

CURRICULUM VITAE

Chiu-Shui Chan, Ph.D.

Department of Architecture / Virtual Reality Applications Center / HCI
Iowa State University, 482 College of Design, Ames, Iowa 50011-3093
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FIELDS OF ACADEMIC INTEREST

Application of artificial intelligence and human computer interaction in design,
Cognitive modeling of design process (design cognition),
Parametric modeling and Python Programming,
Virtual reality in architectural design,
Phenomenology & problem solving in design,
Simulation of design thinking, style, and creativity,
Motion in design and design in motion (motion capture),
Computer graphics, representation & visualization through scripting.

ACADEMIC EXPERIENCE

Professor, Department of Architecture, Iowa State University, 2003 to present.
Chair, Digital Media Minor Program, College of Design, Iowa State University, Spring 2006-present.
Affiliate Professor, Human Computer Interaction Graduate Program, ISU, 2003 to present.
Affiliate Professor, Virtual Reality Applications Center, ISU, 1997 to present.
Chair Professor, School of Urban Design, Wuhan University, Wuhan, China, Fall 2011-Spring 2014.
Visiting Professor, School of Architecture, Tienjin University, Tienjin, China, Fall 2011-Spring 2014.
Visiting Professor, College of Design, Department of Digital Media Design, National YunLin University of Science and Technology, Fall 2005.
Visiting Professor, Institute of Creative Industry Design & School of Architecture, National ChengKung University, Tainan, Taiwan, Fall 2005.
Visiting Professor, Graduate Institute of Architecture, National Chiao Tung University, HsinChu, Taiwan, ROC. Spring 2005.

EDUCATION

Ph.D., Department of Architecture, Carnegie Mellon University, Pittsburgh, PA.
Dissertation title: Psychology of Style in Design. 1990.
Master of Architecture, Department of Architecture, University of Minnesota, Minneapolis, MN.
Master thesis title: Continuity and Change: An Interpretation of a Prototype for a Library Design in Taipei. 1982.
French Linguistic Diploma, COFI De Levis, Montreal, Canada, 1978.
Bachelor of Science, Department of Architecture and Urban Planning, Chinese Culture University, Taipei, Taiwan, Republic of China. 1974.

RESEARCH EXPERIENCE

A. Recent works with Virtual Reality Applications Center, ISU

VR Setting for Evaluating the Effectiveness of a Work Space (2003 to 2007)
Utilizing 3D data in a virtual urban environment to support and evaluate planning decisions (2000 to 2006)
Establishing a virtual library for teaching architectural history (1997 to 1999)
Developing a new design tool in synthetic environments (1997 to 1999)

B. Other works

Parametric representation of cognitive style (2014 to present)
Parametric Modeling in Design (2014 to present)
Google Earth Virtual Campus Project (2007 to present)
Project Aware and AIA research grant, virtual reality in architecture (2002 to 2007)
NSF funded Project, exploring impacts of urban coding to urban form through virtual reality (2001 to 2006)
Exploring the use of virtual reality (1997 to 2001)
Exploring architectural creativity (1995 to present)
Expert system for generating a minimal kitchen design (1995 to 1996)
Installing Architecture Department home page on World Wide Web (1994 to 1995)
Study of building compliance to the ADA regulations (1993 to 1995)
Developing a hypermedia tutoring system (1991 to 1993)
Exploring the causes of individual style (1990 to 1992)
A prototype for an intelligent design system (1990 to 1991)
Operational definitions of style in design (1989 to 1990)
Fundamentals of style (1988 to 1989)
Exploring individual style through Frank Lloyd Wright's designs (1987 to 1988)
Cognitive processes in architectural design problem solving (1985 to 1987)
Mental image and internal representation (1983 to 1985)

PUBLISHED BOOKS

1. Chan, C. S. (2015). *Style and Creativity in Design*. Studies of Applied Philosophy, Epistemology, and Rational Ethics Series, Volume 17, Springer Press, Switzerland, ISBN: 978-3-319-14016-2.
2. Chan, C. S. (2008). "Design Cognition: Cognitive Science in Design." China Architecture and Building Press: Beijing, in English & Chinese, ISBN: 978-7-112-09897-2.
3. Chan, C. S. (2015). *Style and Creativity: A Cognitive Theory*. China Architecture and Building Press: Beijing. In print.

CHAPTER IN BOOKS

1. Chan, C. S. (2011) "Design Representation and Perception in Virtual Environments," *Collaborative Design Virtual Environments*, (Eds. Wang XY & Tsai J), Springer: Amsterdam, pp. 29-40.
2. Chan, C. S. (2005) Constructing a Virtual Beijing to Implement Digital Planning, *Insights of Digital Cities*, (Ed. Chiu, ML), Archidata Ltd: Taipei, pp. 175-194.
3. Chan, C. S. (2003b) "Thoughts of Herbert A. Simon - on Cognitive Science in Design." *CAAD Talks 2: Dimensions of Design Computation*, (Ed. Chiu, ML), Garden City Press, Taipei, pp. 34-43.
4. Chan, C. S. (2003a) "Thoughts of Herbert A. Simon - on artificial intelligence in Design." *CAAD Talks 2: Dimensions of Design Computation*, (Ed. Chiu, ML), Garden City Press, Taipei, pp. 26-33.

