

Keith R. Molenaar, Ph.D.

I. PERSONAL INFORMATION

Associate Professor
K. Stanton Lewis Chair
Construction Engineering and Management Program
Department of Civil, Environmental, and Architectural Engineering
University of Colorado at Boulder
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Boulder, Colorado 80309-0428
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II. RELATED EXPERIENCE

Associate Professor, July 2006 to Present, Dept. of Civil, Environmental and Architectural Engineering
University of Colorado – Boulder, Colorado
Visiting Professor, August 2006 to June 2007, Dept. of Civil and Construction Engineering
Catholic University of Chile – Santiago, Chile
Assistant Professor, August 1999 to June 2006, Dept. of Civil, Environmental and Architectural Engineering
University of Colorado – Boulder, Colorado
Assistant Professor, September 1997 – August 1999, School of Civil and Environmental Engineering
Georgia Institute of Technology – Atlanta, Georgia
Instructor/Research Assistant, June 1994 – August 1997, Dept. of Civil, Environmental and Architectural
Engineering, University of Colorado – Boulder, Colorado
Pre-Construction Services Consultant, February 1991 – August 1997, Architectural Resource Consultants, Inc. –
Boulder, Colorado
Assistant Site Superintendent, June 1988 – February 1991, Spectrum Builders, Inc. – Boulder, Colorado

III. EARNED DEGREES

University of Colorado – Boulder, Colorado

Doctor of Philosophy, Civil Engineering, Construction Engineering and Management, August 1997
Master of Science, Civil Engineering, Construction Engineering and Management, December 1995
Bachelor of Science, Architectural Engineering, May 1990

IV. AWARDS AND HONORS

K. Stanton Lewis Chair of Construction Engineering and Management, University of Colorado, 2008-2013
Fulbright Scholar, Fulbright Commission of Chile, 2006-2007
Provost Faculty Achievement Award, University of Colorado, 2006
Faculty Convocation Award, University of Colorado, 2006
Top 50 “Trendsetter,” Public Works Magazine, 2004
Toulmin Medal, The Military Engineer, Society of American Military Engineers, 2003
CEAE Young Researcher Award, University of Colorado, 2002
Design-Build Professional, Charter Designee, Design-Build Institute of America, 2002
Thomas Finch Rowland Award, Journal of Construction Engineering and Management, American Society of Civil
Engineers, 2001
Academic Leadership Award, Design-Build Institute of America, 2000
Big 12 Faculty Fellowship Award, University of Colorado/University of Oklahoma, 2000
CRCW Junior Faculty Development Award, University of Colorado, 2000
Teaching Fellow, Center for the Enhancement of Teaching and Learning, Georgia Tech, 1999
Continuous Quality Improvement Award, J.A. Jones/Metric Constructors, 1998
Engineering Education Scholar, National Science Foundation, 1998
GAANN Fellowship Recipient, U.S. Department of Education, 1996–97

V. REFEREED PUBLICATIONS

1. Journal Articles

- [1] Molenaar, K.R., Triplett, J.E., Porter, J.C., DeWitt, S.D., and Yakowenko, G. (2007). “Early Contractor Involvement and Target Pricing in US and UK Highways,” *Journal of the Transportation Research Board, Transportation Research Record Journal, National Research Council*, DOI: 10.3141/2040-01, Vol. 2040, 3-10.

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- [2] Schexnayder, C.J., Molenaar, K.R. and Shane J.S. (2007). "Estimating Large Complex Projects," *Revista Ingeniería de Construcción (Journal of Construction Engineering, Catholic University, Santiago, Chile)*, 22(2), 91-98.
- [3] Chinowsky, P.S., Molenaar, K.R., and Bastias, A.G. (2007). "Measuring Achievement of Learning Organizations in Construction," *Engineering, Construction and Architectural Management Journal*, 14(3), 215-227.
- [4] Chinowsky, P.S., Molenaar, K.R., and Realph, A. (2007). "Learning Organizations in Construction" *ASCE Journal of Management in Engineering*, 23(1), 27-34.
- [5] Bogus, S.M., Molenaar, K.R., and Diekmann, J.E. (2006). "Strategies for Overlapping Dependent Design Activities," *Construction Management and Economics*, 24(8), 829-837.
- [6] Bogus, S.M., Molenaar, K.R., and Diekmann, J.E. (2005). "A Concurrent Engineering Approach to Reducing Design Delivery Time," *ASCE Journal of Construction Engineering and Management*, 131(11), 1179-1185.
- [7] Molenaar, K.R. (2005). "Programmatic Cost Risk Analysis for Highway Mega-Projects," *ASCE Journal of Construction Engineering and Management*, 131(3), 343-353.
- [8] Corotis, R.B., Frangopol, D.M., Diekmann, J.E., Molenaar, K.R., and Hearn, G. (2005) "An Educational Experiment to Address Critical Infrastructure Needs." *The International Journal of Critical Infrastructure*. 1(2/3), 169-180.
- [9] Gransberg, D.D. and Molenaar, K.R. (2004). "Life Cycle Cost Award Algorithms for Design-Build Highway Pavement Projects," *ASCE Journal of Infrastructure Systems*, 10(4), 167-175.
- [10] Molenaar, K.R. (2004). "Framework for Comparing Project Delivery Costs," *AACEI Journal of Cost Engineering*, 46(11), 24-32.
- [11] Gransberg, D.D. and Molenaar, K.R. (2004). "Analysis of Owner's Design and Construction Quality Management Approaches in Design-Build Projects," *ASCE Journal of Management in Engineering*, 20(4), 162-169.
- [12] Molenaar, K.R., Bogus, S.M., and Priestley, J.M. (2004). "Design-Build for Water/Wastewater Facilities: State of the Industry Survey and Three Case Studies," *ASCE Journal of Management in Engineering*, 20(1), 16-24.
- [13] Gransberg, D.D. and Molenaar, K.R. (2003). "A Synthesis of Public Design-Build Source Selection Methods," *International Journal of Construction Procurement*, 9(2), 40-51.
- [14] Molenaar, K.R. and Saller, B.J. (2003). "Educational Needs Assessment for Design-Build Project Delivery," *ASCE Journal of Professional Issues in Engineering Education and Practice*. 129(2), 106-114.
- [15] Molenaar, K.R., Brown, H.M., Caile, S., and Smith, R. (2002). "Corporate Culture: A Study of Firms with Outstanding Construction Safety," *ASSE Journal of Professional Safety*, 47(7), 18-27.
- [16] Molenaar, K.R. and Songer, A.D. (2001). "Web-Based Decision Support Systems: A Case Study in Project Delivery," *ASCE Journal of Computing in Civil Engineering*, 15(4), 259-267.
- [17] Molenaar, K.R. and Gransberg, D.D. (2001). "Design-Builder Selection for Small Highway Projects," *ASCE Journal of Management in Engineering*, 17(4), 214-223.
- [18] Molenaar, K.R., Washington, S., and Diekmann, J.E. (2000). "A Structural Equation Model of Construction Contract Dispute Potential," *ASCE Journal of Construction Engineering and Management*, 126(4), 261-267.¹
- [19] Molenaar, K.R., Songer, A.D., and Barash, M. (1999). "Public Sector Design-Build Evolution and Performance," *ASCE Journal of Management in Engineering*, 9(2), 54-62.
- [20] Molenaar, K.R. and Songer, A.D. (1998). "Model for Public Sector Design-Build Project Selection," *ASCE Journal of Construction Engineering and Management*, 124(6), 467-479.
- [21] Songer, A.D. and Molenaar, K.R. (1997). "Appropriate Project Characteristics for Public Sector Design-Build Projects," *ASCE Journal of Construction Engineering and Management*, 123(1), 34-40.
- [22] Diekmann, J.E., Featherman, D., Moody, R., Molenaar, K.R., and Rodriguez-Guy, M. (1996). "Project Cost Analysis Using Influence Diagrams," *PMI Project Management Journal*, 28(4), 23-30.
- [23] Songer, A.D. and Molenaar, K.R. (1996). "Selecting Design-Build: Private and Public Sector Owner Attitudes," *ASCE Journal of Engineering Management*, 12(6), 47-53.
- [24] Songer, A.D., Molenaar, K.R., and Robinson, G. (1996). "Selection Factors and Success Criteria for Design-Build in the U.S. and U.K.," *International Journal of Construction Procurement*, 2(2), 69-82.

2. Journal Articles Currently Under Review

- [25] Shane, J.S., Molenaar, K.R., Anderson, S.D., Schexnayder, C.J. (2008). "Construction Project Cost Escalation Factors," *Accepted for Publication in the ASCE Journal of Management in Engineering*.

¹ Winner of the Thomas Finch Rowland Award for best paper of the year from the American Society of Civil Engineers in the Journal of Construction Engineering and Management

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- [26] González, V., Alarcón, L.F., and Molenaar, K.R. (2008) “Multiobjective Design of Work-in-Process Buffer for Scheduling Repetitive Building Projects,” *Accepted for publication in the Journal Automation in Construction*.
- [27] Gransberg, D.D. and K.R. Molenaar, (2008). “Does Design-Build Project Delivery Affect the Future of the Public Engineer?” *Accepted for publication the Transportation Research Record, Journal of the Transportation Research Board, National Academies*.
- [28] Blacud, N., Bogus, S.M., Diekmann, J.E. Molenaar, K.R. (2008). “Sensitivity of Construction Activities Under Design Uncertainty,” *Submitted to the ASCE Journal of Construction Engineering and Management*.
- [29] Molenaar K.R, Park, J. and Washington, S. (2008) “A Framework for Measuring Corporate Safety Culture and Its Impact on Construction Safety Performance” *Accepted for Publication in the ASCE Journal of Construction Engineering Management*.

