



CURRICULUM VITAE OF

Mark J. Clayton

TITLE

Associate Professor and Interim Head

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PERSONAL INFORMATION

Born in New Orleans, USA
Citizenship: USA

EDUCATION

Doctor of Philosophy, Civil and Environmental Engineering, Stanford University, 1998. *A Virtual Product Model for Conceptual Building Design Evaluation*. Committee: Dr. Paul Teicholz (Chair), Dr. Martin Fischer (Co-Chair), Dr. Helmut Krawinkler, Dr. John Kunz
Master of Architecture, University of California, Los Angeles, 1987. *A Computerized Consultant for Climate Responsive Building Design*. Committee: Dr. Murray Milne (Chair), Dr. Robin Liggett, Jeffrey Hamer.
Bachelor of Architecture, Virginia Polytechnic Institute, 1983.

EXPERIENCE

2006-present, Interim Head of the Department of Architecture and Associate Professor. Manage the faculty of the department, maintain effective curricula, achieve departmental goals in teaching, research and service, maintain constructive relations with former students and other constituents, and contribute to achievement of college and university goals. Continue to contribute as a faculty member in teaching, research and service.
2001-2006, Executive Associate Dean and Director of Graduate Studies, Associate Professor, College of Architecture, Texas A&M University. Teaching in computer applications, facility management, and design studio. Administrative duties in strategic planning, academic program management, facility management, budget planning and financial management, research administration, and general administration.

1995-2001, Assistant Professor, Department of Architecture, Texas A&M University.
Courses in design studio, computer applications in architecture, facility management.
Conduct research and provide service to the university, government and profession.
1992-1993, Graduate Teaching Assistant, College of Engineering, Stanford University.
Assist in courses in expert systems for engineering.
1988-1991, Lecturer, College of Architecture and Environmental Design, Cal Poly State
University. Teach courses in design studio and computer applications in architecture.
1987, Graduate Teaching Assistant, Graduate School of Architecture and Urban Planning,
UCLA. Assist in courses in climate responsive design.
1984-1986, Project Architect, Architect Michael L. Oxman & Associates, Sterling, VA.
Residential and small commercial building design, drafting, and CAD operations.
1983-1984, Intern-Architect, Leo Gordon Johnson / Associates, Washington, DC. Space
planning and drafting
1983, Intern-Architect, Hammil-Walter Associates, Winston-Salem, NC. Architectural
Drafting.
1980-1981, Office Assistant, KCE Structural Engineers, Washington, DC. Records,
reprographics, and drafting

MEMBERSHIPS

Associate Member, American Institute of Architects. 1983-1984, 2006-present.
Member, Association for Computer Aided-Design in Architecture, 1991, 1994-present.
Member, Association for Computing Machinery, 1991-present.

HONORS

1998, Second place, Fredericksburg Winery Intercollegiate Design Charrette, faculty
member of team with five graduate students from Texas A&M University
1987, Dean's Award for Best Thesis, UCLA Graduate School of Architecture and Urban
Planning
1983, Student Commend Award, Virginia Society of the AIA
1983, Tau Sigma Delta Honor Society
1983, Phi Kappa Phi Honor Society

1 RESEARCH

1.1 Publications

Wide ranging publications in architectural computing, design, design management, and facility management have provided me with an international reputation as a leading researcher in architecture.

Because I believe strongly in mentoring students through collaboration on publications, I have indicated by underscore the students and former students who have co-authored papers with me.

1.1.1 Proceedings

1. Clayton, M. J. and Vasquez de Velasco, G. P. (eds.) (2000) *ACADIA 2000: Eternity, Infinity and Virtuality in Architecture, Proceedings of the 22nd Annual Conference of the*

Association for Computer-Aided Design in Architecture, Washington D.C. 19-22 October 2000, 284 pages.

1.1.2 Journal Articles (peer reviewed)

1. Clayton, M. J. (2006). Renewal architecture, *Journal of Architectural Education*, 60[1]:13.
2. Woo, J. H., M. J. Clayton, R. E. Johnson, B. E. Flores, and C. Ellis. (2004). Dynamic Knowledge Map: reusing experts' tacit knowledge in the AEC industry, *Automation in Construction*, 13: 203-208.
3. Clayton, M. J., R. B. Warden, and T W. Parker. (2002). Virtual construction of architecture using 3D CAD and simulation, *Automation in Construction* 11: 227-235.
4. Song, Y., M. J. Clayton, R. E. Johnson. (2002). Anticipating reuse: documenting buildings for operations using web technology, *Automation in Construction* 11: 185-197.
5. Clayton, M. J. (2000). Diagramming aesthetics: modernism and architecture in the 21st century, *Theory and Application of Diagrams, Proceedings and Lecture Notes in Artificial Intelligence* 1889: 257-270.
6. Clayton, M. J., P. Teicholz, M. Fischer and J. Kunz. (1999). Virtual components consisting of form, function and behavior, *Automation in Construction* 8: 351-367. Elsevier Science Ltd.
7. Johnson, R. E. and M. J. Clayton. (1998). The impact of information technology in design and construction: the owner's perspective, *Automation in Construction* 8:3-14.
8. Vasquez de Velasco, G. P., E. Akleman, M. J. Clayton, D. House and R. B. Warden. (1997). Living in a magazine: alternatives in the use of shared virtual reality. In *STOA* [Annual review of European Association for Architectural Education]. 2.
9. Clayton, M. J., J. C. Kunz and M. A. Fischer. (1996). Rapid conceptual design evaluation using a virtual product model, *Engineering Applications of Artificial Intelligence* 9(4):439-451.
10. Fruchter, R., M. J. Clayton, H. Krawinkler, J. C. Kunz and P. Teicholz. (1996). Interdisciplinary communication medium for collaborative conceptual building design, *Advances in Engineering Software*, 25: 89-101.

1.1.3 Journal Articles (peer reviewed, accepted and pending publication)

1. Clayton, M. J. (2006). Mission unaccomplished: form and behavior but no function, *Lecture Notes on Artificial Intelligence*, 4200. Accepted for publication in September 2006.