PUBLISHED JOURNAL ARTICLES

1. Chan, C. S. (2012) Phenomenology of Rhythm in Design, *Journal of Frontiers of Architectural Research*, 1:3, 253-258, <http://dx.doi.org/10.1016/j.foar.2012.06.003>.
2. Chan, C. S. (2009) "Impact of representation to design thinking," *Journal of New Architecture*, 2009:3, pp. 88-90.
3. Chan, C. S. & Xiong, Y. (2007) The Features and Forces that Define, Maintain, and Endanger Beijing Courtyard Housing, *Journal of Architectural and Planning Research*, 24:1, 42-64.
4. Chan, C. S. (2003) Applying Concept of Layering to Study an Urban Form. *Urban Planning Forum*, 148:6, 72-75.
5. Chan, C. S. (2002) Thoughts of Herbert A. Simon on Artificial Intelligence in Design. *Taiwan Architect*. 325, 124-127.
6. Chan, C. S. (2001b) Can Computer Animation Aid Design? *Portafolio*, 1:3, pp. 16a-24a.
7. Chan, C. S. (2001a) An examination of the forces that generate a style. *Design Studies*, 22:4, 319-346.
8. Chan, C. S. (2000) Can style be measured? *Design Studies*, 21:3, 277-291.
9. Chan, C. S. (1997b) Current Impacts of CAD to Architectural Education. *Chinese Architect*. 23:9, 110-113.
10. Chan, C. S. (1997a) Mental image and internal representation. *Journal of Architectural and Planning*

- Research*. 14:1, 52-77.
11. Chan, C. S. (1995) A cognitive theory of style. *Environment and Planning B: Planning & Design*. 22:4, 461-474.
 12. Chan, C. S. (1994) Operational definitions of style. *Environment and Planning B: Planning & Design*. 21:2, 223-246.
 13. Chan, C. S. (1993) How an individual style is generated? *Environment and Planning B: Planning & Design*. 20:4, 391-423.
 14. Chan, C. S. (1992b) Exploring individual style in design. *Environment and Planning B: Planning & Design*. 19:5, 503-523.
 15. Chan, C. S. (1992a) Exploring individual style through Wright's design. *Journal of Architectural and Planning Research*. 9:3, 207-238.
 16. Chan, C. S. (1991) *Psychology of Style in Design*. Ann Arbor, Michigan, UMI.
 17. Chan, C. S. (1990) Cognitive processes in architectural design problem solving. *Design Studies*. 11:2, 60-80.

VIDEO AND SLIDE PUBLICATIONS

- Chan, C. S., Hill, L. & Cruz-Neira, (1999). "VADeT," IEEE VR99 Conference, IEEE video library.
- Chan, C. S., Maves, J. & Cruz-Neira, (1999). "The Notre-Dame of Paris in the year 1220 AD," SIGGRAPH '99 Technical Slide Set.
- Chan, C. S., Maves, J. & Cruz-Neira, (1999). "The Tempietto by Bramante, with original courtyard design," SIGGRAPH '99 Technical Slide Set.
- Chan, C. S., Maves, J. & Cruz-Neira, (1999). "The Speyer Cathedral of Germany" SIGGRAPH '99 Technical Slide Set.
- Chan, C. S., Maves, J. & Cruz-Neira, (1999). "A Walk in the Courtyard of the Roman Pantheon" SIGGRAPH '99 Technical Slide Set.
- Chan, C. S., Maves, J. & Cruz-Neira, (1999). "The Power of Presence in Architectural VR: The Pantheon" SIGGRAPH '99 Technical Slide Set.