VI. RESEARCH REPORTS

- [30] Gransberg, D.D., K.R. Molenaar and J.E. Datin, (2008), Quality Assurance in Design-Build Projects, NCHRP Synthesis 376, *National Cooperative Highway Research Program, Transportation Research Board of the National Academies*, Washington, D.C., 156 pp.
- [31] Molenaar, K.R., et al. (2008). AASHTO Guide for Design-Build Procurement, ISBN# 1-56051-384-1, *American Association of Highway Transportation Officials*, Washington, DC, January 2008, 194 pp.
- [32] Molenaar, K.R. and Nonaka, S. (2007). 2008 International Scan of Public-Private Partnerships – Desk Scan Report, *Report to the International Technology Program, Federal Highway Administration*, Washington, DC, November 2007, 27 pages.
- [33] Fithian, L., Ghavamifar, K., Gransberg, D., Mason, D.J., Molenaar, K., Touran, A. (2007). A Guidebook for the Evaluation of Project Delivery Methods – Interim Report, *TCRP G-08, Transit Cooperative Research Program, Transportation Research Board of the National Academies*, October 2007, 160 pp.
- [34] Gransberg, D. and Molenaar, K.R. (2007). The Impacts of Design-Build on the Public Workforce, *Research Paper 07-01, USC Keston Institute for Public Finance and Infrastructure Policy, University of Southern California*, Los Angeles, CA, April 2007, 48 pp.
- [35] Anderson, S., Molenaar, K.R., and Schexnayder, C. (2007). Guidance for Cost Estimation and Management for Highway Projects During Planning, Programming, and Preconstruction, *NCHRP 574, ISBN# 978-0-309-09875-5, National Cooperative Highway Research Program, Transportation Research Board of the National Academies*, Washington, DC, February 2007, 290 pp.
- [36] Anderson, S., Molenaar, K.R., and Schexnayder, C. (2007). Final Report for NCHRP Report 574: Guidance for Cost Estimation and Management for Highway Projects During Planning, Programming, and Preconstruction, *NCHRP Web-Only Document 98, NCHRP Project 8-49, http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_w98.pdf, National Cooperative Highway Research Program, Transportation Research Board of the National Academies*, Washington, DC, September 2007, 163 pp.
- [37] Molenaar, K.R. and Won, S.J. (2006). WSDOT Design-Build Procurement Review: I-5 Everett SR 526 to US 2 HOV and I-405 Kirkland SR 520 to SR 522 Stage 1 – Final Report, *Report to the Washington State Department of Transportation*, Olympia, Washington, September 2006, 112 pages.
- [38] Molenaar, K.R., Diekmann, J.E., and Ashley, D.B. (2006). Guide to Risk Assessment and Allocation for Highway Construction Management, *Report # FHWA-PL-06-032, Federal Highway Administration, U.S. Department of Transportation, American Association of State Highway Transportation Officials, and the National Cooperative Highway Research Program*, Washington, DC, October 2006, 73 pp.
- [39] Scott, S., Molenaar, K.R., Gransberg, D.D., and Smith, N. (2006). Best-Value Procurement for Highway Construction, *NCHRP 561, ISBN#0-309-09858-0, National Cooperative Highway Research Program, Transportation Research Board of the National Academies*, Washington, DC, September, 2006, 190 pp.
- [40] Chinowsky, P.S., Molenaar, K.R., et al. (2006). Leadership in a Knowledge Era: Achieving the Learning Organization, *RS201-1 Construction Industry Institute*, Austin, TX, January 2006, 27 pp.
- [41] Molenaar, K.R., et al. (2005). Construction Management Practices in Canada and Europe, *Report # FHWA-PL-05-010, International Technology Program, Federal Highway Administration*, Washington, DC, May 2005, 75 pp.
- [42] Gransberg, D.D. and Molenaar, K.R. (2005). State of the Practice in Life Cycle-Oriented Design and Construction for Transportation Projects, *The Foundation for Integrated Services*, Washington, DC, February 2005, 135 pp.
- [43] Dornan, D., Molenaar, K.R., Macek, N., and Shane, J.S. (2005). Study to Congress on the Effectiveness of Design-Build Project Delivery Relating to the Federal-Aid Highway Program – Final Report, *Federal Highway Administration*, Washington, DC, March 2005, 160 pp.
- [44] Molenaar, K.R. and Won, S., (2004). Recommended AASHTO Design-Build Procurement Guide – Interim Report, Annotated Guide Outline, *NCHRP 20-7(172), National Cooperative Highway Research Program, Transportation Research Board of the National Academies*, Washington, DC, November 2004, 22 pp.

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- [45] Molenaar, K.R., Wardwell, M.A, Bastias, A.G, and Saller, K. (2004). Construction Excellence Peer Review Web Portal, *Report to the U.S. General Services Administration*, Washington, DC, October 2004, 62 pp.
- [46] Anderson, S., Molenaar, K.R., Schexnayder, C., and Shane, J.S. (2004). Procedures for Estimation and Management for Highway Projects During Planning, Programming, and Preconstruction – Interim Report, *NCHRP 8-49, National Cooperative Highway Research Program, Transportation Research Board of the National Academies*, Washington, DC, October 2004, 121 pp.
- [47] Molenaar, K.R., et al. (2003). 2002 European Asphalt Pavement Warranties Scan, *Report #FHWA-PL-04-002, International Technology Program, Federal Highway Administration*, Washington, DC, November 2003, 72 pp.
- [48] Molenaar, K.R. (2003). 2004 International Scan of Construction Management Practices for Effective Project Delivery, Contract Compliance and Quality Assurance – Desk Scan Report, *Report to the International Technology Program, Federal Highway Administration*, Washington, DC, December 2003, 27 pages.
- [49] Dornan, D., Molenaar, K.R., Macek, N., and Shane, J.S. (2003). Report to U.S. Congress on the Effectiveness of Design-Build – Interim Report, Preliminary Evaluation of Literature Search and Draft Model, *Report to the Federal Highway Administration*, Washington, DC, March 2003, 35 pages.
- [50] Scott, S., Molenaar, K.R., Gransberg, D.D., and Smith, N. (2003). Best-Value Procurement for Highway Construction – Interim Report, *NCHRP 10-61, National Cooperative Highway Research Program, Transportation Research Board of the National Academies*, Washington, DC, May 2003, 182 pp.
- [51] Gransberg, D.D. and Molenaar, K.R. (2003). State of the Practice in Life Cycle-Oriented Design and Construction for Transportation Projects – Interim Report, *Design-Build Research Foundation*, Washington, DC, January 2003, 54 pp.
- [52] Molenaar, K.R., Bogus, S.M., and Priestley, J.M. (2003). Best Practices in Design-Build for the Water and Wastewater Industry, *Report to the Design-Build Research Foundation, DBERF Document Number F00103, ISBN 0-9719335-9-6*, Washington, DC, January 2003, 50 pp.
- [53] Molenaar, K.R. (2003). Washington State Department of Transportation Design-Build Pilot Project Evaluation: A Measurement of Performance for the Process, Cost, Time, and Quality – Final Report, *Report to the Washington State Department of Transportation*, Olympia, Washington, January 2003, 79 pp.
- [54] Molenaar, K.R., et al. (2002). 2001 European Contract Administration Scan, *Report #FHWA-PL-03-002, International Technology Program, Federal Highway Administration*, Washington, DC, October 2002, 111 pp.
- [55] Molenaar, K.R. (2002). 2002 European Asphalt Pavement Warranties – Desk Scan, *Report to the International Technology Program, Federal Highway Administration*, Washington, DC, April 2002, 33 pp.
- [56] Molenaar, K.R. (2002). Washington State Department of Transportation Design-Build Pilot Project – Interim Report, Evaluation of Contract Administration Process, *Report to the Washington State Department of Transportation*, Olympia, Washington, January 2002, 21 pp.
- [57] Molenaar, K.R., Saller, B.J., Park, J.I., and Wells, J. (2001). Educational Needs for Design-Build Project Delivery, *Report to the Design-Build Research Foundation*, March 2001, 22 pp.
- [58] Molenaar, K.R., Brown, H., Caile, S., and Smith, R. (2001). A Study of Corporate Culture in Companies with Outstanding Construction Safety, *Report to the American Society of Safety Engineers*, May 2001, 33 pp.
- [59] Molenaar, K.R. (2001). Washington State Department of Transportation Design-Build Pilot Project Interim Report – Evaluation of RFP/BAFP Selection Process, *Report to the Washington State Department of Transportation*, Olympia, Washington, July 2001, 39 pp.
- [60] Molenaar, K.R. (2000). 2001 European Contract Administration – Desk Scan Report, *International Technology Program, Federal Highway Administration*, Washington, DC, December 2000, 28 pp.
- [61] Molenaar, K.R. (2000). Washington State Department of Transportation, Design-Build Pilot Project Evaluation – Interim Report, Project Initiation, *Report to the Washington State Department of Transportation*, Olympia, WA, November 2000, 10 pp.
- [62] Molenaar, K.R. and Chinowsky, P. (1999). Georgia Construction Economic Impact Analysis, *Report to ABC, AGC, GHC, NECA, HBAG, GACEC, CECA, MCAA, and CAAG*, November 1999, 42 pp.
- [63] Molenaar, K.R. (1999). WSDOT Design-Build Pilot Project Evaluation – Interim Report, Evaluation Work Plan, *Report to the Washington State Department of Transportation*, Olympia, WA, November 1999, 88 pp.
- [64] Molenaar, K.R., Zimring, C., and Godfried, A. (1998). A Guide to Project Delivery for Federal Buildings, *Report to the U.S. General Services Administration*, Washington, DC, November 1998, 22 pp.
- [65] Diekmann, J.E., Molenaar, K.R., and Rodriguez-Guy, M.Y. (1995). Procedural and Computational Studies for Cost Risk Analysis of DOE Hazardous Waste Remediation Projects, *Report to the U.S. Department of Energy*, Washington, DC, January 1995, 125 pp.

VII. BOOKS/BOOK CHAPTERS

- [66] Gransberg, D.D., Molenaar, K.R., Scott, S., Smith, N. (2007). Book chapter “Implementing Best-Value Procurement in Highway Construction Projects,” *Innovative Project Delivery for Highway Construction*, Edited by Molenaar and Yakowenko, American Society of Civil Engineers Press, ISBN 0-7844-0886-6, Reston, Virginia. pp. 60-79.
- [67] Gransberg, D.D., Koch, J., and Molenaar, K.R., (2006). Preparing for Design-Build Projects: A Primer for Owners, Engineers, and Contractors. *American Society of Civil Engineers Press, ISBN 0-7844-0828-9*, Reston, Virginia. 280 pp.
- [68] Molenaar, K.R., and Scott, S. (2003). Book chapter “Examining the Performance of Design-Build in the Public Sector,” *Design-Build for the Public Sector*, Edited by Michael Loulakis, ISBN 0-7355-3011-4, Aspen Business and Law, Aspen Publishers, 71-112.