1.1.4 Conference Proceedings (full-paper peer-reviewed)

All conferences produced bound publications that are widely available in scholarly libraries. Conferences that I attended and at which I presented the paper are noted by bolded number.

- 1.** Clayton, M. J. (2005) Computational design and AutoCAD: reading software as oral history, in *SIGraDi 2005*[Proceedings of the 9th Annual Conference of the Sociedad Iberoamericana de Grafica Digital] vol. 1, 103-107. Lima, Peru, 21-24 November.
- 2.** Clayton, M. J. (2005). How I stopped worrying and learned to love AutoCAD. In *Smart Architecture*, [Proceedings of 2005 Annual Conference of Association for Computer Aided Design in Architecture] 94-103. Savannah, 13-16 October.

3. Al-Douri, F. A., M. J. Clayton, and R. F. Abrams. (2005) The Impact of 3D Digital Modeling on the 3D Design Aspects in Urban Design Plans. In *The Quest for New Paradigms*, [Proceedings of the 23rd Education and Research in Computer Aided Architectural Design in Europe Conference], 331-340. Lisbon, Portugal 21-24 September.
4. Laeppele, E., M. J. Clayton and R. E. Johnson. (2005). Case Studies of Web-Based Collaborative Design: Empirical evidence for design process. In *Computer Aided Architectural Design Futures 2005* [Proceedings of the 10th International Conference on Computer Aided Architectural Design Futures], 455-464. Vienna, Austria, 20–22 June.
5. Clayton, M. J. and Y. Kim. (2005). Finding evidence for design process: Web-based timesheets for architecture students. In *The Art of Architecture, the Science of Architecture*, [Proceedings of the Association of Collegiate Schools of Architecture 2005 Annual Conference], 163-171. Chicago, 3-6 March.
6. Clayton, M. J. (2005). Relevant to the future: an agenda for research in the architecture schools. In *Proceedings of the 2005 Association of Collegiate Schools of Architecture International Conference*. Need pages and date.
7. Clayton, M. J. (2004). Strategic priorities for research in the built environment. In *Computational Mechanics* [Proceedings of the Sixth World Congress on Computational Mechanics in conjunction with the Second Asian Pacific Congress on Computational Mechanics]. Beijing, 5-10 September.
8. Woo, J. H., M. J. Clayton and R. E. Johnson. (2004). Synchronous Chat for Knowledge Sharing in a Distributed Design Environment. In *Proceedings of the ISARC 2004*, 676-681. Jeju, South Korea.
9. Woo, J. H., M. J. Clayton, R. E. Johnson, and B. Flores. (2003). Case Study of Tacit Knowledge Sharing in a Distributed Design Studio. In *Connecting – crossroads of digital discourse* [Proceedings of 2003 Annual Conference of the Association for Computer Aided Design in Architecture], 107-116. Indianapolis, 23-26 October.
10. Woo, J. H., M. J. Clayton, R. E. Johnson, and B. Flores. (2003). Tacit Knowledge Sharing in a Design Studio. In *Proceedings of the International Conference on Building Education and Research*, 267-277. Manchester, UK.
11. Kang, J. H., S. D. Anderson, and M. J. Clayton. (2002). Impact of Web-based 4D visualization in construction scheduling. In *Challenges and Opportunities in Management and Technology* [Proceedings of the First International Conference on Construction in the 21st Century]. Miami, 24-26 April.
12. Woo, J. H., M. J. Clayton, R. E. Johnson, B. Flores and C. Ellis. (2002). Dynamic Knowledge Map: Reusing Experts' Tacit Knowledge in the AEC Industry. In *Thresholds - Design, Research, Education and Practice, in the Space Between the Physical and the Virtual* [Proceedings of the 2002 Annual Conference of the Association for Computer Aided Design In Architecture], 407-411. Pomona, California, 24-27 October.
13. Clayton, M. J, Y. Song, K. Han, K. Darapureddy, H. Al-Kahaweh, and I. Soh. (2001). Data for reflection: monitoring the use of web-based design aids. In *Reinventing the Discourse - How Digital Tools Help Bridge and Transform Research, Education and Practice in Architecture* [Proceedings of 2001 Annual Conference of the Association for Computer Aided Design in Architecture], 142-152. Buffalo, New York, 11-14 October.