PROCEEDINGS

1. Chan, C. S. (2007b), Does Color have Weaker Impact on Human Cognition than Material? *CAAD Future 07*, Amsterdam: Springer, pp. 373-384.
2. Chan, C. S. (2007a), Evaluating Cognition in a Work Space Virtually, *CAADRIA 2007*, pp. 451-458.
3. Chan, C. S. Dang, A., Tong, Z., & Chen, Q. (2005c) A 3D Model of the Inner City of Beijing, *CAAD Future 05*, pp. 63-72.
4. Chan, C. S. & Weng, C. H. (2005b) How Real is the Sense of Presence in a Virtual Environment? *CAADRIA05*, pp. 188-197.
5. Chan, C. S. & Xiong, Y. (2005a) What Forces that Shape and Retain the Beijing Courtyard Houses? *Proceedings of the 3rd Hawaii International Conference on Arts and Humanities*, pp 794-805.
6. Chan, C. S. Dang, A. & Tong, Z. (2004c) Utilizing RS and GIS techniques to create a VR model of the Inner City of Beijing, *Proceedings of the Tenth International Conference on Virtual Systems and MultiMedia (VSMM 04)*, pp. 574-583.
7. Chan, C. S. Du, R. & Chen, Q. (2004b) A Virtual Study of Gate Styles in Beijing's Courtyard Houses, *Proceedings of the Tenth International Conference on Virtual Systems and MultiMedia (VSMM 04)*, pp. 354-363.
8. Chan, C. S. & Tong, Z. (2004a) Can History and Arts in Humanities be Appeared Virtually? *Proceedings of 2nd International Conference on Arts and Humanities*, January 8 - 11, 2004, pp. 1056 - 1065.
9. Chan, C. S., Tong, Z., Dang, A., & Qian, J. (2003) Virtual Reality Modeling of Traditional Chinese Architecture, *Proceedings of Virtual Systems and MultiMedia (VSMM 2003)*, October 15 – 17 Montreal.
10. Chan, C. S. (2001) "Design in a Full-scale Immersive Environment," *Proceedings of the 2da. Conferencia Venezolana sobre Aplicaciones de Computadoras en Arquitectura (ConVEACA 2001)*, Universidad del Zulia, pp. 36-53.
11. Chan, C. S. (2000b) A virtual reality tool to implement city building codes on capitol view preservation. In *Eternity, Infinity, and Virtuality in Architecture* (Proceedings of Association of Computer-Aided Design in American, ACADIA 2000), Eds. Mark Clayton and Guillermo Velasco, pp. 203-211.
12. Yang Jiao and Chiu-Shui Chan. (2000a) "Combining Morphology and Parti to Explore New Image for an

- Information Center," *Proceedings of the Methodology of Architecture Toward the New Era*, Science Tech publishing, pp. 7-17.
13. Hill, L., Chan, C. S. & Cruz-Neira, C. (1999e), Virtual Architectural Design Tool (VADeT) In *Proceedings of the 3rd International Immersive Projection Technology Workshop (IPTW99)* Fraunhofer Institute Center, Stuttgart, Germany, May 10-11.
 14. Chan, C. S. & Browning, T. (1999d), "Design Simulation," In J. Gu, & Z. Wei (Eds.), *Proceedings of the 4th Conference on Computer Aided Architectural Design Research in Asia (CAADRIA'99)*, Shanghai Scientific and Technological Literature Publishing House. pp. 243-252.
 15. Chan, C. S., Maves, J. & Cruz-Neira, C. (1999c), "An Electronic Library for Teaching Architectural History," In J. Gu, & Z. Wei (Eds.), *Proceedings of the 4th Conference on Computer Aided Architectural Design Research in Asia (CAADRIA'99)*, Shanghai Scientific and Technological Literature Publishing House. pp. 335-344.
 16. Chan, C. S., Hill, L. & Cruz-Neira, C. (1999b), "Is It Possible to Design in Full Scale? A CAD Tool in Synthetic Environment," In J. Gu, & Z. Wei (Eds.), *Proceedings of the 4th Conference on Computer Aided Architectural Design Research in Asia (CAADRIA'99)*, Shanghai Scientific and Technological Literature Publishing House. pp. 43-52.
 17. Chan, C. S., Hill, L. & Cruz-Neira, C. (1999a), Can Design be Done in Full-scale Representation? *Proceedings of the 4th Design Thinking Research Symposium - Design Representation*. MIT, Boston, II. pp.139-148.
 18. Chan, C. S. (1997). Virtual Reality in Architectural Design. In Y. T. Liu, T. C. C. Wang, & J. H. Hou (Eds.), *CAADRIA'97 Workshops*. Taipei: Hu's Publisher Inc. pp. 1-10.
 19. Chan, C. S. (1992). A theory of style in design. *Pre-Symposium Proceedings of the Symposium on Architecture and the Information Age at the 6th International Conference on Systems Research, Informatics & Cybernetics*. Baden-Baden, Germany, August 20.
 20. Chan, C. S. (1989). Cognition in design process. *Proceedings of the 11th Annual Conference of The Cognitive Science Society*. Ann Arbor, Michigan, 291-298.

TECHNICAL REPORT

- Osterberg, A. & Chan, C. S. (1994). *Campus-wide Site and Facilities Assessment for ADA Compliance*. Volume 1 - Volume 10, Facilities Planning and Management, Iowa State University, Ames, Iowa.
- Chan, C. S. & Osterberg, A. (1995a). *The Conversion of Residence Hall Floor Plans to AutoCAD Files*. Department of Residence, Iowa State University, Ames, Iowa.
- Osterberg, A. & Chan, C. S. (1995b). *Assessment for ADA Compliance*. Volume 1- Volume 8, Department of Residence, Iowa State University, Ames, Iowa.
- Osterberg, A. & Chan, C. S. (1996). *University Student Apartment Complex Assessment for ADA Compliance*. Volume 1 - Volume 3, Department of Residence, Iowa State University, Ames, Iowa.
- Osterberg, A., Nelson, R., Chan, C. S., & Judy, J. (1997). *Residence Halls Comprehensive Facilities Condition Study*. Volume I - Volume V, Department of Residence, Iowa State University, Ames, Iowa.