VIII.EDITOR – PEER-REVIEWED PUBLICATIONS

- [69] Gransberg, D.D., McCuen, T., and K.R. Molenaar, Co-Editors (2008). “Project Delivery Methods Professional Practice Guide,” *Association for the Advancement of Cost Engineering (ACE) International*, Morgantown, West Virginia. (CD-ROM)
- [70] Molenaar, K.R. and Yakowenko, G., Co-Editors (2007). *Innovative Project Delivery, Procurement, and Contracting Methods for Highway Construction*, American Society of Civil Engineers Press, ISBN 0-7844-0886-6, Reston, Virginia. 166 pp.
- [71] Gransberg, D.D., and K.R. Molenaar, Co-Editors (2001). “Project Delivery Methods Professional Practice Guide,” *Association for the Advancement of Cost Engineering (ACE) International*, ISBN 1-885517-35-1, Morgantown, West Virginia. (CD-ROM)

IX. OTHER PUBLICATIONS

- [72] Shane, J.S., Gransberg, D.D., Molenaar, K.R., and Gladke, J.R. (2006). “Legal Challenge to a Best-Value Procurement System,” *ASCE Journal of Leadership and Management in Engineering*, 6(1), 20-25.
- [73] Molenaar, K.R. (2005). “Educational Needs Assessment for Design-Build Project Delivery,” *DBIA Design-Build Dateline*, 12(2), 19.
- [74] Gransberg, D.D. and Molenaar, K.R. (2005). “Life Cycle Evaluation Criteria for Design-Build Transportation Projects,” *DBIA Design-Build Dateline*, 12(3), 17.
- [75] Molenaar, K.R., and Johnson, D. (2003). “Engineering the Procurement Process to Achieve Best Value,” *ASCE Journal of Leadership and Management in Engineering*, 3(3), 137-141.
- [76] Allen, L.N., Gransberg, D.D., and Molenaar, K.R. (2002). “Partnering Design-Build Contracts,” *The Military Engineer*, 94(616), 47-48.²
- [77] Molenaar, K.R., and Gransberg, D.D. (2001). “Design-Build Contracting for Transportation – Instructors Manual,” *Washington State Department of Transportation*, Olympia, WA.
- [78] Gransberg, D.D., Koch, J. and Molenaar, K.R. (2001). “Cost Engineering Workbook,” *American Society of Civil Engineers*, Reston, VA.
- [79] Molenaar, K.R., and Bogus, S.M. (2000). “Is the price really right? Best value selection for public works projects,” *Water Environment & Technology*, 12(7), 29-32.
- [80] Gransberg, D.D., Koch, J., and Molenaar, K.R. (2000). “Design Build Contract Administration Workbook,” *American Society of Civil Engineers*, Reston, VA.
- [81] Gransberg, D.D., and Molenaar, K.R. (2000). “Design-Build Contracting for Transportation Workbook,” *American Society of Civil Engineers*, Reston, VA.

X. CONFERENCE PROCEEDINGS

1. Editor – Published Peer-Reviewed Conference Proceedings

- [82] Molenaar, K.R. and Chinowsky, P. (2003). “Winds of Change: Integration and Innovation in Construction,” *Proceedings of the Construction Research Congress held in Honolulu, Hawaii, March 19-21, 2003*, Published by the American Society of Civil Engineers, ISBN: 0-7844-0671-5, 2003. 1350 pp.

2. Peer-Reviewed Conference Proceedings

- [83] Shane, J.S., Molenaar, K.R., Anderson, S.D., Schexnayder, C., and Patil, S. (2008). “Implementing Organizational Change for Cost Estimating and Cost Estimate Management,” *Transportation Research Board 87th Annual Meeting*, Washington, D.C., January 2008.
- [84] Molenaar, K.R., Won, S., and Smith, R. (2007). “Expectations for Accuracy in Highway Design-Build Cost Estimates,” *ASCE/CIB Construction Research Congress*, Grand Bahama Island, May 6-8, 2007.

² Winner of the Toulmin Medal for best paper of the year from the Society of American Military Engineers

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- [85] Blacud, N.A., Bogus, S.M., Molenaar, K.R., and Diekmann, J.E. (2007). "Beginning Construction Under Design Uncertainty," *ASCE/CIB Construction Research Congress*, Grand Bahama Island, May 6-8, 2007.
- [86] Lee, J.S., Molenaar, K.R., Bogus, S.M. and Diekmann, J.E. (2006). "An Activity Overlapping Algorithm For Construction" *ASCE, CIB Joint International Conference on Computing and Decision Making in Civil and Building Engineering*, Montreal, Canada, June 14-16, 2006.
- [87] Shane, J.S. and Molenaar, K.R. (2006). "Appropriate Scope Definition for Highway Design-Build Projects," *Canadian Society of Civil Engineers, 1st International Construction Specialty Conference*, Calgary, Alberta, Canada, May 23-26, 2006.
- [88] Bielefeldt, A.R., Amadei, B., Summers, R.S., Strzepek, K.M., Chinowsky, P.S., and Molenaar, K.R. (2006). "An Educational Initiative to Address Earth Systems Engineering for Developing Communities," *W107 Construction in Developing Economies International Symposium Construction in Developing Economies: New Issues and Challenges*, Santiago, Chile, January 18-20, 2006.
- [89] Schexnayder, C., Molenaar, K.R. and Shane J.S. (2006). "Estimating Large Complex Projects," *W107 Construction in Developing Economies International Symposium Construction in Developing Economies: New Issues and Challenges*, Santiago, Chile, January 18-20, 2006.
- [90] Shane, J.S., Won, S. and Molenaar, K.R. (2006). "Variations in State Highway Agency Design-Build Programs," *Paper # 06-2640 Transportation Research Board 85th Annual Meeting*, Washington, D.C., January 2006.
- [91] Bastias, A.G. and Molenaar, K.R. (2005), "Classification and Analysis of Decision Support Systems for the Construction Industry," *ASCE International Conference on Computing in Civil Engineering*, Cancun, Mexico, July 2005.
- [92] Bogus, S.M., Molenaar, K.R., and Diekmann, J.E. (2005). "Consequences of Overlapping Dependent Activities to Reduce Project Delivery Time," *ASCE Construction Research Congress*, San Diego, CA, April 2005.
- [93] Chinowsky, P. and Molenaar, K.R. (2005). "Learning Organizations in Construction," *ASCE Construction Research Congress*, San Diego, CA, April 2005.
- [94] Molenaar, K.R., D'Angelo, J., and Russell, J.S. (2005). "Procurement of Asphalt Pavement Warranties in the United States and Europe," *CIB W92/T23/W107 International Symposium on Procurement Systems*, Las Vegas, Nevada, February 2005.
- [95] Molenaar, K.R. and Shane, J.S. (2005). "Classification of United States Highway Design-Build Procurement Methods," *CIB W92/T23/W107 International Symposium on Procurement Systems*, Las Vegas, Nevada, February 2005.
- [96] Gransberg, D.D. and Molenaar, K.R. (2005). "Applying Life Cycle Evaluation Criteria to Design-Build Highway Projects," *CIB W92/T23/W107 International Symposium on Procurement Systems*, Las Vegas, Nevada, February 2005.
- [97] Molenaar, K.R., DeWitt, S., and Yakowenko, G. (2005). "International Construction Management Practices," *Paper #05-1816 Transportation Research Board 84th Annual Meeting*, Washington, D.C., January 2005.
- [98] Molenaar K.R., D'Angelo, J., and Whited, G.C. (2004). "European Asphalt Pavement Warranties," *Association of Asphalt Paving Technologists International, Symposium on Design and Construction of Long Lasting Asphalt Pavements*, Auburn, Alabama, June 2004.
- [99] Thiengburanatham, P., Wang, Y., Diekmann, J.E., and Molenaar, K.R. (2003). "Production Scheduling in Construction," *CICE 2nd Annual Conference on Innovative Developments in Architecture, Engineering and Construction*, Loughborough, United Kingdom, June 2003.
- [100] Gransberg, D.D., Badillo-Kwiatkowski, G., and Molenaar, K.R. (2003). "Project Delivery Comparison Using Performance Metrics," *ACEE International's 47th Annual Meeting*, Orlando, Florida, June 2003.
- [101] Gransberg, D.D. and Molenaar, K.R. (2003). "Lifecycle Design Criteria for Design-Build Transportation Projects," *ASCE Construction Research Congress*, Honolulu, HI, March 2003.
- [102] Bogus, S.M., Diekmann, J.E., and Molenaar, K.R. (2002). "A Methodology to Reconfigure the Design-Construction Interface for Fast-Track Projects," *ASCE & EG-ICE Joint Conference on Information Technology in Civil Engineering*, Washington, D.C., November 2002.
- [103] Molenaar, K.R. (2002). "Innovative Contract Administration: A Report of the European Contract Administration Scan Tour," *Proceedings of the CIB's 10th International Symposium on the Organization and Management of Construction, Construction Innovation, and Global Competitiveness*, Cincinnati, OH, September 2002.
- [104] Molenaar, K.R., Smith, R., and Spencer, J. (2000). "Stakeholder Input in Design-Build Highway Construction," *ASCE Proceedings of the Construction Congress VI*, Orlando, FL, February 2000, 611-620.
- [105] Molenaar, K.R., Vanegas, J., and Martinez, H. (2000). "Appropriate Risk Allocation in Design-Build RFPs," *ASCE Proceedings of the Construction Congress VI*, Orlando, FL, February 2000, 1083-1092.

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- [106]Shin, K.C. and Molenaar, K.R. (2000). "Predicting Construction Disputes in Change Issues," *ASCE Proceedings of the Construction Congress VI*, Orlando, FL, February 2000, 534-542.
- [107]Molenaar, K.R. (1999). "Selecting Appropriate Projects for Design-Build Procurement," *Proceedings of the CIB Procurement Systems Conference*, Chiang Mai, Thailand, January 1999.
- [108]Molenaar, K.R. and Martinez, H.S. (1998). "Web-Based Decision Support Systems," *Proceedings of the First International Conference on New Information Technologies for Decision Making in Civil Engineering – Vol. 2*, Montreal, Canada, October 1998, pp. 1127-1138.
- [109]Molenaar, K.R. and Songer, A.D. (1998). "Design-Build Selector (DBS): An Automated Tool for Project Selection," *ASCE Proceedings of the International Computing Congress*, Boston, MA, October 1998. pp. 147-156.
- [110]Molenaar, K.R., Songer, A.D., and Barash, J. (1997). "An Automated Prediction Tool for Design-Build Projects," *ASCE Proceedings of the Construction Congress V*, Minneapolis, MN, October 1997, pp. 582-589.