14. Kang, H., Anderson, S. D. and Clayton, M. J. (2001). Web4D: Challenges and Practices for Construction Scheduling. In *Reinventing the Discourse - How Digital Tools Help Bridge and Transform Research, Education and Practice in Architecture* [Proceedings of 2001 Annual Conference of the Association for Computer Aided Design in Architecture], 132-141. Buffalo, New York, 11-14 October.
15. Clayton, M. J. (2000). Design desk crits: digital or face to face? In *SIGraDi'2000 - Construindo (n)o espacio digital (constructing the digital space)*, [Proceedings of the 2000 Annual Conference of the Sociedad Iberoamericana de Grafica Digital], 41-44. Rio de Janeiro.
16. Clayton, M. J. (2000). Time for design. In *CIB W96 Design management in the architectural and engineering office*. Atlanta.
17. Clayton, M. J. (2000). Diagramming aesthetics: modernism and architecture in the 21st century. In *Theory and Application of Diagrams, Proceedings and Lecture Notes in Artificial Intelligence, 1889: 257-270*. Edinburgh, Scotland 30 August – 4 September.
18. Clayton, M. J., and J. Al-Qawasmi (2000). The effectiveness of digital desk crits in design education. In *Computing in Civil and Building Engineering* [Proceedings of the Eighth International Conference of the American Society of Civil Engineers], ed. R. Fruchter, F. Pena-Mora, W. M. K. Roddis, 365-372. Stanford, 14-16 August.
19. Al-Qawasmi, J. and M. J. Clayton. (2000). Media usage: observations from an experimental study of computer-mediated collaborative design. In *Computing in Civil and Building Engineering* [Proceedings of the Eighth International Conference of the American Society of Civil Engineers], ed. R. Fruchter, F. Pena-Mora, W. M. K. Roddis, 860-867. Stanford, 14-16 August.
20. Song, Y., K. Han, and M. J. Clayton, (2000) Documenting Design Rationale Using Web Technology: Combining Graphics and Narrative Arguments for Building Operations. In *CAADRIA 2000* [Proceedings of the Fifth Conference on Computer Aided Architectural Design Research in Asia], 367-377. Singapore, 18-19 May.
21. Song, Y., M. J. Clayton and R. E. Johnson. (1999). Anticipating reuse: documenting buildings for operations using Web technology. In *Media and design process* [Proceedings of 1999 Annual Conference of the Association for Computer Aided Design in Architecture], 316-324. Snowbird, Utah, 29-31 October.
22. Clayton, M. J., R. B. Warden and T. W. Parker. (1999). Virtual construction of architecture using 3D CAD and simulation. In *Media and design process* [Proceedings of 1999 Annual Conference of the Association for Computer Aided Design in Architecture], 316-324. Snowbird, Utah. 29-31 October.
23. Clayton, M. J., R. E. Johnson and Y. Song. (1999). Downstream of design: Web-based facility operations documents. In *Computers in building* [Proceedings of the CAAD Futures '99 Conference], 365-380. Atlanta.
24. Clayton, M. J., and G. Vasquez de Velasco (1999). Stumbling, backtracking, and leapfrogging: two decades of introductory architectural computing. In *Architectural computing: from Turing to 2000*, [Proceedings of 1999 Annual Conference of Education and Research in Computer Aided Architectural Design in Europe], 151-158. Liverpool.
25. Clayton, M. J., R. E. Johnson and Y. Song (1999). Operations documents: addressing the information needs of facility managers. In *Proceedings of the 8th International*

- Conference on Durability of Building Materials and Components*, vol. 4, 2441-2451. Vancouver, BC, 30 May – 3 June.
26. Clayton, M. J., R. E. Johnson, Y. Song, and J. Al-Qawasmi (1998). Delivering facility documentation using intranet technology. In *Do Computers Make a Difference in Design Studios?*, [Proceedings of the 1998 Annual Conference of the Association for Computer Aided Design in Architecture Conference], 240-253. Quebec City.
 27. Clayton, M. J. (1998). Distributed design knowledge using form, function and behavior. In *Cyberdesign* [Proceedings of the Seventh International Conference on the Application/Implications of Computer Networking in Architecture, Construction, Design and Urban Planning], 87-93. Paris, November.
 28. Clayton, M. J., R. E. Johnson, Y. Song and J. Al-Qawasmi (1998). Facility Operations Documents using Intranets. In *Computing in Civil Engineering* [Proceedings of International Computing Congress of American Society of Civil Engineers], 868-877. Boston.
 29. Clayton, M. J., M. A. Fischer, and J. C. Kunz. (1998). CAD Prototype Testing: Worked Examples, Demonstrations, Trials, and Charrettes. In *Computing in Civil Engineering* [Proceedings of International Computing Congress of American Society of Civil Engineers], 106-116. Boston.
 30. Vasquez de Velasco, G. P., and M. J. Clayton (1998). Integracion de cursos de computacion y talleres de diseno electronicos. In *Proceedings of SIGRADI 1998*. A. Montagu, J. Bermudez, D. Rodriguex Barros, A. Stipech, eds. 125-131. Sociedad Iberoamericana de Grafica Digital.
 31. Vasquez de Velasco, G. P., and M. J. Clayton (1998). G. Vasquez de Velasco and M. J. Clayton. (1998). Integrating introductory CAAD courses and upper level electronic design studios. In *Computers in Design Studio Teaching* [European Association for Architectural Education/ Education in Computer Aided Architectural Design in Europe International Workshop Proceedings], 157-164. Leuven, Belgium, 13-14 November.
 32. Clayton, M. J., R. E. Johnson, J. Al-Qawasmi and Y. Song (1997). A natural fit: intranet-based collaboration in facility management. In *Proceedings of the Second International Workshop on Computer Supported Cooperative Work in Design*. Bangkok.
 33. Johnson, R. E., and M. J. Clayton (1997). The Impact of Information Technology in Design and Construction: The Owner's Perspective. In *Representation and Design*: [Proceedings of Association for Computer Aided Design in Architecture Annual Conference 97]. Cincinnati.
 34. Clayton, M. J., M. A. Fischer, J. C. Kunz, and R. Fruchter. (1995). Behavior follows form follows function: a theory of design evaluation. In *Computing in Civil Engineering* [Proceedings of American Society of Civil Engineers Second Congress on Computing in Civil Engineering], 310-317. Atlanta, 5-8 June.
 35. Clayton, M. J., J. C. Kunz, M. A. Fischer, and P. Teicholz. (1994). First drawings, then semantics. In *Reconnecting* [Proceedings of Association for Computer Aided Design in Architecture 94]. St. Louis.
 36. Clayton, M. J., R. Fruchter, H. Krawinkler and P. Teicholz. (1994). Interpretation objects for multi-disciplinary design. In *The Proceedings of the Third International Conference on Artificial Intelligence in Design*. Washington.