PUBLIC PRESENTATIONS

1. August 1989, "Cognition in Design Process." *11th Annual Conference of The Cognitive Science Society*. University of Michigan, Ann Arbor, Michigan, August 16-19.
2. March 1991, "CAD: Past, Present, and Future in Practice and Education." *AIA Iowa Chapter winter meeting*.
3. July 1992, "The Driving Forces of Style in Design." Paper presented at the International Conference of *Design & Decision Support Systems in Architecture & Urban Planning*, Eindhoven University of Technology, Eindhoven, The Netherlands, July 6-10.
4. August 1992, "A Theory of Style in Design." Symposium on Architecture and the Information Age at the *6th International Conference on Systems Research, Informatics & Cybernetics*, Baden-Baden, Germany, August 20.
5. April 1994, "Exploration of Design Thinking." A public lecture presented to the College of Architecture, and two guest lectures "The Science of Design" and "The Form of Design Thinking" given to the Doctoral Seminar at the Doctoral Program, College of Architecture, *Georgia Institute of Technology*, Atlanta,

- Georgia, April 12-14.
6. August 1994, "A HyperMedia Tutoring for Multimedia Tasks." Paper presented at The Second International Conference of *Design & Decision Support Systems in Architecture & Urban Planning*, Vaals, The Netherlands, August 15-19, hosted by the Eindhoven University of Technology.
 7. August 1994, "Style: Approached from a Cognitive Point of View." An invited paper presented at the *Design Psychology* in the Second International Conference of *Design & Decision Support Systems in Architecture & Urban Planning*, Vaals, The Netherlands, August 15-19, hosted by the Eindhoven University of Technology.
 8. April 1997, "Virtual Reality in Architectural Design." Paper presented at The Second Conference on Computer Aided Architectural Design Research in Asia Workshops, *National Chiao Tung University*, HsinChu, Taiwan, R.O.C., April 17-19.
 9. December 1997, "From Modeling Design Thinking Processes to the Modeling of Design Products." Speech given to the *National Chiao Tung University*, HsinChu, Taiwan, R.O.C., December 18.
 10. December 1997, "Creativity and CAD." Speech given to the *TungHai University*, Taichung, Taiwan, 407, R.O.C., December 30.
 11. January 1998, "From Modeling Design Thinking Processes to the Modeling of Design Products." Speech given to the *National ChengKung University*, Tainan, Taiwan, R.O.C., January 6.
 12. January 1998, "From Modeling Design Thinking Processes to the Modeling of Design Products." Speech given to the *National Taiwan University*, Taipei, Taiwan, R.O.C., January 7.
 13. April 1999, Can Design be Done in Full-scale Representation? *4th International Symposium on Design Thinking Research - Design Representation*. MIT. April 23-25.
 14. May 1999, "Is It Possible to Design in Full Scale? A CAD Tool in Synthetic Environment," the *4th Conference on Computer Aided Architectural Design Research in Asia (CAADRIA'99)*, Tongji University, Shanghai, China. May 5-7.
 15. May 1999, "An Electronic Library for Teaching Architectural History," the *4th Conference on Computer Aided Architectural Design Research in Asia (CAADRIA'99)*, Tongji University, Shanghai, China. May 5-7.
 16. May 1999, "Design Simulation," the *4th Conference on Computer Aided Architectural Design Research in Asia (CAADRIA'99)*, Tongji University, Shanghai, China. May 5-7.
 17. May, 1999, "A Scientific Study on Design," Guest lectures to the *Tongji University* and *Tsinghua University*, China. May 6.
 18. May, 1999, "Virtual Reality and its Application in Design" *Beijing Polytechnic University*, Beijing, China. May 10-14.
 19. September 2000, Yang Jiao and Chiu-Shui Chan, "Combining Morphology and Parti to Explore New Image for an Information Center," the International Conference of Methodology of Architecture Toward the New Era, *TungHai University*, TaiJong, Taiwan.
 20. October 22, 2000, "A virtual reality tool to implement city building codes on capitol view preservation," presented at *ACADIA 2000*.
 21. March 12, 2001, "Virtual Reality and Architectural Application," invited presentation given at *TshingHua University*, Beijing, China.
 22. May 10, 2001, "Applications of VR in Design," presentation given at the 3rd semi-annual North American RCSIG users group conference held at the *Virtual Reality Applications Center (VRAC)* Iowa State University, Ames, Iowa, 5/09/2001 to 5/10/2001.
 23. December 5, 2001, "Design in a Full-Scale Immersive Environment," invited presentation at 2da. Conferencia Venezolana sobre Aplicaciones de Computadoras en Arquitectura (ConVEACA 2001), hosted by the Faculty of Architecture and Design at *University of Zulia (LUZ)*, Venezuela.
 24. June 14, 2002, "Applying Cognitive Psychology and Virtual Reality to Evaluate Building Performance," invited presentation at *American Institute of Architects*, Washington DC.
 25. January 14, 2003, "Applications of Virtual Reality in Reality," invited presentation at the College of Computer Science, *Beijing Polytechnic University*, Beijing, China.
 26. January 10, 2004, Chan, C. S. & Tong, Z. "Can History and Arts in Humanities be Appeared Virtually?" *The 2th Hawaii International Conference on Arts and Humanities*, West Oahu, Hawaii.
 27. May 27, 2004, Chan, C. S., Dang, A., Tong, Z., Qian, J., & Xiong, Y., "Combining RS, GIS, and VR in Digitizing the Inner City of Beijing," *International CAD Conference and Exhibition (CAD04)*, Dusit Resort, Pattaya Beach, Thailand.
 28. November 17, 2004, Chan, C. S. Du, R. & Chen, Q., "A Virtual Study of Gate Styles in Beijing's Courtyard Houses," *the Tenth International Conference on Virtual System MultiMedia (VSMM 04)*, Ogaki City, Gifu, Japan.
 29. November 18, 2004, Chan, C. S. Dang, A. & Tong, Z., "Utilizing RS and GIS techniques to create a VR