2. Other Conference Proceedings

- [111]Gransberg, D.D., Molenaar, K.R., and Scott, S. (2004). A Framework for Classifying Best-Value Award Systems for Highway Construction Projects, *FHWA/ASHTO/DBIA Conference on Design-Build for Transportation*, Baltimore, MD, April 2004.
- [112]Molenaar, K.R. and Johnson, D. (2001). "Engineering the Procurement Process to Achieve Best Value," *FHWA/ASHTO/DBIA Conference on Design-Build for Transportation*, Denver, CO, April 2001.
- [113]Nicholson, M. and Molenaar, K.R. (2000). "Building Commissioning, Ensuring Quality and Savings," *ASCE Proceedings of the Construction Congress VI*, Orlando, FL, February 2000. pp. 1074-1082.
- [114]Songer, A.D. and Molenaar, K.R. (1996). "Design-Build Selector: A Predictive Tool for the Selection for Public Sector Design-Build," *AIA/DBIA Conference on Design-Build*, Washington, DC, October 1996.

XI. OTHER INTELLECTUAL PROPERTY

- DBS: Design-Build Selector (Software) – A web-based tool for public sector design-build project selection. Developed through work supported by the National Science Foundation under Grant No. CMS-9410683. (Available at <http://www.colorado.edu/engineering/civil/db>)
- BVS: Best-Value Selector (Software) – A web-based tool for best-value procurement selection in highway construction. Developed through work supported by the National Cooperative Highway Research Program, Project NCHRP 10-61. (Available at <http://construction.colorado.edu/best-value>)
- LEONARDO: Learning Organization Rapid Dagnostic (Software) – A web-based tool for assessing corporate progress toward achieving a learning organization. Developed through work supported by the Construction Industry Institute, Project RT201. (Available at <http://construction.colorado.edu/LEONARDO>)

XII. RESEARCH SUPPORT

1. Current

- [A] Performance Specifications for Rapid Highway Renewal, *NCHRP SHRPII R07, National Cooperative Highway Research Program, Transportation Research Board of the National Academies*, PI Scott, Co-PIs Molenaar, et. al, May 2007 – May 2012.
(\$3,000,000 Total – \$95,000 CU)
- [B] Cost Estimating Process Improvement and Organizational Integration, *Minnesota Department of Transportation and the Center for Transportation Studies at the University of Minnesota*, PI Pat Hughes, Co-PIs Anderson, Molenaar and Shane, May 2007 – Aug. 2008.
(\$800,000 Total – \$150,000 CU)
- [C] Guidebook on Risk Analysis Tools and Management Practices to Control Transportation Project Costs, *NCHRP 8-60, National Cooperative Highway Research Program, Transportation Research Board of the National Academies*, PI Molenaar, Co-PIs Diekmann, Anderson, Schexnayder and Ferragut, Jun. 2007 – Apr. 2009.
(\$200,000 Total CU)
- [D] A Guidebook for the Evaluation of Project Delivery Methods, *TCRP G-08, Transit Cooperative Research Program, Transportation Research Board of the National Academies*, PI Touran, Co-PIs Molenaar and Gransberg, Oct. 2006 – Apr. 2008.
(\$350,000 Total – \$50,000 CU)
- [E] Right of Way Methods and Tools to Control Cost Escalation, *NCHRP 8-36, National Cooperative Highway Research Program, Transportation Research Board of the National Academies*, PI Anderson, Co-PIs Molenaar and Schexnayder, Jun. 2006 – Jun. 2007.
(\$100,000 Total - \$8,600 CU)

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- [F] Caltrans Innovative Procurement Practices, *California State Department of Transportation*, Co-PI Molenaar, Oct. 2005 – Oct. 2007.
((\$350,000 Total – \$62,889 CU))

2. Completed

- [G] A Methodology to Reconfigure the Design Construction Interface for Fast-Track Projects, *National Science Foundation (CMS-0324342)*, Co-PIs Diekmann and Molenaar, Sep. 2003 – Sep. 2007.
((\$253,331 Total CU))
- [H] WSDOT Design-Build Procurement Review, *Washington State Department of Transportation*, PI-Molenaar, Aug. 05 – July 06.
((\$50,000 Total CU))
- [I] Procedures for Cost Estimation and Management of Highway Projects During Planning, Programming, and Preconstruction, *NCHRP 8-49, National Cooperative Highway Research Program, Transportation Research Board of the National Academies*, PI Anderson, Co-PIs Molenaar and Schexnayder, Mar. 2004 – Jun. 2006.
((\$300,000 Total – \$80,000 CU))
- [J] How to Achieve a Learning Organization: Best Practices, Tools, & Techniques, *Construction Industry Institute (RT201)*, Co-PIs Chinowsky and Molenaar, Jan. 2003 – Sep. 2005.
((\$212,000 Total – \$150,000 CU – \$57,000 Univ. Match))
- [K] Recommended AASHTO Design-Build Procurement Guide, *NCHRP 20-7/172, National Cooperative Highway Research Program, Transportation Research Board of the National Academies*, PI Molenaar, Aug. 2004 – Aug. 2005.
((\$75,000 Total CU))
- [L] Quantify Construction Delays Due to Weather, Federal Highway Administration, Central Federal Land Highway Division, Co-PIs, Xi, Balaji, and Molenaar, Oct. 2003 to Jun. 2005.
((\$80,000 Total CU))
- [M] Develop Lifecycle Evaluation Criteria for Design-Build Transportation Projects, *Foundation for Integrated Services (Formerly the Design-Build Education and Research Foundation)*, Co-PIs Gransberg and Molenaar, Jan. 2002 – Jan. 2005.
((\$45,000 Total – \$17,000 CU))
- [N] Construction Peer Excellence Web Portal Development, *US General Services Administration*, PI Molenaar, January 2004 to October 2004.
((\$52,618 Total CU))
- [O] Report to U.S. Congress on the Effectiveness of Design-Build, *Federal Highway Administration (FHWA DTFH61-98-C-00074)*, PI Dorman, Co-PI Molenaar, Sep. 2002 – August. 2004.
((\$317,000 Total – \$60,000 CU – \$17,000 Univ. Match))
- [P] Best-Value Procurement Methods for Highway Construction Projects, *NCHRP 8-49, National Cooperative Highway Research Program, Transportation Research Board of the National Academies*, PI Scott, Co-PIs Molenaar and Gransberg, Apr. 2002 – Aug. 2004.
((\$325,000 Total – \$89,000 CU – \$25,000 Univ. Match))
- [Q] Report Facilitator – European Asphalt Warranty Scanning Tour, *International Technology Program, Federal Highway Administration*, PI Molenaar, Mar. 2002 – Jan. 2004.
((\$13,000 Total CU))
- [R] Design-Build Pilot Project Evaluation, *Washington State Department of Transportation*, PI Molenaar, Feb. 1999 – Dec. 2002.
((\$135,000 Total – \$120,000 CU – \$15,000 Univ. Match))
- [S] Design-Build for Water/Wastewater Treatment, *Black & Veatch, CH2Mhill, HDR, Jacobs, Filanc, Haskell, Design-Build Research Foundation*, PI Molenaar, Aug. 2001 – Oct. 2002.
((\$45,000 Total – \$30,000 CU))
- [T] Report Facilitator – European Contract Administration Scanning Tour, *International Technology Program, Federal Highway Administration*, PI Molenaar, Sep. 2000 – Sep. 2002.
((\$13,000 Total CU))
- [U] Study of Corporate Culture in Companies with Outstanding Safety Records, *American Society of Safety Engineers*, PI Molenaar, Jan. 2000 – May 2001.
((\$5,000 Total CU))
- [V] Design-Build Education Needs Assessment, *Design-Build Education and Research Foundation*, PI Molenaar, May 2000 - May 2001.
((\$5,000 Total CU))
- [W] Development of a Risk-Based Best-Value Selection Methodology for Federal, State and Local Governments, *University of Colorado*, PI Molenaar, Jan. 1999 – Jan. 2000.
((\$5,000 Total CU))

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- [X] Georgia Construction Economic Impact Analysis, *ABC, AGC, GHC, NECA, HBAG, GACEC, CECA, MCAA, & CAAG*, PI Chinowsky, Co-PI Molenaar, Jan. 1999 – Oct. 1999
(\$50,000 Total Georgia Tech)
- [Y] A Guide to Project Delivery for Federal Buildings, *U.S. General Services Administration*, Co-PIs Molenaar, Zimring, and Augenbroe, Sep. 1998 – Dec. 1998
(\$15,000 Total/Georgia Tech)

XIII. INDIVIDUAL STUDENT GUIDANCE

1. Ph.D. Students – Principal Advisor

- Won, Spencer, Principal Doctoral Advisor, Spring 2004 – Present, Expected Graduation – Fall 2008, “Risk Analysis and Allocation in Design-Build Warranty Projects.”
- Lee, Sangjoo, Principal Doctoral Advisor, Graduated – August 2007, “Entry and Exit Decisions for Unsolicited Build-Operate-Transfer (BOT) Highway Projects.”
- Shane, Jennifer, Principal Doctoral Advisor, Graduated – August 2006, “A Fundamental Study of Scope Definition in Early Highway Project Development.”
- Bastias, Alfonso, Principal Doctoral Advisor, Graduated – August 2006, “Towards the Application of Learning Systems for Decision Support in Construction Engineering and Management.”
- Gransberg, Douglas, Principal Doctoral Advisor, Graduated – December 2004, “Life Cycle Evaluation Criteria for Design-Build Highway Pavement Projects.”
- Chang, Kyungsoo, Chair Doctoral Committee, Graduated – August 2004, “Linear, Additive, Value Function-Based Best-Value Selection Model for Public Design-Build Projects.”
- Bogus, Susan, Co-Chair Doctoral Committee w/Diekmann, Graduated – December 2003, “A Methodology to Reconfigure the Design-Construction Interface for Fast-Track Projects.”
- Shin, Kyoochul (KC), Co-Chair Doctoral Committee w/Vanegas, Graduated – December 2000, “Identification of Critical Dispute Characteristics (CDC’s) During Construction Project Operations.”