37. Kunz, J. C., M. J. Clayton, and M. A. Fischer. (1994). Circle integration. In *Proceedings of the American Society of Civil Engineers Computing Conference '94*. Washington, DC.
38. Fruchter, R., M. J. Clayton, H. Krawinkler, and P. Teicholz. (1994). A sketch is worth a thousand rule traces. In *Proceedings of the American Society of Civil Engineers Computing Conference '94*. Washington, DC.
39. Clayton, M. J., R. Fruchter, H. Krawinkler, J. C. Kunz and P. Teicholz. (1993). Propose-interpret-critique-explain: a communication cycle for collaborative conceptual building design. In *Working Notes of AI in Collaborative Design*. American Association for Artificial Intelligence.
40. Fruchter, R., M. J. Clayton, H. Krawinkler, J. C. Kunz and P. Teicholz. (1993). Interdisciplinary communication of design critique in the conceptual design stage. In *Proceedings of American Society of Civil Engineering Fifth International Conference in Computing in Civil Engineering*. Anaheim.
41. Clayton, M. J., and H. Weisenthal. (1991). Enhancing the sketchbook. In *Reality and Virtual Reality* [Proceedings of the 1991 Annual Conference of the Association for Computer-Aided Design in Architecture], G. Goldman and M. S. Zdepski, ed. Los Angeles.
42. Clayton, M. J. (1990). Applying computer-aided visualization to climate responsive architectural design. In *Proceedings of the 5th International Conference on Systems Research Informatics and Cybernetics*. Baden-Baden.
43. Clayton, M. J. (1990). Visualizing climate to assist in architectural design. In *Proceedings of the Fourth National Conference on Microcomputer Applications in Energy*, D. E. Osborn, ed., 49-54. Tucson, 25-27 April.
44. M. J. Clayton. (1989). A computerized architectural consultant for climate responsive design. In *Proceedings of the Symposium on Architecture and ACSA Technology Conference '89*, 5-12. Baton Rouge, 24 February.
45. Clayton, M. J., A. A. Acenas, Y. Kim, and M. Milne. (1988). Computerized methods for climate responsive design analysis. In *Proceedings of the Third National Conference on Microcomputer Applications in Energy*, 49-54. Tucson, 1-3 November.

1.1.5 Conference Publications (abstract peer-reviewed)

1. Clayton, M. J., and Y. Kim (2005) Web-based timesheets for architecture design students. In *The Reach of Research* [Proceedings of Architectural Research Centers Consortium Spring 2005 Conference], 13-14. Jackson, MS, 6-9 April.
2. Laeppele, E., and M. J. Clayton. (2004). Communication data analysis: Web-based project communication in interdisciplinary architecture teams. (poster). In *Proceedings of Design Computation and Cognition '04*. Cambridge, MA.
3. Clayton, M. J. (2003). The Perfect Classroom: Getting the Space that you need for Distance Education. In *The Tenth Annual Distance Education Conference*. College Station, TX.
4. Al-Qawasmi, J., M. J. Clayton, L. Tassinary, and R. Johnson. (1999). Observations on collaborative design and multimedia usage in virtual design studio. In *Learn Virtually ... Anywhere*, [Proceedings of the Sixth Annual Distance Education Conference], ed. J. Woosley and T. Adair, 1-9. San Antonio.

5. Clayton, M. J. (1998). Digital representations of construction for design studios. In *Research in Design Education*, [Proceedings of Architectural Research Centers Consortium /EAAE Conference], 102-110.
6. Johnson, R. E. and M. J. Clayton. (1997). Information technology: its impact on facility management practice. In *Architectural Research Centers Consortium Spring Conference*.
7. Clayton, M. J., M. Fischer, P. Teicholz, and J. Kunz (1996). The charrette testing method for CAD research. In *Applied Research in Architecture and Planning* [Proceedings of the Architectural Research Centers Consortium Spring 1996 Research Conference], vol. 2, 83-92. Tucson, 26-27 April.
8. Clayton, M. J. (1997). Design-Process Based Interoperable Software. In *Proceedings of the ACSA Technology Conference*. American Collegiate Schools of Architecture.
9. Fruchter, R., M. J. Clayton, H. Krawinkler, J. C. Kunz and P. Teicholz. (1993). Interdisciplinary communication medium for collaborative design. In *Proceedings of CIVIL-COMP93 / AICIVIL-COMP 93 Conference of the American Society of Civil Engineers*.

1.1.6 Research Reports

1. Laeppe, E., M. Clayton, R Johnson and S. Parshall. (2005). Content Analysis of Web-based Collaborative Design. In *2005 Report on University Research*, 104-117, American Institute of Architects. Accessible at http://www.aia.org/SiteObjects/files/Laeppe_color.pdf
2. Woo, J. and M. J. Clayton. (2005). Sharing Tacit Design Knowledge in a Distributed Design Environment. In *2005 Report on University Research*, 46-59, American Institute of Architects. Accessible at http://www.aia.org/SiteObjects/files/Woo_color.pdf
3. Clayton, M. J., R. E. Johnson, Y. Song, and J. A. Al-Qawasmi (1998). *A Study of Information Content of As-Built Drawings for USAA*. CRS Center, Texas A&M University.
4. Clayton, M. J., R. E. Johnson, J. A. Al-Qawasmi and Y. Song (1997). *Collaborative Facility Management Using Intranet Technology*. CRS Center, Texas A&M University.
5. Johnson, R. E., and M. J. Clayton. (1997). *The Impact of Information Technology on Facility Management Practice*. CRS Center, Texas A&M University.
6. Johnson, R. E., and M. J. Clayton. (1997). *Information Technology: "Best Practices" of Facility Management Organizations*. CRS Center, Texas A&M University.
7. Clayton, M. J., J. C. Kunz, and M. A. Fischer. (1996). *Rapid Conceptual Design Evaluation Using a Virtual Product Model, Technical Report Number 105*. Center for integrated Facility Engineering, Stanford University, Stanford, CA.

1.1.7 Publications (Not peer reviewed)

1. Clayton, M. J. (2006). Fee would help renew Gulf's port cities, *The New Orleans Times Picayune*, 6 May, B-7.
2. Clayton, M. J. (2002). Taking computer aided design forward, *Intelligent Build and Design Innovations 2002*. London: Cornhill Publications.
3. Johnson, R. E. and M. J. Clayton, (1999). As-Builts or Operational Documents, *The Construction Specifier*, Constructions Specifications Institute.

4. Clayton, M. J. (1996). Object-oriented CADD: the researcher's point of view, *Managing CADD*, April. CADD Management Institute.
5. Clayton, M. J. (1990). *ARCH 250 COMPUTER APPLICATIONS Lab Assignment Workbook*. Cal Poly State University, San Luis Obispo, California.