- model of the Inner City of Beijing,” *the Tenth International Conference on Virtual System MultiMedia (VSMM 04)*, Ogaki City, Gifu, Japan.
30. January 15, 2005, Chan, C. S. & Xiong, Y. “What Forces that Shape and Retain the Beijing Courtyard Houses?” *3rd Hawaii International Conference on Arts and Humanities*, Hawaii.
 31. January 15, 2005, Chan, C. S. Du, R. & Chen, Q. “A Virtual Study of Gate Styles in Beijing’s Courtyard Houses.” *3rd Hawaii International Conference on Arts and Humanities*, Hawaii.
 32. April, 28, 2005, Chan, C. S. & Weng, C. “How Real is the Sense of Presence in a Virtual Environment?” *CAADRIA 2005*, New Delhi, India.
 33. June 20, 2005, Chan, C. S. Dang, A., & Tong, Z. “A 3D Model of the Inner City of Beijing,” *CAAD Future 05*, Vienna, Austria.
 34. October 26, 2005, Chan, C. S. “Introduction of Cognitive Science” National Yunlin University of Science and Technology, Department of Design Computation, Douliu, Taiwan.
 35. October 29, 2005, Chan, C. S. “Introduction of Cognitive Science and Mental Image” National ChungKung University, Architecture Graduate Program. Tainan, Taiwan.
 36. November 1, 2005, Chan, C. S. “Introduction of Information Processing Theory” National Yunlin University of Science and Technology, Department of Design Computation, Douliu, Taiwan.
 37. November 2, 2005, Chan, C. S. “Introduction of Problem Solving and Protocol Analysis” National ChungKung University, Architecture Graduate Program, Tainan, Taiwan.
 38. November 14, 2005, C. S. Chan, “Design in the Natural, Artificial, and Virtual World”, invited presentation given at the International Design Congress, 2005, hosted by the International Association of Societies of Design Research - IASDR 2005 at National Yunlin University of Science and Technology, Douliu, Taiwan.
 39. November 21, 2005, C. S. Chan, to chair a panel discussion at the Conference of “Dialogue between media and computational research” hosted by the National Yunlin University of Science and Technology, Douliu, Taiwan.
 40. January 5, 2006, C. S. Chan, “Concepts of Architectural Research” School of Architecture, Southeast University, Nanjing, China.
 41. January 6, 2006, C. S. Chan, “Concepts of Architectural Research” Graduate School of Architecture, Nanjing University, Nanjing, China.
 42. January 8, 2006, The Trend of Applying Digital Media in Design Studio, invited presentation given at the 2nd National Conference on Digital Architecture Teaching, Southern China University of Science & Technology, Guangzhou, China.
 43. January 11, 2006, C. S. Chan, “Study on Urban Spatial Analysis through Digital Model in a C6 Virtual Environment” School of Architecture, Beijing University of Technology, Beijing, China.
 44. January 11, 2006, C. S. Chan, “Study on Urban Spatial Analysis through Digital Model in a C6 Virtual Environment” School of Architecture, Tsinghua University, Beijing, China.
 45. June 1, 2006, Design in the Virtual World, invited presentation at the School of Architecture and Urban Planning, Lanzhou Jiaotong University, Lanzhou, China.
 46. April, 20, 2007, From how we think to how we feel, invited key note speech presented at *CAADRIA 2007*, Nanjing, China.
 47. April 20, 2007, C. S. Chan, “Evaluating cognition in a workspace virtually,” *CAADRIA 2007*, Nanjing, China.
 48. July 12, 2007, C. S. Chan, “Does Color have Weaker Impact on Human Cognition than Material?” Presented at *CAAD Future 07*, Sydney: Australia.
 49. June, 2008, C. S. Chan, “Defining Design Cognition,” presented at the International Conference of Design Cognition and Computation, Atlanta, Georgia Institute of Technology.
 50. September 22, 2008, M. Engelbrecht and C. S. Chan, “Future of International Design Education,” presentation given at Lanzhou Jiaotong University, School of Architecture and Urban Planning.
 51. October 25, 2008, C. S. Chan, “The Past, Present, and Future of Design Cognition,” invited keynote speech presented at the *National Digital Architecture Teaching Technology Conference* hosted by Tsinghua University, Beijing, China.
 52. May 18, 2009, C. S. Chan, “Trends of Design Education in the America,” presentation given at Lanzhou Jiaotong University, School of Architecture and Urban Planning.
 53. May 20, 2009, C. S. Chan, “Development of Research in Design Cognitive,” presentation given at Xian University of Architecture and Technology, Xian, ShannXi, China.
 54. October 18, 2009, C. S. Chan, “Impacts of Digital Tool to Design Thinking,” presentation given at International Digital Architecture Exhibition 2009, hosted by Xian University of Architecture and Technology, Xian, China.
 55. August 27, 2010, C. S. Chan, “Motion in Design,” presentation given at National Digital Architecture Teaching Conference 2010, hosted by Tongji University, Shanghai, China.