2. Ph.D. Students – Committee Member

- Kunda, Reema, Member Doctoral Committee, 2004-Present.
- McCluskey, Alyssa, Member Doctoral Committee, 2004-Present.
- Sanchez, Leonardo, Member Doctoral Committee, Spring 2004-Present.
- González, Vicente, Member Doctoral Committee (Pontificia Universidad Católica de Chile), Fall 2006-Present.
- Ghavamifar, Kamran, Member Doctoral Committee (Northeastern University), Fall 2007-Present.
- Galadari, Abdula Member Doctoral Committee, Fall 2007-Spring 2008, “Evaluation of Road Construction Alternatives: A Regretful Approach.”
- Tsung, Nilo, Member Doctoral Committee, 2001-2006.
- Son, Bygonsok, Member Doctoral Committee, 2002-2005.
- Thaessler, Patricia, Member Doctoral Committee (Georgia Tech), Graduated – May 2005, “A Methodology to Develop an Integrated Engineering System to Estimate Quantities for Bridge Repairs at the Pre-Design Stage.”
- Ozer, Cincioğlu, Member Doctoral Committee, Graduated – Spring 2005, “In-Situ Shear Strength by Centrifuge Modeling.”
- Nasr, Elhami, Member Doctoral Committee, Graduated – Summer 2004, “An Integrated Project Planning And Control System Approach for Measuring Project Performance.”
- Petcherdchoo, Aruz, Member Doctoral Committee, Graduated – Fall 2004, “Maintaining Condition and Safety of Deteriorating Bridges by Probabilistic Models and Optimization.”
- Prasad, Krishna Chandra, Member Doctoral Committee, Graduated – Spring 2004, “Socioeconomic Module for Decision Support for Water Resource Management in South Africa.”
- Thiengburanathan, Poon, Member Doctoral Committee, Graduated – Fall 2003, “Design of Construction Production Systems: Representation, Taxonomy and Design Framework.”
- Kononov, Jake, Member Doctoral Committee, Graduated – Fall 2001, “Road Accident Prediction Modeling and Diagnostics of Accident Causality: A Comprehensive Methodology.”
- Kong, Jung, S., Member Doctoral Committee, Graduated – Spring 2001, “Lifetime Maintenance Strategies for Deteriorating Structures.”
- Burkes, Angela, Member Doctoral Committee, Graduated – Summer 1998, “Multimedia Data Definition and Requirements for Construction Applications.”
- Goodman, Robin, Member Doctoral Committee, Graduated – Summer 1998, “Taxonomy of Knowledge Requirements for Construction Industry Executives.”
- Sillars, David, Member Doctoral Committee, Graduated – Spring 1998, “Pre-Operational Attributes as Predictors of Organizational Success within a Joint Venture.”

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3. M.S. Students – Primary Thesis and Report Advisor

- Novak, Ryan, Chair MS Thesis Committee, Graduated – Fall 2005, “A Framework for Learning Leadership Through Group Projects.”
- Wardwell, Meredith, Chair MS Thesis Committee, Graduated – Fall 2004, “The Use of Peer Audits to Determine Critical Construction Project Success Factors.”
- Sabol, Kevin, Chair MS Report Committee, Graduated – Fall 2004, “Quantify Construction Delays Due to Weather.”
- Shane, Jennifer, Chair MS Thesis Committee, Graduated – Fall 2003, “Design-Build Highway Construction: An Examination of Special Experimental Project Number 14 Performance.”
- Won, Spencer, Chair MS Thesis Committee, Graduated – Fall 2003, “Classification of Life Cycle Cost Criteria in Design-Build Transportation Project RFPs.”
- Saller, Brian, Chair MS Report Committee, Graduated – Fall 2002, “Core Competencies for Design-Builders.”
- Park, Joeng-il, Chair MS Report Committee, Graduated – Fall 2001, “A Structural Equation Model of Corporate Culture in Companies with Outstanding Construction Safety.”
- Wang, Yang, Co-Chair w/Diekmann MS Report Committee, Graduated – Fall 2001, “The Application of Production Scheduling Techniques in Construction.”
- Caile, Shreve, Chair MS Report Committee, Graduated – Spring 2001, “A Study of Corporate Culture in Companies with Outstanding Construction Safety.”
- Escobar, Katia, Chair MS Report Committee, Graduated – Fall 2000, “Technology Applications for Construction Project Control.”
- Chang, Kyungsoo, Chair MS Thesis Committee, Graduated – Fall 2000, “Appropriate Assessment Methods for Best-Value Selection in Public Design-Build Projects.”
- Chelette, Christopher, Chair MS Report Committee, Graduated – Spring 1999, “Qualification Based Selection for Contractors: Private Perspective.”
- China, Jose, Chair MS Report Committee, Graduated – Spring 1999, “Alternative Financing for Highway Construction.”
- Jimenez, Luis Raul, Chair MS Report Committee, Graduated – Spring 1999, “A Case Study of Design-Build for Highway Construction.”
- Nicholson, Marc, Chair MS Report Committee, Graduated – Spring 1999, “Building Commissioning: The Next Step for Design-Build?”
- Sencer, Justin, Chair MS Report Committee, Graduated – Spring 1999, “Qualification Based Selection for Contractors: Public Perspective.”
- Vogel, Burr, Chair MS Report Committee, Graduated – Spring 1999, “Incentive and Disincentive Contracting in Highway Project.”
- Williams, Laura, Chair MS Report Committee, Graduated – Winter 1998, “A Model for Incorporating Finance into Design-Build Organizations.”
- Legrand, Roberto, Chair MS Report Committee, Graduated – Summer 1998, “A Comparison of Safety Plans for Offshore Oil Platforms.”
- Mazariegos, Guillermo, Chair MS Report Committee, Graduated – Summer 1998, “Effects of High Inflation in Construction Planning, Scheduling and Estimating.”
- Blohm, Karsten, Chair MS Report Committee, Graduated – Spring 1998, “Computer Simulation for Productivity Improvement in Construction Engineering.”
- Fischer, David, Chair MS Report Committee, Graduated – Spring 1998, “A Process Model for the Integration of Estimating and Accounting in Construction.”
- King, Willie Lee, Chair MS Report Committee, Graduated – Fall 1997, “Strategic Planning for Construction.”

4. M.S. Students – Thesis and Report Committee Member

- Butzin, Brent, Member MS Thesis Committee, Spring 2004 – Present.
- Butzin, Brent, Member MS Thesis Committee, Spring 2004 – Present.
- Harper, Chris, Member MS Report Committee, Graduated – Summer 2007, “Using Concurrent Engineering and Simulations to Analyze Design Activities in a Construction Project.”
- Cocker, Jason, Member MS Thesis Committee, Graduated – Summer 2007, “A Simulation-based Analysis of Concurrent Engineering Applications in the Architecture, Engineering and Construction Industry.”
- Hosfelt, Samuel, Member MS Report Committee, Graduated Summer 2007, “The Efficacy of Building Information Models.”
- Realph, Allison, Member MS Thesis Committee, Graduated – Fall 2005, “Learning Organizations in Construction.”
- Doherty, Daniel, Member MS Report Committee, Graduated – Summer 2005, “Effects of Strategic Management on Project Management.”
- Matsumoto, Masato, Member MS Report Committee, Graduated – Spring 2005, “Development of a Lifetime Maintenance Strategy for Highway Structures.”

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Loeb, Jaime, Member MS Report Committee, Graduated – Fall 2004, “Emotional Quotient in Engineering Education.”

Paul Burdett, Member MS Report Committee, Engineering Management, Graduated – Spring 2004, “Development of an Operations and Procedures Manual for Mays Concrete Inc.”

Guttridge, Mark, Member MS Thesis Committee, Graduated – Spring 2004.

Bundy, Trace, Member MS Thesis Committee, Graduated – Summer 2003, “Modeling Water Use in Steam Power Plants.”

Mark Krewedl, Member MS Report Committee, Graduated – Fall 03, “Evaluation of the Construction Value Stream”

Stewart, Travis, Member MS Report Committee, Graduated – Spring 2002, “Introduction to Lean Construction.”

Allen, Linda, Associate Advisor, MS Thesis Committee, Naval Postgraduate School, Monterey, CA, Graduated – Fall 2001, “Comparison of Design-Build to Design-Bid-Build as a Project Development Method.”

Derosier, Mike, Member MS Report Committee, Graduated – Spring 2001, “Use of Computer Modeling in Traffic Control Planning for Highway Construction.”

Javernick, Amy, Member MS Report Committee, Graduated – Spring 2001, “The Designer’s Obligation for Cost Overruns in Design-Build Contracts.”

Rodriguez, Peter, Member MS Report Committee, Graduated – Spring 2001, “Design-Build-Finance: Real Estate Development Opportunities in the A/E/C Industry.”

Escobar, Jamie, Member MS Report Committee, Graduated – Fall 2000, “Low Income Housing: A Case Study Analysis for a Better Project Management Practice.”

Stabile, Dana, Member MS Report Committee, Graduated – Fall 2000, “Real Estate Development and Construction: When Do We Begin? Where Do We End?”

Ward, Steve, Member MS Report Committee, Graduated – Fall 2000, “The Future of Quality in Army Corps of Engineers: ‘Bullish’ on ISO 9000.”

Corotis, Lindsay, Member MS Report Committee, Graduated – Spring 2000, “The Success of RSA.”

Island, Kristine, Member MS Report Committee, Graduated – Spring 2000, “The Success of the St. Joseph’s School Project.”

Elliott, Kathy, Member MS Thesis Committee, Graduated – Summer 1998, “Environmental Impacts of Fast-Track Construction.”

5. M.S. Students – Non-Thesis Research and Independent Study Advising

Babjack, Pamela, Graduate Independent Study, 3 credit hours, Pavement Management, Fall 2004.

Harwood, Michelle. Graduate Independent Study, 3 credit hours, Construction Equipment and Methods, Fall 2004.

Balonick, Joshua, Graduate Independent Study, 3 credit hours, Construction Cost Estimating, Spring 2004.

Priestley, Jennifer, Graduate Research, Design-Build for Water/Wastewater Survey Design and Administration, Fall 2001.

Busby, Katherine, Graduate Research, Construction Engineering and Management Affiliates Construction Information Technology Benchmarking Study, Fall 2001.

Curtis, Sarah, Graduate Independent Study, 3 credit hours, Cost Estimating, Spring 2000.

6. M.S. Students – Comprehensive Examination Committee Member

Byars, Kelley – Spring 2005.

Little, Matthew – Spring 2005.

Choi, Jae Won – Fall 2004.

Stokes, Daniel – Fall 2004.

Nelson, Roger – Fall 2004.

Lykosh, Philip – Fall 2004.

Srinavakul, Tanaporn – Fall 2004.

Karlson, Erik – Summer 2004.

Salazar, Oscar – Summer 2004.

Guttridge, Mark – Spring 2004.

Hlad, Jeffery – Spring 2004.

Balonick, Joshua – Spring 2004.

Ogura, Toru – Spring 2004.

Hulse, Christopher – Fall 2003.