1.1.8 Keynote Addresses

1. Clayton, M. J. (2005). Dreams of the eighties. Annual Conference of Sociedad Iberoamericana de Gráfica Digital, Lima, Peru, 25 November.
2. Clayton, M. J. (2001). Design process, process design. Inaugural conference of the Arab Society for Computer Aided Architectural Design, Irbid, Jordan, May 16.

1.1.9 Invited Presentations and Workshops (unpublished)

1. Clayton, M. J. (2004). Participant, Setting an Academic Research Agenda for the FIATECH Capital Projects Technology Roadmap Initiative: An Interdisciplinary Charrette, FIATECH/NSF Workshop. Houston, October 13-15.
2. Clayton, M. J. (2004). Panelist, Texas Historic Courthouse Preservation Program Maintenance Advisory Board, Austin, TX, July 14.
3. Clayton, M. J. (2003). Presenter, Life cycle costs, nD CAD Workshop, Salford University, Manchester, United Kingdom. January 31.
4. Clayton, M. J. (2003). Presenter, Empirical evidence for design process, nD CAD Workshop, Salford University, Manchester, United Kingdom. February 1.
5. Clayton, M. J. (2002). Presenter, Saturation and restlessness: architectural computing at Texas A&M University. Association of Collegiate Schools of Architecture Annual Conference, New Orleans, April 13.
6. Clayton, M. J. (2002). Presenter, IT collaboration tools beyond the horizon. Six Degrees of Collaboration Symposium, American Institute of Architects, Washington DC, April 6.
7. Clayton, M. J. (2001). Presenter, Judgment, process and evidence. Jordan Architects Association, Amman, Jordan, May 19.
8. Clayton, M. J., R. E. Johnson, (2001). FIT Research: Understanding the Life Cycle of Facility Information, E-ProCom Conference, Houston, USA, February 27.
9. Clayton, M. J. (2001). Information technology and information management. University of Kansas graduate program in architectural management, Kansas City, November 1.
10. Clayton, M. J., and R. E. Johnson (2000). Facility information technology: adding value for owners and operations. AIA National Convention, Philadelphia.
11. Johnson, R. E. and M. J. Clayton. (1998). Facility Management in the Information Age. Tappa '98. Texas Association of Physical Plant Administrators. College Station, TX, April 26-28.
12. Clayton, M. J., and R. E. Johnson (1997). Information technology in facility management: adoption and plans, TeamCAD: GVU/NIST Workshop on Collaborative CAD, Atlanta.
13. Clayton, M. J. (1997). Testing CAD Software Prototypes, M. J. Clayton, TeamCAD: Graphics and Visualization Unit/ National Institute for Standards and Technology Workshop on Collaborative CAD, Atlanta.
14. Johnson, R. E. and M. J. Clayton. (1997). The impact of information technology on facility management practice, World Workplace '97, Dallas.

1.1.10 Invited exhibits

1. Exhibit of watercolors, at Polisportiva Montecchio Vesponi, Montecchio, Italy, October 17, 1999.

1.2 Grants

As part of my role as mentor, I make efforts to assist graduate students in obtaining research grants. Student collaborators are indicated by underscore.

1.2.1 External Grants (principle investigator or co-principle investigator)

1. Laeppe, E. and M. J. Clayton (2005). Content Analysis of Web-based Collaborative Design. Conducted through the CRS Center, Texas A&M University. *Sponsor: AIA Board Knowledge Committee 2004 AIA Pilot Project on University Research.* \$4,000.
2. Woo, J. and M. J. Clayton (2005). Sharing Tacit Design Knowledge in a Distributed Design Environment. Conducted through the CRS Center, Texas A&M University. *Sponsor: AIA Board Knowledge Committee 2004 AIA Pilot Project on University Research.* \$4,000.
3. Clayton, M. J. (2002). Structure and value of information in the lifecycle of buildings. *Sponsor: Facility Management Industry Advisory Council.* \$8000.
4. Johnson, R. E. and M. J. Clayton (2000). A Survey of the Impact of E-Commerce on Facility Management Practice. Co-Principal Investigator with Robert E. Johnson. Conducted through the CRS Center, Texas A&M University. *Sponsor: International Facility Management Association Foundation.* \$15,709.
5. Clayton, M. J. and R. E. Johnson (1998). Delivery of Facility Information. Conducted through the CRS Center, Texas A&M University. *Sponsor: USAA.* \$14,231.
6. Clayton, M. J. and R. E. Johnson (1997). The Information Content of As-Built Drawings. Conducted through the CRS Center, Texas A&M University. *Sponsor: USAA.* \$10,000.
7. Johnson, R. E. and M. J. Clayton (1997). Information Technology: Its Impact on Facility Management Practice. Conducted through the CRS Center, Texas A&M University. *Sponsor: Haworth Discovery Institute.* 1997. \$1000.
8. Teicholz, P. and M. J. Clayton (1994). Integration of CAD and Energy Analysis Software for Building Design. Conducted through the Center for Integrated Facility Engineering, Stanford University. *Sponsor: California Institute for Energy Efficiency.* \$30,000.

1.2.2 Internal Grants

1. Clayton, M. J. (2002). Structure and value of information in the lifecycle of buildings. Conducted through the CRS Center, Texas A&M University. *Sponsor: College of Architecture Facility Management Industry Advisory Council.* \$8000.
2. Clayton, M. J. (1999). The effectiveness of digital desk crits in design studio. Conducted through the Department of Architecture, Texas A&M University. *Sponsor: College of Architecture Research and Interdisciplinary Council.* \$5000.
3. Clayton, M. J. (1996). Empirical Evaluation Methods for Architectural CAD Research. Conducted through the Department of Architecture, Texas A&M University. *Sponsor: Program to Enhance Scholarly and Creative Activities, Texas A&M University.* \$7926.

