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EDUCATION

- Ph.D.** *Civil Engineering*, University of Washington, Seattle, Washington, 1979
- M.S.** *Engineering Management*, University of Missouri, Rolla, Missouri, 1971
- B.S.** *Mechanical Engineering*, University of Missouri, Rolla, Missouri, 1967

AWARDS AND PROFESSIONAL RECOGNITION

- National Academy of Construction, 2007
- American Society of Civil Engineers Peurifoy Research Award 2007
- Civil Engineering Clarence L. Eckel Award 2004
- American Society of Civil Engineers Thomas Fitch Rowland Prize, 2001
- K. Stanton Lewis Professor of Construction Management, 2000 2008
- Civil Engineering Distinguished Achievement Award, 1998
- American Society of Civil Engineers Thomas Fitch Rowland Prize, 1997
- Civil Engineering Service Award, 1995
- Outstanding Achievement Award - Center for Public Resources, 1994
- Visiting Professor, Department of Building Economics and Construction Management, Chalmers Technical University, Göteborg, Sweden, 1990/91
- Civil Engineering Teaching Award, 1988

PUBLICATIONS

Journal Papers

Contract Claims and Disputes

Cho, Y.-J, Hyun, C.-T., Lee, S.-B, Diekmann, J., "Characteristics of Contractor's Liabilities for Defects and Defective Work in Korean Public Projects", ASCE Journal of Professional Issues in Engineering Education and Practice, Vol. 132, No 2., 2006, pages 180-186.

Molenaar, K., Washington, S. and Diekmann, J.E., "A Structural Equation Model of Construction Contract Dispute Potential", ASCE Journal of Construction Engineering and Management, Vol. 126, No. 4, July/August 2000, pages 268-284.

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Diekmann, J.E. and Girard, Mathew, "Industry Attitudes to Alternative Dispute Resolution Techniques", Project Management Journal, Volume XXVI, Number 1, March 1995, pages 3-12.

Diekmann, C.V.

Diekmann, J.E. and Nelson, M.C., "Construction Claims: Frequency and Severity", ASCE Journal of Construction Engineering and Management, Vol. 111, No. 1, March 1985, pages 7481.

Diekmann, J.E., Horn, D. and O'Conner, M., "Utilization of Learning Curves in Damage for Delay Claims", Project Management Quarterly, Vol. XIII, No. 4, December 1982, pages 6771.

Alternative Project Delivery Systems

Ock, J.H., Han, S.H., Park, H.K., Diekmann, J.E., "Improving Decision Quality: A risk-Based Go/No-Go Decision for Build-Operate-Transfer (BOT) Projects, Canadian Journal of Civil Engineering, Vol 32., No. 3., 2005, pages 517-532.

Diekmann, J., Ashley, D., Bauman, R., Carroll, J. and Finlayson, F., "Viability of Privatized Transportation Projects: An Evaluation Tool for Design/Build Teams", Journal of Construction Procurement, Vol. 6, No.1, May 2000, pages 33-43.

Ashley, D., Bauman, R., Carroll, J., Diekmann, J. and Finlayson, F., "Predicting Viability of Privatized Transportation Projects", Construction Business Review, Volume 8, No. 1, 1999, pages 56-61.

Ashley, D.B., Bauman, R., Carroll, J., Diekmann, J.E. and Finlayson, F., "Evaluating the Viability of Privatized Transportation Projects", ASCE Journal of Infrastructure Systems, Vol. 4, 1998, pages 102-110.

Diekmann, J.E., Songer, A.D. and Pecsok, R.S., " Risk Analysis for Revenue Dependent Infrastructure Projects", Journal of Construction Management and Economics, Volume 15, No. 4, July 1997, pages 377 - 382.

Decision Making and Risk Analysis

Seung H. Han, James E. Diekmann; and Jong H. Ock, "Contractor's Risk Attitudes in the Selection of International Construction Projects", ASCE Journal of Construction Engineering and Management, Vol 131, No. 3, March 2005, pages 283-292.