Coggins, Steve – Fall 2003.

Cupp, Carl – Summer 2003.

Weekly, John – Summer 2003.

Busby, Katherine – Spring 2003.

Punsukumtana, Visut – Spring 2003.

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Wells, Justin – Spring 2003.
Lagerquist, Kirk – Summer 2002.
Berzins, Karin – Summer 2002.
Oestereicher, Michael – Summer 2002.
Burgess, Lawrence – Summer 2002.
Koster, Chad – Summer 2002.
Motsko, Matt – Summer 2002.
Morris, Matt – Summer 2002.
Kim, Seungahn – Spring 2002.
Patel, Tapan – Fall 2001.
Capuano, Michael – Summer 2001.
Charlton, Scott – Summer 2001.
Comstock, Michael – Summer 2001.
Hubard, Glenn – Summer 2001.
Kurgan, Christopher – Summer 2001.
Thomas, Jeff – Summer 2001.
Vargas, Rose – Spring 2001.
Ohlemacher, Don – Spring 2001.

7. B.S. Students – Non-Thesis Research and Independent Study Advising

Ashwood, Ashley, Advisor, Undergraduate Research Opportunity Grant, Project Title, Barriers to Fog Collection in Developing Communities, A Case Study in Paposo, Chile, Spring-Fall 2007.
Griego, Danielle, Advisor, Undergraduate Research Opportunity Grant, Project Title, Barriers to Fog Collection in Developing Communities, A Case Study in Paposo, Chile, Spring-Fall 2007.
Kumar, Manish, Undergraduate Independent Study, 1 credit hour, Construction Cost Engineering, Fall 2005.
Lindgren, Pia, Undergraduate Independent Study, 1 credit hour, Construction Cost Engineering, Fall 2005.
Burns, John, Undergraduate Independent Study, 1 credit hour, Construction Cost Engineering, Fall 2005.
Kolesar, Michael, Undergraduate Independent Study, 1 credit hour, Construction Planning and Scheduling, Spring 2005.
Lopez, Paola, Undergraduate Independent Study, 1 credit hour, Estimating the Effects of Inflation in Highway Construction, Spring 2005.
Heno, Alejandro, Undergraduate Independent Study/Undergraduate Research, 3 credit hours, Summer Multicultural Advancement in Research and Training (SMART Program), Cost Estimating for Highway Construction, Summer 2005.
Saller, Kevin, Undergraduate Independent Study, 2 credit hours, U.S. General Services Administration Peer Review Process, Fall 2004.
Ruderman, Nicholas, Undergraduate Independent Study, 3 credit hours, Construction Management, Spring 2004.
Shintaku, Justin, Undergraduate Independent Study, 1 credit hour, International Highway Construction Management, Fall 2003.
Rosa, Maria, Undergraduate Independent Study/Undergraduate Research, 3 credit hours, Summer Multicultural Advancement in Research and Training (SMART Program), Best-Value Procurement for Highway Construction, Summer 2002.
Probst, Eric, Undergraduate Research, European Asphalt Warranties, Spring 2002.
Coffman, Ben, Undergraduate Independent Study, 1 credit hour, Construction Equipment and Methods Multimedia Compact Disk Project, Spring 2002.
Sengul, Serkan, Undergraduate Independent Study, 1 credit hour, Construction Equipment and Methods Multimedia Compact Disk Project, Spring 2002.
Colburn, Candace, Undergraduate Independent Study, 1 credit hour, Construction Crane Safety and Selection, Fall 2002.
Wilke, Jordan, Undergraduate Research, European Contract Administration, Spring 2001.
Ramirez, Jude, Undergraduate Independent Study, 1 credit hour, Construction Equipment and Methods Multimedia Compact Disk Project, Fall 2001.
Santangelo, Neal, Undergraduate Independent Study, 1 credit hour, Construction Equipment and Methods Multimedia Compact Disk Project, Fall 2001.
Wilke, Jordan, Undergraduate Research, European Highway Construction Contract Administration, Fall 2000.
Stewart, Travis, Undergraduate Research, Washington State Department of Transportation Design-Build Pilot Project Evaluation, Fall 2000.
Wardwell, Meredith, Undergraduate Research, Web-Based Peer Evaluation Project, Spring 2000.
Chapman, Randall, Undergraduate Research, Cross Impact Analysis for Design-Build Project Selection, Spring 2000.

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Brumely Michael, Undergraduate Research, American Society of Civil Engineers CoCOA Web Page Assistance, Spring 2000.

Smith, Roger, Undergraduate Independent Study, 2 credit hours, Corporate Safety Culture, Spring 2000.

Glenn, Jason, Undergraduate Independent Study, 1 credit hour, Parametric Cost Estimating, Spring 2000.

XIV. COURSE INSTRUCTION

1. University of Colorado

Fall 2007, *CVEN 3256 Construction Equipment and Methods*, Undergraduate Core Requirement, 59 students.
Spring 2006, *AREN 4420 Construction Costs Engineering*, Undergraduate Core Requirement, 45 students.
Spring 2006, *CVEN 5326 Construction Project Controls*, Graduate Core Requirement, 13 students.
Fall 2005, *CVEN 3256 Construction Equipment and Methods*, Undergraduate Core Requirement, 51 students.
Spring 2005, *AREN 4416 Construction Costs/Estimating*, Undergraduate Technical Elective, 52 students.
Spring 2005, *CVEN 5326 Construction Project Controls*, Graduate Core Requirement, 13 students.
Fall 2004, *CVEN 3256 Construction Equipment and Methods*, Undergraduate Core Requirement, 50 students.
Spring 2004, *CVEN 5326 Construction Project Controls*, Graduate Core Requirement, 16 students.
Fall 2003, *CVEN 3256 Construction Equipment and Methods*, Undergraduate Core Requirement, 50 students.
Spring 2003, *CVEN 5336 Construction Project Delivery*, Graduate Technical Elective, 10 students.
Fall 2002, *CVEN 3256 Construction Equipment and Methods*, Undergraduate Core Requirement, 52 students.
Spring 2002, *CVEN 5336 Construction Project Delivery*, Graduate Technical Core Requirement, 23 students.
Fall 2001, *CVEN 3256 Construction Equipment and Methods*, Undergraduate Core Requirement, 51 students.
Spring 2001, *CVEN 5326 Construction Project Controls*, Graduate Core Requirement, 16 students.
Spring 2001, *AREN 4416 Construction Costs/Estimating*, Undergraduate Technical Elective, 32 students.
Fall 2000, *CVEN 3256 Construction Equipment and Methods*, Undergraduate Core Requirement, 36 students.
Summer 2000, *CVEN 3246 Introduction to Construction*, Undergraduate Core Requirement, 12 students.
Spring 2000, *AREN 4416 Construction Costs/Estimating*, Undergraduate Technical Elective, 56 students.
Fall 1999, *CVEN 3246 Introduction to Construction*, Undergraduate Core Requirement, 44 students.

2. Catholic University, Chile

Fall 2006, *ICC 3801 Topics in Engineering and Management of Construction*, Graduate Elective, 18 students.

3. Georgia Institute of Technology

Spring 1999, *CE 4083 Advanced Planning and Estimating Methods*, Undergraduate Elective, 44 students.
Spring 1999, *CE 6023 Construction Engineering and Management II*, Graduate Core Requirement, 16 students.
Winter 1998, *CE 4043 Basic Planning and Estimating Methods*, Undergraduate Elective, 60 students.
Winter 1998, *CE 8061 Construction Seminar*, Graduate Core Requirement, 21 students.
Fall 1998, *CE 4003 Construction*, Undergraduate Core Requirement, 42 students.
Summer 1998, *CE 4003 Construction*, Undergraduate Core Requirement, 48 students.
Spring 1998, *CE 4083 Advanced Planning and Estimating Methods*, Undergraduate Elective, 49 students.
Spring 1998, *CE 6023 Construction Engineering and Management II*, Graduate Core Requirement, 23 students.
Fall 1997, *CE 8061 Construction Seminar*, Graduate Core Requirement, 28 students.
Fall 1997, *CE 4003 Construction*, Undergraduate Core Requirement, 32 students.

4. University of Colorado (as Instructor)

Spring 1997, *AREN 4416 Construction Costs/Estimating*, Undergraduate Elective, 43 students.

Spring 1996, *AREN 4416 Construction Costs/Estimating*, Undergraduate Elective, 27 students.

XV. COURSE DEVELOPMENT

1. New Courses

Spring 04, *AREN 4420 Construction Cost Engineering*, Undergraduate Core Requirement, 3 credit hours.

Created new core requirement course for Architectural Engineering undergraduate students focusing on construction cost analysis and cost engineering. This course is intended to correct a joint evaluation committee (JEC) suggestion for improvement in Architectural Engineering.

Spring 02, *CVEN 5336 Construction Project Delivery*, Graduate Technical Elective, 3 credit hours.

Created new technical elective course for Construction Engineering and Management MS and PhD students focusing on innovative delivery of civil infrastructure projects, including design-build and public-private partnerships.

Spring 01, *CVEN 5326 Construction Project Controls*, Graduate Core Requirement, 3 credit hours.

Created new core requirement course for Construction Engineering and Management MS students focusing on advanced scheduling, estimating, and project control techniques, including the use of new technologies.

Fall 00, *CVEN 3256 Construction Equipment and Methods*, Undergraduate Core Requirement, 3 credit hours.

Created new core requirement course for Civil and Environmental Engineering undergraduate students

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focusing on construction engineering. This course is intended to correct an ABET deficiency in Environmental Engineering.

2. Major Revision of Existing Courses

Fall 99, *CVEN 3246 Introduction to Construction*, Undergraduate Core Requirement, 3 credit hours.

Revised syllabus, created new lectures, developed new five-module semester project, developed new group project to promote industry interaction, developed four new individual assignments.

XVI. TEACHING AND EDUCATION WORKSHOPS

CETL Teaching Fellows, Georgia Institute of Technology, January-March, 1999.

NSF Engineering Education Scholars Workshop, Carnegie Mellon University, July 19-24, 1998.

NSF/SUCCEED Effective Teaching Workshop, Georgia Tech, October 2-3, 1997.

NSF/EDUTECH Design Education Workshop, Georgia Tech, September 8-9, 1997.

XVII. PRESENTATIONS AND INVITED LECTURES

“Expectations for Accuracy in Highway Design-Build Cost Estimates,” *ASCE/CIB Construction Research Congress*, Grand Bahama Island, May 2007.