4. Clayton, M. J. (1990). Faculty Loan Workstation for Academic and Research Support. Conducted through the Department of Architecture, Cal Poly State University. *Sponsor: Academic Computing Services*. Apple Macintosh IIsi computer (approximately \$2500).
5. Clayton, M. J. Computer Graphic Database of Existing Buildings. (1989). Conducted through the Department of Architecture, Cal Poly State University. *Sponsor: State Faculty Support Grant*. \$4280.

1.3 Software development

1. Virtual Product Model, 1995. Research prototype of Internet-based integration of computer graphics systems with engineering analysis software.
2. Semantic Modeling Extension, 1995. Integration framework to connect Autodesk AutoCAD with DOE-2 building energy simulation system. Produced under contract to the California Institute for Energy Efficiency.
3. Climate Consultant (with Alex Acenas), 1987. Software has been continuously updated and integrated by other researchers and is distributed on the Web at <http://www2.aud.ucla.edu/energy-design-tools/>

2 TEACHING

2.1 Classroom Instruction

2.1.1 Courses Taught at Texas A&M University (1995 through present)

1. ENDS 103 Design foundations II Lecture. Provides orientation and survey of views about architectural education, practice, and research.
2. ENDS 105 Design Foundations I. Introductory freshman studio in environmental design.
3. ENDS 170 Computer Techniques. Introduction to computer applications relevant to architecture.
4. ENDS 205 Environmental Design I. Sophomore design studio.
5. ENDS 211 Digital Design Media III. Sophomore laboratory course in computer-aided drafting.
6. ENDS 211 Design Detailing. Sophomore laboratory course in materials and detailing using computer-aided drafting.
7. ENDS 270 Computer Techniques for Building Design and Analysis. Introduction to computer applications relevant to architecture.
8. ENDS 481 Seminar. Special topics in architecture theory and practice.
9. ENDS 485 Directed Studies. Special topics by arrangement.
10. ARCH 305 Architectural Design II. Junior studio in building design.
11. ARCH 306 Architectural Design III. Junior studio in building design.
12. ARCH 405 Architectural Design IV. Senior design studio in building design.
13. ARCH 485 Directed Studies. Special topics by arrangement.
14. ARCH 652 Facility Information Technology. Advanced topics in databases, digital modeling, work flow management, and Web applications focused on facility management.
15. ARCH 685 Directed Studies. Special topics by arrangement..

16. ARCH 689 Special Topics in Facility Management Information Technology. Experimental course in advanced topics in database systems. and Web applications for facility management.
17. ARCH 691 Research. Supervision of doctoral students.
18. ARCH 693 Professional Studies. Supervision of master of architecture students.
19. CARC 301 Field Studies in Design Innovation. Study abroad course in building technology.
20. CARC 311 Field Studies in Design Communication. Study abroad course in drawing, drafting, painting, and graphics.
21. VIZA 691 Research. Supervision of graduate students in visualization sciences.

2.1.2 Courses Taught at Stanford University (1993 through 1994)

1. CE 214 Symbolic Modeling in Engineering (teaching assistant for Dr. John C. Kunz). Graduate course on expert systems logic programming, object-oriented programming for civil engineering applications.

2.1.3 Courses Taught at Cal Poly State University (1988 through 1991)

1. EDES 250 Computer Applications. Sophomore laboratory in computer applications for architecture.
2. EDES 251 Digital Computer Applications. Sophomore lecture in computer applications for architecture.
3. ARCH 250 Computer Applications. Sophomore lecture and laboratory in computing theory, concepts, and applications for architecture.
4. ARCH 252 Architectural Design Fundamentals. Sophomore architectural design studio.
5. ARCH 400 Special Topics. Experimental course in advanced computing methods for architecture.
6. ARCH 457 Computer Applications. Elective in computer applications.
7. ARCH 458 Computer Graphics Applications in Architecture. Elective in computer-aided design for architecture.
8. ARCH 459 Advanced Computer Applications. Elective in three dimensional computer aided design techniques, rendering, and animation.

2.1.4 Courses Taught at UCLA (1987)

1. AUP 442 Climate Responsive Design (teaching assistant to Dr. Murray Milne). Graduate course on the consequences of building form in response to climate and computer applications for modeling those effects.

2.2 Graduate Student Supervision

2.2.1 Doctoral students, completed degree

CHAIR OF COMMITTEE

1. Firas Al-Douri, Ph.D. in Architecture, 2006. *Impact of Utilizing 3D Digital Urban Models on the Design Content of Urban Design Plans in U.S. Cities*. Visiting Assistant Professor, Department of Architecture, Texas A&M University.

2. Eberhard Laepple, Ph.D. in Architecture, 2005. *The utilization of Web-based systems. in architecture.* HOK Advance Strategies.
3. Jeong-Han Woo, Ph.D. in Architecture, 2005. *Sharing tacit design knowledge in a distributed design environment.* Assistant Professor, Department of Construction, Western Illinois University.
4. Inchul Soh, Ph.D. in Architecture, 2004. *The acquisition and analysis of time management perception in the architectural domain.*
5. Ho-Yeong (Julian) Kang, Ph.D. in Civil Engineering, 2001. Co-chair with Dr. Stuart Anderson, Department of Civil Engineering. *Web-based four-dimensional visualization for construction scheduling.* Assistant Professor, Department of Construction Science, Texas A&M University.
6. Jamal Al-Qawasmi, Ph.D. in Architecture, 1999. *A study of computer-mediated, collaborative architectural design.* Assistant Professor, Department of Architecture, King Fahd University of Petroleum and Minerals.

MEMBER OF COMMITTEE

1. Amr Bagneid, Ph.D. in Architecture, 2006. *The creation of a courtyard microclimate thermal model for the analysis of courtyard houses.*
2. Seongchan Kim, Ph.D. in Architecture, 2006. *An analysis of International Energy Code (IECC) –Compliant Single Family Residential Energy Use.*
3. Scott Arvin, Ph.D. in Architecture, 2004. *Physically based mechanical metaphors in architectural space planning.* Software Engineer, Autodesk, Inc.