56. September 4, 2010, C. S. Chan, "Virtuality in Reality, and Motion in Architecture," presentation given at College of Architecture and Urban Planning, Hefai University of Technology, Hefai, China.
57. November 17, 2011, C. S. Chan, "Evaluating Phenomenology by Spatial Cognition," presentation given at Spatial Cognition for Architectural Design 2011, hosted by German Research Council and National Science Foundation, NYC.
58. June 3, 2011, C. S. Chan, "Reality and Motion in Architectural Design", presentation given at School of Civil Engineering and Architecture, Wuhan University of Technology, Wuhan, China.
59. November 17, 2011, C. S. Chan, "Evaluating Phenomenology through Spatial Cognition", presentation given at the Spatial Cognition in Architectural Design, New York City, hosted by the NSF and German Research Council.
60. June 11, 2012, C. S. Chan, "Design Thinking and Cognition", presentation given at the College of Architecture and Urban Planning, Hefai University of Technology, Hefai, China.
61. June 22, 2012, C. S. Chan, "Series of Digital Architecture Theory", presentation given at the School of Urban Design, Wuhan University, China.
62. December 29, 2013, C. S. Chan, "Concepts of Shape Grammar in Design", presentation given at the School of Urban Design, Wuhan University, China.
63. May 21, 2014, C. S. Chan, "Introduction of ISU and Phenomenology in Architectural Design", presentation given at the High School Attached to Northwest Normal University, Lanzhou, China.

AWARDED RESEARCH GRANTS (MAJOR GRANTS)

1. Faculty Professional Development Assignment (FPDA), ISU Provost Office, 8/16/14-12/31/14.
2. Subvention Grant 2010, ISU, "Style and Creativity in Design & Style and Creativity: Approached from Design Cognition", \$19,985.
3. Computing Advisory Committee Grant 2010, ISU, Collaboration with Cameron Campbell, and Chris Seeger, "Implementation of Portable Long-distance Laser Scanner for Assessment, Documentation, and Fabrication", \$74,000.
4. Computing Advisory Committee Grant 2008, ISU, Collaboration with Daniel Naegele, Cameron Campbell, Anson Call, and Debra Satterfield, "Teaching video, sound, and motion caption for movie making", \$78,182.
5. Computing Advisory Committee Grant, ISU, Collaboration with Christopher Beorkrem, "3D Printing and Prototyping Support Lab3," \$97,580, 6/1/05-6/30/06.
6. Faculty Professional Development Assignment (FPDA), Provost Office, 08/01/05-12/31/05.
7. American Institute of Architects, Research Planning, Washington DC., "Combining Cognitive Psychology and Virtual Reality to Evaluate Building Performance," \$50,000, 7/15/2004 - 5/31/2005.
8. Center for Excellence in the Arts and Humanities (CEAH), Summer Support Proposal, "Creating Virtual Reality for Arts and Design in Humanities." \$5,000, 4/1/2004-8/31/2004.
9. American Institute of Architects, Research Planning, Washington DC, "Combining Cognitive Psychology and Virtual Reality to Evaluate Building Performance," \$24,997, 6/10/2002 - 6/9/2003.
10. NSF, Division of International Programs, East Asia and Pacific Program, "REU Supplement to U. S. - China Cooperative Research: Utilizing Three-Dimensional Data in a Virtual Urban Environment to Support and Evaluate Planning Decisions," \$23,420, granted #0222521, 8/1/2002 - 7/31/2003.
11. NSF, Division of International Programs, East Asia and Pacific Program, collaboration with Carolina Cruz-Neira, Riad Mahayni, R. Duane Shinn, and I-Shian Suen, "Utilizing Three-Dimensional Data in a Virtual Urban Environment to Support and Evaluate Planning Decisions." Award #0089884 was made on 12/15/2000 for \$119,717,00 with an effective date of 01/01/01. Award duration: 35 months.
12. Project Aware Grants, Center for Teaching Excellence, ISU, "Constructing Traditional Asian Buildings in Virtual Reality to Provide a Diverse Learning Environment," \$9229, August 1997 to December 1997.
13. Miller Faculty Fellowships, The Miller Faculty Development Fund, ISU, collaboration with John Maves, Carolina Cruz-Neira, "Constructing and Reconstructing Notable Buildings to Establish a Virtual Library for Teaching Architectural History," \$24,957, July 1997 to June 1998.
14. Faculty Study in a Second Discipline Grant, ISU, "Exploring and Implementing Architectural Design in Virtual Reality." Spring 1997.
15. Special Research Initiation Grant (SPRIG), Iowa State University Research Foundation, Inc., Office of the Vice Provost for Research, Iowa State University, "An Exploration of Developing a Possible New Design Tool in Synthetic Environments," \$9,349, January 1997 to December 1997.
16. Faculty Improvement Leave, Fall 1996.
17. Residence Hall Maintenance, Iowa State University, "Residence Halls Comprehensive Facility Condition