“Cost and Schedule Risk Analysis on Large Projects,” *Ingendesa Construction Engineering and Management Seminar*, Santiago, Chile, June 2007.

“Design-Build Project Delivery for Mining Projects,” *Codelco Mining Short Course in conjunction with the Catholic University of Chile*, Santiago, Chile, June 2007.

“Construction Risk Management,” *Short Course for the University of Piura Faculty*, Piura, Peru April, 2007.

“Cost and Schedule Risk Analysis on Large Projects,” *Peruvian Civil Engineering Society*, Piura, Peru, April, 2007.

“Design-Build Project Delivery in the United States,” *Chilean Chamber of Construction Short Course in conjunction with the Catholic University of Chile*, Santiago, Chile, March 2007.

“Early Contractor Involvement and Target Pricing in US and UK Highways,” *Transportation Research Board 86th Annual Meeting*, Washington, D.C., January 2007.

“Engineering in Developing Communities activities at the University of Colorado,” *Presentation to the Students of the University of Chile*, Santiago, Chile, October 4, 2006.

“The State of Construction Engineering and Management in the United States,” *Presentation to the Faculty of the University of Chile*, Santiago, Chile, October 4, 2006.

“The State of Design-Build Education in Engineering Programs,” *Design-Build Educators Conference, California Center for Construction Education*, San Luis Obispo, California, May 31, 2006.

“Risk Analysis on Large Complex Projects,” *AACE International Chapter Meeting*, Denver, CO, March 21, 2006.

“Design-Build Procurement Review,” *Washington State Department of Transportation/Associated General Contractors Association/American Consulting Engineering Companies Joint Design-Build Committee*, Olympia, Washington, March 16, 2006.

“An Educational Initiative to Address Earth Systems Engineering for Developing Communities,” *W107 Construction in Developing Economies International Symposium Construction in Developing Economies: New Issues and Challenges*, Santiago, Chile, January 18-20, 2006.

“Estimating Large Complex Projects,” *W107 Construction in Developing Economies International Symposium Construction in Developing Economies: New Issues and Challenges*, Santiago, Chile, January 18-20, 2006.

Moderator – *W107 Construction in Developing Economies International Symposium Construction in Developing Economies: New Issues and Challenges*, Santiago, Chile, January 18-20, 2006.

“Innovative Contracting and Partnering in Highway Construction,” *Western Association of American State Highway Transportation Officials Web-X Conference*, Broadcast from Lakewood Colorado, December 2005.

“Risk Allocation in Highway Construction Management,” *FHWA Construction Management Expert Technical Group Meeting*, Alexandria, VA, October 2005.

“Strategies, Methods and Tools for Estimating Highway Construction,” *Minnesota Department of Transportation (Mn/DOT) and Texas Transportation Institute (TTI) Peer Exchange on Estimation and Management for Highway Projects*, Maplewood, MN, September 2005.

“Leadership in a Knowledge Era,” *Construction Industry Institute Annual Conference*, Grapevine, TX, July 2005.

“Recommended AASHTO Design-Build Procurement Guide,” *Association of American State Transportation Officials Subcommittee on Design Annual Meeting*, Chicago, IL, June 2005.

“The State of Construction Management Education: Is our Industry at Risk?” *Town Hall Meeting, Construction Management Association of America, Annual Conference*, Denver, Colorado, May 2005.

“International Construction Management Practices,” *Transportation Research Board 84th Annual Meeting*, Washington, D.C., January 2005.

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- “Design-Build Highway Procurement Methods,” *Association of American State Transportation Officials Design-Build Task Force*, Charleston, NC, November 2004.
- “Design-Build Project Delivery,” *Keynote Address for the Inaugural Meeting of the Utah Section of the Design-Build Institute of America Rocky Mountain Chapter*, Salt Lake City, UT, November 2004.
- “European Project Delivery Methods: Construction Management, Warranties and Contract Administration,” *Koch Performance Roads*, Wichita, KS, October 2004.
- “Cost Estimating for Highway Mega Projects,” *AACE International Chapter Meeting*, Denver, CO, October 2004.
- “Alternative Project Delivery Methods,” *Denver Metro Wastewater Reclamation District*, Denver, CO, September 2004.
- “European Construction Management Methods,” *Association of American State Transportation Officials Subcommittee on Construction*, Albuquerque, NM, August 2004.
- “Cost Estimating Strategies, Methods and Tools for Highway Construction Projects,” *Transportation Research Board Mid-Year Meeting*, Park City, UT, July 2004.
- “Design-Build Scope Definition and Risk Allocation,” *1-Day Seminar for the Washington State Department of Transportation*, Fife, WA, January 2004.
- “The Past and Future of Cost Engineering An Academic Perspective,” *AACE International Chapter Meeting*, Lakewood, CO, November 2003.
- “Best-Value Procurement Methods for Highway Construction Projects,” *AASHTO Subcommittee on Construction Annual Meeting*, Asheville, SC, August 2003.
- “Responding to Design-Build Request for Proposals,” *DBIA Rocky Mountain Chapter Meeting*, Lakewood, CO, May, 2003.
- “Report of the 2002 European Asphalt Warranties Scan Tour,” *FHWA/MDOT Pavement Warranties Conference: Policy, Development and Implementation*, Grand Rapids, MI, May 2003.
- “Project Delivery Approaches,” *University of Colorado/Design-Build Institute of America, Rocky Mountain Owner’s Design-Build Forum*, Boulder, CO, May 2003.
- “Design-Build Pilot Project Evaluation: A measurement of performance for the process, time, cost and quality,” *DBIA/AASHTO/FHWA/ASCE 2003 Design-Build for Transportation Conference*, Marina del Rey, CA, April 2003.
- “Asphalt Warranties in US and European Highway Construction,” *Colorado DOT Rocky Mountain Asphalt Conference*, Denver, CO, February 2003.
- “Best Practices for Design-Build in the Water/Wastewater Industry,” *DBIA/WEF/AWWA Design-Build for Water & Wastewater Facilities*, San Antonio, TX, January 2003.
- “Critical Needs of Design-Build Education,” *DBIA/WEF/AWWA Design-Build for Water & Wastewater Facilities*, San Antonio, TX, January 2003.
- “Research Plan for Report to U.S. Congress on the Effectiveness of Design-Build,” *AASHTO Design-Build Task Force Spring Meeting*, St. Petersburg, FL, January 2003.
- “Non-Traditional Contracting Practices in the Building Industry,” *FHWA Innovative Contracting Conference*, Norfolk, VA, December 2002.
- “Asphalt Warranties in European Highway Construction,” *Arizona DOT Pavements/Materials Conference*, Phoenix, AZ, November 2002.
- Moderator – Innovative Project Delivery Session, *CIB’s 10th International Symposium on the Organization and Management of Construction, Construction Innovation, and Global Competitiveness*, Cincinnati, OH, September 2002.
- “Design-Build Contracting – Executive Seminar,” *U.S. National Park Service*, Denver, CO, July 2002.
- “Design-Build and Lean Construction,” *Seminar Co-Presented with Greg Howell of the Lean Construction Institute for the Management Assistance Partnership*, Las Vegas, NV, March 2002.
- “The Past and Future of Construction Estimating,” *American Society of Professional Estimators – Rocky Mountain Chapter*, Denver, CO, March 2002.
- “Design-Build Contracting – Executive Seminar,” *Washington State Department of Transportation*, Olympia, WA, January 2002.
- “European Contract Administration Tour: Results and Implementation,” *Transportation Research Board Annual Conference*, Washington, DC, January 2002.
- “Design-Build Contracting – Executive Presentation,” *New York Transit Authority*, Long Island, NY, December 2001.
- “Design-Build in the Public Sector,” *Arizona State University, Alliance for Construction Excellence, Alternative Delivery Conference*, Phoenix, AZ, November 2001.
- “Design-Build Educational Needs Assessment,” *2001 Professional Design-Build Institute of America Annual Conference*, Boston, MA, October 2001.
- “Project Delivery Options,” *Los Alamos National Laboratory*, Albuquerque, NM, October 2001.

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- “European Contract Administration Tour: Results and Implementation,” *ASSHTO Conference for Subcommittee on Construction*, Wichita, KS, August 2001.
- “Design-Build Roles and Relationships,” *National Electrical Contractor’s Association – Rocky Mountain Chapter*, Denver, CO, January 2001.
- “U.S. Design-Build Theory and Practice,” *2-Day Seminar for the Lean Construction Institute of Brazil*, Sao Palo, Brazil, October 2000.
- “European Contract Administration Desk Scan,” *International Program of the Federal Highway Administration*, Washington, DC, October 2000.
- “Program Execution Strategies,” *U.S. Department of State Foreign Building Operations Symposium*, Washington, DC, December 2000.
- Moderator – Computer Applications Session, Delivery Methods and Risk Session, and Business and Management Session, *ASCE Construction Congress VI*, Orlando, FL, February 2000.
- “The Design-Build Contracting Practice: Newest Tools for Owners, Design-Build Consultants, and Practitioners,” *DBIA/WEF/AWWA Design-Build for Water & Wastewater Facilities*, Phoenix, AZ, December 1999.
- “WSDOT Design-Build Pilot Project,” *1999 Professional Design-Build Conference, Design-Build Institute of America Annual Conference*, Dallas, TX, October 1999.
- “Colorado AIA/AGC/ACEC Roundtable Discussion on Owner’s Representation in the Construction Industry,” *Meeting of the Denver AIA/AGC/ACEC Joint Committee*, Denver, CO, October 1999.
- “Design-Build for Highway Construction,” *Georgia Quality Initiative, Federal Highway Administration and Georgia Department of Transportation*, Athens, GA, January 1999.
- “Solicitation and Selection of Design-Build Proposals in Transportation,” *Georgia Department of Transportation*, Atlanta, GA, November 1998.
- Moderator – Decision Tools in Civil Engineering Session, *ASCE International Computing Congress*, Boston, MA, October 1998.
- “New Innovations in Project Management,” *Construction Management Association of America National Conference*, St. Petersburg, FL, October 1998.
- “Project Delivery for Federal Buildings,” *U.S. General Services Administration Construction Excellence Symposium*, Washington, DC, September 1998.
- “Design-Build and Innovative Contracting,” *Georgia Department of Transportation*, Atlanta, Georgia, June 1998.
- “Current Design-Build Research and Resources,” *Society for Marketing of Professional Services*, Atlanta, GA, June 1998.
- “Construction at the Georgia Institute of Technology,” *American Society of Professional Estimators*, Atlanta, GA, February 1998.
- Moderator – Changing Project Delivery Systems Session, *ASCE Construction Congress V*, Minneapolis, MN, October 1997.
- “Organizational Structure for Successful Design-Build,” *ASCE Construction Congress IV*, San Diego, CA, October 1995.