2.2.2 Master students, completed degree

CHAIR OF COMMITTEE

1. Umesh Atre, M.S. in Architecture, 2005. *Effect of daylighting on energy consumption and daylight quality in an existing elementary school.*
2. Young-No Kim, M.S. in Architecture, 2005. *A Web-based timesheet tool for the design studio.*
3. Amitava Sinharay, M.S. in Architecture, 2003. *Adapting the Building System Integration Method to portray architectural organizations.*
4. Leena Mulye, M.S. in Architecture, 2002. *HBDR: A case-based tool for organizing architectural information on historic building design.*
5. Sunku Lee, M.S. in Architecture, 2001. *New method for classifying construction information.*
6. Timothy Winger, M. Architecture, 2001. Non-thesis.
7. Kiran Darapureddy, M.S. Architecture, 2001. *Web integrated cost estimation system in architecture education.*
8. Abha Biyani, M. Architecture, 2001. Non-thesis.
9. Ge Xia, M.S. in Architecture, 2001. *E-business and organizational partnerships in corporate real estate: a case study.*
10. Joey Ottman, M. Architecture, 2000. Non-thesis.
11. Kreshna Gopal, M.S. in Computer Science, 2000, co-chair with Dr. Tom Ieorger. *An adaptive planner based on learning of planning performance.*

12. Lynette House, M.S. Visualization Sciences, 1999. *Developing a Web-Site on Schizophrenia and Assessing its Effectiveness and Impact.*

MEMBER OF COMMITTEE

1. Yun Huh, M.S. in Construction Management, 2006. Non-thesis.
2. Wade Zimmer, M. Architecture, 2005. Non-thesis.
3. Jong Kwon, M.S. in Construction Management, 2005. Non-thesis.
4. Leticia Keremian, M. Architecture, 2003. Non-thesis.
5. Jiwon Choi, M.S. in Construction Management, 2003.
6. Jaemin Lee, M.S. in Visualization Sciences, 2002. *Practical image based lighting.*
7. Aparna Varadharajan, M.S. in Architecture, 2002. *Study of approaches to quality in the architectural profession.*
8. Neelu Shah, M.S. in Architecture, 2001. *Coststudio: A Web-based cost estimation tool for architectural design studio.*
9. Edelmiro Escamilla, M. Architecture, 2001. Non-thesis.
10. Nan Li, M. Architecture, 2001. Non-thesis.
11. Supwat Jearkpaporn, M.S. in Construction Management, 2001. Non-thesis.
12. Richa Dayal, M.S. in Architecture, 2001. *Use of information technology in facility management practices – A case study.*
13. Terrell Newberry, M.S. in Land Development, 2001. Non-thesis.
14. Keerati Satasook, M.S. in Land Development, 2001. Non-thesis.
15. Brent Swain, M. Architecture, 2000. Non-thesis.
16. Alex Ling, M. Architecture, 2000. Non-thesis.
17. Terrell Newberry, M.S. in Land Development, 1999. Non-thesis.
18. Keerati Satasook, M.S. in Land Development, 1999. Non-thesis.
19. Jong Kwon Min, M.S. in Construction Management, 1999. Non-thesis.

2.2.3 Graduate students, continuing

1. Ozan Ozener, Ph.D. in Architecture, chair.
2. James Haliburton, Ph.D. in Architecture, chair.
3. Ray Mullican, Ph.D. in Architecture, chair.
4. Yunsik Song, Ph.D. in Architecture, chair.
5. Sunku Lee, Ph.D. in Architecture, chair.
6. Carlos Nome, Ph.D. in Architecture, member.
7. Sopa Visitsak, Ph.D. in Architecture, member.
8. Myung Sook Lee, Ph.D. in Architecture, member.

2.2.4 Graduate Council Representative

1. Bongkoo Lee, Ph.D. in Recreation, Park and Tourism Sciences, 1998. *The dynamic nature of emotions during a trail based leisure experience: an application of affect control theory (ACT).*
2. Manoj S. Shouche, Ph.D. in Chemical Engineering, 1996. *Closed-loop identification and predictive control of chemical processes.*
3. Wangyan Feng, Ph.D. in Chemical Engineering, 1996. *The application of time-frequency techniques to process control and identification.*

2.3 Educational Software Grants

1. Graphisoft ArchiCAD, Constructor, Estimator, and Control, 2006. Entitles Texas A&M University to free software in labs from a leading computer-aided design software developer.
2. Beck Group D-Profiler, 2006. Entitles Texas A&M University to free software in a new product category of conceptual cost estimating.
3. Autodesk Student Web Community. 2006. Entitles Texas A&M University students to free software from the industry leading computer-aided design software developer.
4. Buzzsaw, 2005. Web-based project management software, Autodesk Inc. Entitles Texas A&M University to use Web-based project management software from the leading developer of computer aided design products.
5. ARCHIBUS/FM Software Site License for Educational Use. 1999. Entitles Texas A&M University to employ leading facility management software in educational settings. \$120,000 product value.

3 SERVICE

3.1 Significant Administrative Accomplishments

3.1.1 Renovation and Remodeling of Buildings

1. User representative on University project team for renovations to Building B, College of Architecture, Texas A&M University, 2005. Primary new facilities are a state-of-the-art audio-visual auditorium seating 280 people.
2. User representative on University project team for renovations to Building A, College of Architecture, Texas A&M University (with Dr. Mardelle Shepley), 2005. Primary new facilities are office spaces for the Office of Student Services, the Azimuth Café, remodeling and repairs to public spaces, and office spaces for 30 graduate students.
3. Planning, conceptual design, and project management of renovations to Building C, College of Architecture, Texas A&M University, 2004. Primary new facilities are offices for the faculty in the visualization program in the Department of Architecture.
4. Planning, conceptual design, and project management of renovations to the Williams Building, College of Architecture, Texas A&M University, 2004. Primary new facilities are new offices for faculty, new offices for four research centers, and seminar and graduate student spaces.
5. Project management for renovation of fourth floor, Building A, College of Architecture, Texas A&M University, 2001. Installation of overhead power and data supply, selection, purchase, and installation of furnishings.