- Study," \$167,000, collaboration with Professors Arvid Osterberg and Ron Nelson to work on the facility evaluation and to convert elevation drawings to AutoCAD files for the 25 residence buildings on campus, July 1995 to June 1997.
18. Department of Residence, Residence Halls Maintenance, Iowa State University, \$23,900, supervise four students on converting working drawings of 25 buildings to AutoCAD computer files. June 1994 to December 1995.
 19. Department of Residence, Residence Halls Maintenance, Iowa State University, \$119,850, collaboration with Professor Arvid Osterberg to study the accessibility of 25 residence halls in compliance to the Americans with Disabilities Act. July 1994 to May 1995.
 20. Facilities Planning and Management, ISU, \$77,984, collaboration with Professor Arvid Osterberg to complete the study of accessibility of campus buildings in compliance to the Americans with Disabilities Act. March 1994 to June 1994.
 21. Iowa State University Project Vincent Grant, \$7,250 (\$2,965 ISU price), to equip the Design Intelligence Lab with a DEC3000 model 300L AXP workstation. October 1993.
 22. Iowa State University Project Vincent Grant, \$8,872, for providing all design studio coordinators with computers and Ethernet connections. May 1993.
 23. Facilities Planning and Management, ISU, \$102,016, collaboration with Professor Arvid Osterberg to study the accessibility of campus buildings in compliance to the Americans with Disabilities Act. March 1993 to February 1994.
 24. Iowa State University Project Vincent Grant, \$19,590, to augment the Geographic Information Systems Lab in the College of Design (partially funded). May 1992
 25. Autodesk Inc., Mill Valley, California, \$7,585 of computer software including AutoCAD R11 with AME, 3D Studio, and Animator-Pro. December 1991.
 26. Iowa State University Project Vincent Grant, \$52,700, to set up a computerized design studio (partially funded). April 1991.
 27. University Research Grant, Iowa State University, \$7,000, "Exploring the Causes of Individual Style." June 1990 to June 1991.
 28. Iowa State University Vincent Project Grant (grant from US. General Service Administration), \$42,700, to set up the Design Intelligence Lab equipped with a video audio system, a MacIIci, one DEC2100 and one DEC3100 workstations in the Department of Architecture. April 1990.

AWARDS, HONORS, AND SCHOLARSHIPS

Annual College of Design Academic Advising Award, Iowa State University, 2014-2015.
Faculty Professional Development Assignment (FPDA), Provost Office, ISU, Fall 2014.
Nominated as the Best McNair Program Mentor Award by Jasmine Brown.
Nominated as ChangJiang Scholar Program Scholar, Ministry of Education and Li Ka Shing Foundation, China, 2012.
Nominated as Thousand Talent Program Scholar, Ministry of Education, China, 2011.
Nominated to Research Award, Iowa State University Foundation Award, 2006.
Faculty Professional Development Assignment (FPDA) Award, Provost Office, ISU, Fall 2005.
Center for Excellence in the Arts and Humanities (CEAH) Fellows, May 2004.
Miller Faculty Fellows, Iowa State University, 1997-1998.
Faculty Study in a Second Discipline, Iowa State University, Spring 1997.
Faculty Improvement Leave, Iowa State University, Fall 1996.
Who's Who among Asian Americans, Gale Research Inc. Detroit, MI., p.34, 1994.
Association of Collegiate Schools of Architecture, Computer Institute Fellowship, 1990.
Design Research Fellowship, College of Design, Iowa State University, Summer 1991.
R. K. Mellon Fellowship, Carnegie Mellon University, Pittsburgh, PA. 1983 to 1984.

TEACHING AREA

DsnS 235X	Design Thinking, Fall 2011.
Arch 334	Computer Applications in Architecture, Fall 1989 to present.
Arch 404CS	Architectural Design VIII, Spring 2012.
Arch 434	Computer-aided Architectural and Environmental Design, Fall 1989 to present.

Arch 490	Special Topics. Fall 1993 to present
Arch 534	Advanced Computer-aided Architectural Design, Fall 1995 to present.
Arch 590	Special Topics. Fall 1994 to present
IAA5304	Design Thinking and Methods, Cognitive Science and Design Studies, Fall 1997.
DsnS 201	Introduction to Computer Applications, Spring 1991 and Spring 1993.