XVIII. PROFESSIONAL CONTINUING EDUCATION

- “European Construction Management Methods,” *Texas Department of Transportation Short Course*, College Station, TX, October 2004.
- “Cost Engineering,” *2-Day Short Course for the Alaska Department of Transportation and Housing*, Anchorage, AK, November, 2004.
- “Design-Build Contracting,” *2-Day Short Course for the U.S. Air Force*, Peterson Air Force Base, Colorado Springs, CO, August 2004.
- “Fundamentals of Project Delivery,” *1-Day Seminar for the Design-Build Institute of America Rocky Mountain Chapter*, Denver, CO, April 2004.
- “Design-Build Contracting,” *2-Day Short Course for the American Society of Civil Engineering*, Las Vegas, NV, April, 2004.
- “Design-Build Contracting,” *2-Day Short Course for the U.S. Department of the Navy*, Yuma, CA, August 2003.
- “Design-Build Contracting,” *2-Day Short Course for the American Society of Civil Engineering*, Manchester, NH, February, 2003.
- “Design-Build Contracting,” *2-Day Short Course for the U.S. National Park Service*, Denver, CO, July 2002.
- “RFQ and RFP Design-Build Contract Development for Highway Projects,” *2-Day Short Course for the Washington State Department of Transportation*, Seattle, WA, September and January 2002.
- “Design-Build Contract Administration for Highway Projects,” *3-Day Short Course for the Washington State Department of Transportation*, Seattle, WA, January 2002.
- “Design-Build Contracting,” *2-Day Short Course for the Federal Highway Administration*, Washington, DC, Denver, CO, and Vancouver, WA, 3 Courses in 2000-2001.

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- “Advanced Design-Build Project Management,” *3-Day Short Course for the U.S. Department of the Navy*, San Diego, CA, 3 Courses 2000-2001.
- “Design-Build Contracting,” *2-Day Short Course for the Long Island Railroad*, New York, NY, November 2001.
- “Best Practices in Design-Build Project Management,” *2-Day Short Course for the University of California/Design-Build Institute of America*, San Diego, CA, November 2001.
- “Construction Cost Engineering,” *2-Day Short Course for the American Society of Civil Engineering*, Orlando, FL, June 2001.
- “Best Practices in Design-Build Project Management,” *2-Day Short Course for the University of Colorado/Design-Build Institute of America*, Denver, CO, June 2001.
- “Advanced Design-Build Contracting,” *2-Day Short Course for the University of Colorado/Design-Build Institute of America*, Denver, CO, April 2000.
- “Design-Build Project Management: The Art and Science,” *2-Day Short Course for Georgia Tech/Design-Build Institute of America*, Atlanta, GA, April 1999.
- “Advanced Techniques in Design-Build Project Delivery & Finance,” *2-Day Short Course for Arizona State University/Design-Build Institute of America*, Phoenix, AZ, November 1998.
- “Advanced Techniques in Design-Build Project Delivery & Finance,” *2-Day Short Course for Georgia Tech/Design-Build Institute of America*, Atlanta, GA, May 1998.
- “Design-Build Management,” *2-Day Short Course for Georgia Tech/Associated General Contractors*, Atlanta, GA, February 1998.

XIX.SERVICE ACTIVITIES

1. Professional Contributions

Society Membership

- AACE – Association for the Advancement of Cost Engineering International, 2001-2007.
- ASCE – American Society of Civil Engineers, 1995-2007.
- ASPE – American Society of Professional Estimators, 1994-1999.
- CMAA – Construction Management Association of America, 1998-2007.
- DBIA – Design-Build Institute of America, 1995-2007.
- IABMS – International Association for Bridge Maintenance and Safety, 2001-2002.

Society Committees

- AACE – Association for the Advancement of Cost Engineering International
 - Committee Member, Construction Special Interest Group, 2001-2007.
- ABC – Associated Builders and Contractors of Colorado
 - Committee Judge, Award of Excellence, 2003.
- AGC – Associated General Contractors of Colorado
 - Committee Judge, Award for Construction Excellence (ACE), 2000.
- ASCE – American Society of Civil Engineers
 - Construction Research Council, Member 1997-2005, Secretary 2002, Vice-Chair 2003, Chair 2004, and Past Chair 2005.
 - Constructability Committee, Member 2003-2006.
 - Peurifoy Construction Engineering and Management Award Committee, 2001, 2003-2005.
 - Control Group Member, of the Technical Council on Computing and Information Technology's Coordination of Computing Activities (CoCOA), 1997-2001.
 - Member, Computing in Construction Committee, 1997-2000.
- CMAA – Construction Management Association of America
 - Board Member, Southeast Atlantic Chapter, 1998-1999.
- DBIA – Design-Build Institute of America
 - Awards Committee for Distinguished Leadership Awards, 2003 and 2004.
 - Subcommittee Chair for Member Education, Education and Research Committee, 1999-2002.
 - Board Member/Education Committee Chair, Rocky Mountain Chapter, 2002-2003.
 - Civil Infrastructure Committee Member, 2000-2005.
- GQI – Georgia Quality Initiative U.S. Department of Transportation/Federal Highway Administration/Georgia Department of Transportation
 - Alternative Contracting Subcommittee Member, 1998.

Federal Committees

- FHWA – Federal Highway Administration
 - Accelerated Construction Technology Team – Innovative Contracting Expert, 2003-2007.
 - Construction Management Expert Technical Group (ETG), 2004-2007.

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- Performance Specification Strategic Road Map Committee, 2005-2006.
- GSA – U.S. General Services Administration
- Construction Excellence Peer Review Committee, 2000-2007.

Conference Planning Committees

- AIA/AGC/ACEC – American Institute of Architects/Associated General Contractors/American Consulting Engineers Council Joint Liaison Committee of Colorado
- Conference Planning Committee, *Owner's Project Delivery Conference*, 1999.
- ASCE – American Society of Civil Engineers
- Technical Chair/Proceedings Editor, Conference Planning Committee, *Construction Research Congress*, 2003.
 - Conference Planning Committee, *Fully Integrated and Automated Project Processes*, 2002.
 - Conference Planning Committee, *Construction Congress VI*, 1999.
- CSCE – Canadian Society for Civil Engineering
- Planning Committee, *International Construction Specialty Conference of the Canadian Society for Civil Engineering*, 2005-2006.
- DBIA – Design-Build Institute of America
- Conference Planning Committee, *Design-Build in Water/Wastewater Treatment Conference*, 2001, 2003, 2004 and 2005.
 - Conference Planning Committee, *Design-Build in Transportation Conference*, 2003 and 2004.
 - Chair, Conference Planning Committee, Rocky Mountain Design-Build Institute of America, Owner's Summit on Project Delivery, 2003.
- Federal Highway Administration
- Program Committee Co-Chair, 1st International Construction Management Conference, 2007-2008.
- NSF – National Science Foundation
- Conference Planning Committee, *Construction Engineering and Management Research Methods Workshop*, 2004.
 - Conference Planning Committee, *Earth Systems Engineering*, 2001.

National Science Foundation (NSF)

Proposal Panelist Reviewer – Three panel reviews between 1999 and 2006.

Publication Editorial Board Member

Revista Ingeniería de Construcción (Journal of Construction Engineering), Catholic University of Chile

Publications Reviewer

ASCE Journal of Construction Engineering and Management
ASCE Journal of Computing in Civil Engineering
ASCE Journal of Management in Engineering
ASCE Journal of Professional Issues in Engineering Education and Practice
Automation in Construction
Construction Management and Economics
Engineering Economist
International Journal of Construction Procurement
ASEE Southeast Conference Section Proceedings, 2000
ASCE Construction Congress VII Proceedings, 2000
ASCE International Computing Congress Proceedings, 1998
ASCE Construction Congress VI Proceedings, 1997

Book Reviews

Peurifoy, R.L. and Schexnayder C.J. (2003). *Construction Planning, Equipment, and Methods*, 7th Edition, McGraw-Hill Companies, Inc. Boston, MA.
Pena-Mora, F., Sosa, C. and McCone, S. (2001). *Resolution in Large Scale Civil Engineering*, Pearson Education, Upper Saddle River, New Jersey.
ACEC (2001). *Multiple Project Delivery Systems: The Design Professional's Handbook, Design-Build Project Delivery*, American Consulting Engineers Council, Washington, DC
Best, R., De Valence, G. (1999). *Building in Value*. Arnold, London
Rojas, E. (1999). *Construction Cost Estimating for Decision-Makers*. Prentice Hall, New Jersey.

2. Campus Contributions

University of Colorado – Campus

Keith R. Molenaar, Ph.D.

Instructor, High School Honors Program, College of Engineering, 2002.

Advisor, Summer Multicultural Advancement in Research and Training (SMART Program), 2002 and 2005.

University of Colorado – College of Engineering and Applied Science

Strategic Planning Mini-Retreat Co-leader, 2007-2008

Faculty Leadership Advancement Group, 2006-2008.

Mentor, Freshmen Engineering Honors Program, 2007-2008.

University of Colorado – Department of Civil, Environmental, and Architectural Engineering

Executive Committee, 2007-2008.

Curriculum Committee, 2005-2006.

Graduate Committee, 2000-2005.

Geotech Faculty Search Committee, 2003-2004.

Consortium on Advanced Life Cycle Engineering for Sustainable Civil Environments (COALCESCE)
Committee, 2001-2006.

Computing Committee, 2000-2002.

ABET Ad Hoc Committee, 2001-2002 and 2006.

Construction Engineering and Management Computer Applications Laboratory Coordinator, 1999-2006.

Construction Engineering and Management Faculty Search Committee, 2000-2002.

DBIA Student Chapter Faculty Advisor, 2000-2002, 2007.

ABC Student Chapter Faculty Advisor, 2001-2002.

Faculty Meeting Minute Recorder, 1999-2000.

3. Consulting

California Department of Transportation

Carter-Burgess

Emerging Solutions, Inc./Constructware

J.A. Jones/Metric Constructors

Koch Materials

Montgomery Watson Harza Engineering

Panama Canal Authority

Parsons Brinkerhoff

Seattle Public Utilities

Talisman Partners

U.S. Federal Highway Administration

U.S. Naval Facilities Engineering Command

Washington State Department of Transportation

Washington State Joint Legislative Review Committee