2005, Pacific Graphics 2005, Visualization 2005 Conference, VizSEC 2005, Pacific Graphics 2006, SoftVis 2010

- Participant of Scientists and Engineers in the School, NSF 50th Anniversary, 2000

University Service

Chair, GGCS (Grouduate Group in Computer Science), 2009-2018
Chair, GGCS Executive Committee, since 2009
Member, College of Engineering Dean's Advisory Council, 2014 - 2016
Member, Department Award Committee, 2013-2015
Member, Department Executive Committee, 2009-2016
Member, College of Engineering Committee for Graduate Study, 2009 – 2018
Member, College of Engineering On-line Education Working Group, 2018
Member, Review Committee,
           Data, Informatics & Application Launch (DIAL) Grant Pilot Program, 2017 and 2018
Mentor, UC Davis AvenueE Program, 2017-2018
Member, Technocultural Studies Program Review, 2015
Member, Big Data Implementation Committee, 2013
Chair, Department Award Committee, 2010-2012
Chair, College of Engineering Committee for Graduate Study, 2013
Member, Academic Freedom and Responsibility, 2009-2011
Member, College of Engineering Committee for Graduate Study, 2009-2015
Member, Personnel Committee, Department of Computer Science, 2008-2011
Chair, Award Committee, Department of Computer Science, 2011-2012
Member, Faculty Representative Committee, Department of Computer Science, 2008-2009
Chair, Committee of Graduate Advisers, Department of Computer Science, 2006 -2008
Member, Committee on Educational Policy, Department of Computer Science, 2006 -2007
Member, Research and Outreach Committee, Department of Computer Science, 2006 -2007
Chair, Research and Outreach Committee, Department of Computer Science, 2004-2006
Member, GGCS Graduate Admission Committee, Department of Computer Science, 2004-2006
Member, Information Technology Committee, Department of Computer Science, 2002-2004
Member, GGCS Graduate Advising Committee, Department of Computer Science, 2002-2003
Member, Industrial Affiliates Program Committee, Department of Computer Science, 1999-2002
Member, Undergraduate Advising Committee, Department of Computer Science, 1999-2002
Member, Awards and Recognition Committee, College of Engineering, 2002-2004

Member, Undergraduate Educational Policy Committee, College of Engineering, 2000-2001
Member, Undergraduate Student Petitions Committee, College of Engineering, 2000-2001
Chair, ad-hoc Review Committee, University, February - March 2002
Member, ad-hoc Review Committee, University, March - April 2002