3.1.2 Acquisition and Development of Computing Infrastructure

1. Implementation of a teaching lab for computer controlled fabrication, 2005.
2. Negotiation of student licensing agreements with Autodesk, 2005.
3. Implementation of a computing requirement for new students in the College of Architecture, Texas A&M University, 2005.

4. Guidance in development of management information systems. for the College of Architecture, including: a classroom scheduling Web site and database; Exchange Server system for sharing calendars, tasks and documents; graduate student tracking Web site and database; research activity database; faculty search and hiring database; and faculty annual report Web site and database, 2001-2006.
5. Implementation of a wireless LAN in the College of Architecture, Texas A&M University, 2002. A pilot effort funded by the Computer Access Fee Grant Program was implemented in 2002, followed by expanded service to all buildings and floors in the Langford Architecture Center and the first floor of the Williams. Building.

3.1.3 Strategic Planning

1. Preparation of Proposal for Enhancing Undergraduate Education, College of Architecture, Texas A&M University, 2005.
2. Facility Needs of the College of Architecture, Texas A&M University, 2003.
3. Preparation of Proposal for Signature Programs of the College of Architecture, Texas A&M University, 2002.
4. College of Architecture Briefing Report to Dr. Robert Gates, August, 2002.
5. Strategic Plan, College of Architecture, Texas A&M University, 2002.
6. Strategic Plan, Department of Architecture, Texas A&M University, 2001.

3.2 National Academic Service

American Society of Landscape Architects

1. University of Idaho Master of Landscape Architecture Accreditation Site Visit and Report 2005.
2. Harvard University Master of Landscape Architecture Accreditation Site Visit and Report 2005.
3. Auburn University Master of Landscape Architecture Accreditation Site Visit and Report 2004.
4. North Carolina State University Master of Landscape Architecture Accreditation Site Visit and Report 2004.

Association for computer Aided Design in Architecture

1. President, Association for Computer Aided Design in Architecture, 2000-2001.
2. Vice President, Association for Computer Aided Design in Architecture, 2000, 2001-2003.

3.3 University Service

1. Member, Graduate Council and Graduate Operations Committee, 2005-2006. .
2. Member, Faculty Senate Legislative Affairs Committee, Texas A&M University, 2002 - 2004.
3. Chair, University Computer Access Fee Grant Committee, Texas A&M University, 2004
4. Chair, Faculty Senate Elections Committee, Texas A&M University, 2003
5. Member, University Computer Access Fee Grant Committee, Texas A&M University, 2002-2003

6. Member, University Telecommunications and Informatics Task Force, Texas A&M University, 2001-2003
7. Chair, Faculty Senate Planning Committee, Texas A&M University, 2001-2002
8. Member, Faculty Senate, Texas A&M University, 2001-2004

3.4 College Service

1. Chair, College of Architecture Strategic Planning Committee, Texas A&M University, 2001 through 2006.
2. Associate Director, CRS Center for Leadership and Management in the Design and Construction Industry, Texas A&M University, 1998-2005.
3. Chair, College Information Technology Committee, Texas A&M University 2005-2006.
4. Chair, College Graduate Academic Affairs Committee, Texas A&M University, 2005-2006.
5. Co-chair, College Academic Affairs Committee, Texas A&M University, 2001 through 2005.
6. Chair, College Information Technology Committee, Texas A&M University 2001-2002.
7. Member, College Executive Committee, Texas A&M University, 2001 through present.
8. Member, College Research and Interdisciplinary Committee, Texas A&M University, 2001 – 2003.
9. Member, College Working Group for Computing Resources and Information Technology, Texas A&M University 1997 through 2001.

3.5 Department Service

1. Introductory speech, Viza-go-go Digital Animation Festival, Texas A&M University, May 7-8, 2004.
2. Chair, Department of Architecture Strategic Planning Committee, Texas A&M University, 2001,
3. Member, Lectures Committee, Department of Architecture, Texas A&M University, Fall 1998 - 2000.
4. Member, Visual Studies Curriculum Task Force, College of Architecture, Spring 2000-2001.
5. Coordinator, 3rd Year Design Studios for Department of Architecture, Texas A&M University 1998-2000.

3.6 Scholarly Service

1. Review of promotion packages for faculty at University of Kentucky, and New Jersey Institute of Technology.
2. Reviewer, Association for Computer-Aided Design in Architecture (ACADIA) 1994 through present.
3. Reviewer, 7th International Conference on Design & Decision Support Systems in Architecture and Urban Planning, DDSS 2004, Eindhoven.
4. Reviewer, *Automation in Construction*, 1999-present.
5. Member, editorial board, *Advanced Engineering Informatics*, 2003 through present
6. Member, editorial board, *Information Technology in Engineering*, 2001-2003.

7. Co-Technical Chair, Association for Computer-Aided Design in Architecture Annual Conference, Washington DC, 2000.
8. Moderator, Computing in Civil and Building Engineering Conference, Stanford, 2000.
9. Reviewer, Archi-Forum Electronic Journal, 1999.
10. Reviewer, CAAD Futures, 1999.
11. Review of research proposals, Stanford University Center for Integrated Facility Engineering Seed Research Awards, 1999.
12. Member, Steering Committee, Association for Computer-Aided Design in Architecture, 1998 through 2004.
13. Moderator, Association of Collegiate Schools of Architecture Southwest Regional Conference, College Station, TX, 1998.
14. Review of papers, International Conference on Computing in Civil Engineering, Boston, 1998.
15. Review of research proposal, State University of New York at Buffalo, Office of the Vice President for Research, 1996.

3.7 Community Service

1. Member of Board of Adjustments, City of College Station, TX, 2000 - 2005.