ADMINISTRATIVE SERVICES

Research, Extension and Outreach Council, College of Design, 2013-present.
Chair of Promotion and Tenure Committee, Department of Architecture, Iowa State University, Spring 2010 – Fall 2011.
Faculty Development Council, College of Design, Spring 2010 – Fall 2011.
Chair of Bachelor of Digital Design Degree Committee, College of Design, Fall 2010.
Dual Degree Program between College of Design, ISU, and School of Architecture & Urban Planning, Lanzhou JiaoTong University (LZJTU). Worked together with the International Exchange and Cooperation Office at LZJTU in 2007, installed the program in spring 2008, completed the transferable credits evaluation in spring 2009, and is helping its progress up to present.
Digital Media Minor Program, College of Design. Initiated the program in 2003, set up the program and formed the committee in 2006, Chair the committee from Fall 2006 to present.
Computer Committee, Chair, Department of Architecture, Iowa State University. Fall 2002 to present.
Supervisory Committee for the Human Computer Interaction (HCI) Graduate Program at the Virtual Reality Applications Center, Fall 2005 to Fall 2008, and Fall 2008-present.
Advisory Board member, Institute for Design Research and Outreach, College of Design (IDRO), Iowa State University. Fall 2002 to present.

PROFESSIONAL AFFILIATIONS

Associate AIA, The American Institute of Architects. Membership #319000014, 1998 to present.
Advisory Board member, Design Cognition and Computing, 2008, 2010.
Member and conference paper reviewer, Association for Computer-Aided Design in Architecture (ACADIA). September 1990 to present.
Member and conference paper reviewer, The Association of Computer Aided Architectural Design Research in Asia (CAADRIA). 1998-present.

PROFESSIONAL DATA ON ACADEMIC SERVICES

A. Editorial Board

Journal of Architectural Engineering Technology, Editor and Editorial Board, 2011-present. Also had been nominated by the publisher in May, 2012 to serve as the Editor-in-Chief for the journal, but had not accepted the nomination.

Journal of Virtual Worlds and Human Computer Interaction, Associate Editor. 2013-present.
Determining the policies in regards to reviewing papers.

B. Grant Proposal Reviewer

Peer Review for Illinois-Indiana Sea Grant College Program Proposal, 2007.
NSF Cyber-enabled Discovery and Innovation (CDI) solicitation, peer review panel. 2006.

C. Conference Chair

Chair a Panel Discussion on “Impacts of Digital Tool to Design Thinking” in *Xian International Digital Architecture Exhibition and Conference 2009*, October 18, 2009.
Chaired one session of the Conference of the Association of Computer Aided Architectural Design

Research in Asia (CAADRIA 2005).

Chaired two Conference Sessions, *Hawaii International Conference on Arts & Humanities, January 15, 2005.*

Conference Session Chair, Virtual Heritage 4, *the Tenth International Conference on Virtual System MultiMedia (VSMM 04)*, Ogaki City, Gifu, Japan, November 18, 2004.

D. Conference Paper Reviewer

Conference paper reviewer for Australasian Conference on Innovative Technologies in Construction: "From BIM to Beyond" ITC 2012.

Conference paper reviewer for Design Computing and Cognition, 2008, 2010, 2012.

Conference paper reviewer for the International Conference on Civil, Architectural and Hydraulic Engineering, CAHE2012.

Conference paper reviewer for the International Conference on Education and Information Systems, Technologies and Applications: EISTA 2011, 2013, 2015.

Conference paper reviewer for the International Conference on Education, Informatics, and Cybernetics: icEIC 2011.

Conference paper reviewer for Systems, Man, and Cybernetic 2009 (SMC2009).

Conference paper reviewer for Construction Applications of Virtual Reality, 2009 (CAVR2009).

Conference reviewer, The Association of Computer Aided Architectural Design Research in Asia (CAADRIA). 2005, 2006, 2007, 2008, 2009.

Conference paper reviewer for CAAD Future 2007.

Conference paper reviewer for G-CADS'04 Symposium, 2003.

E. Journal Paper Referee

Journal paper referee for the Journal of Design Research, 2011, 2012.

Journal paper referee for the International Journal of Architectural Heritage, 2012.

Journal paper referee for the Journal of Architectural Engineering Technology, 2012.

Journal paper referee for the Journal of Design Studies, 1997, 2002, 2006, 2009, 2010.

Journal paper referee for the Journal of Environment and Planning B, Planning and Design, 2005.

Journal paper referee for the Journal of Landscape & Urban Planning.

Journal paper referee for Artificial Intelligence for Engineering Design, Analysis and Manufacturing (AIEDEM) 2005.

Journal paper referee for the Journal of Architecture and Planning Research (JAPR).

Book proposal reviewer for Architectural Press, an imprint of Elsevier Publish Company, 2003.

Journal paper referee for Architectural Press, 2003.

Journal paper referee for the Journal of Portafolio, 2000, 2001.