Seung Heon Han and James E. Diekmann, "Judgment Based Cross-Impact Method for Predicting Cost Variance for Highly Uncertain Projects", Journal of Construction Research, Vol 5, No. 2, 2004, pages 171-192.

Han, S.H., Diekmann, J.E., Lee, Y. and Ock, J.H., "Multi-criteria Financial Portfolio Risk Management for International Projects", ASCE Journal of Construction Engineering and Management, Vol. 130, No. 3, 2004, pages 346-356.

Han, S. and Diekmann, J., "Approaches for Risk-Based Go/No-Go Decisions for International Projects", ASCE Journal of Construction Engineering and Management, Vol. 127, No. 4, Jul/Aug 2001, pages 300-308.

Han, S. and Diekmann, J., "Making a Risk-Based Bid Decision for Overseas Construction Projects", Journal of Construction Management and Economics, 2001, Vol. 19 No 8, pages 765- 776.

Diekmann, C.V.

Diekmann, J.E., and Featherman, W.D., "Assessing Cost Uncertainty: Lessons from Environmental Restoration Projects", ASCE Journal of Construction Engineering and Management, Vol. 124, No. 6, November/December 1998, pages 445 - 451.

Diekmann, J.E., "Risk Analysis for Environmental Remediation Projects: A Comprehensive Approach", Cost Engineering, Volume 39, No. 8, August 1997, pages 38 - 45.

Diekmann, J.E., "Project Cost Risk Analysis Using Influence Diagrams," Project Management Journal, Volume XXVII, Number 4, December 1996, pages 23-31.

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Diekmann, J.E., "Probabilistic Estimating: Mathematics and Applications" ASCE Journal of Construction Engineering and Management, Vol 109, No. 3, 1983, pages 297-308.

Expert Systems/Computer Aided Analysis

Diekmann, J.E., Huang, Pei Yu and Fenis, S., "A GIS Based Pipeline Planning System" Engineering, Construction and Architectural Management, Vol. 2, No. 3, September 1995, pages 227-238.

Diekmann, J.E., Huang, Pei yu, and Fenis, S., "PPS: A Pipeline Planning System", ASCE Journal of Computing in Civil Engineering, Volume 9, No. 2, April 1995, pages 134-140.

Diekmann, J.E. and Gjertsen, K., "Site Event Advisor: An Expert System for Contract Claims", ASCE Journal of Computers in Civil Engineering, Vol. 6, No. 4, October 1992, pages 472-477.

Diekmann, J.E. and Kim, M., "SuperChange: An Expert System for Analysis of Changes Claims", ASCE Journal of Construction Engineering and Management, Vol. 118, No. 2, June 1992, pages 399-411.

Diekmann, J.E. and AlTabtabai, H., "A Knowledge Based Approach to Construction Project Control", International Journal of Project Management, Vol. 10, No. 1, February 1992, pages 23-30.

AlTabtabai, H. and Diekmann, J.E., "Judgmental Forecasting in Construction Projects", Journal of Construction Management and Economics, Vol. 10, February 1992, pages 19-30.

Kraiem, Z. and Diekmann, J.E., "Uncertain Reasoning in a Construction Legal Expert System", ASCE Journal of Computing in Civil Engineering, Vol. 4, No. 1, January 1990, pages 557-6.

Kraiem, Z. and Diekmann, J.E., "DISCON: An Expert System for the Analysis of Differing Site Condition Claims", Knowledge Based Systems, Vol. 2, No. 3, September 1989, pages 158-165.

Diekmann, J.E. and Kraiem, Z., "Explanation of Construction Engineering Knowledge in Expert Systems", Construction Engineering and Management, Vol. 114, No. 3, September 1988, pages 364-389.

Diekmann, C.V.

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Diekmann, J.E., "CostPlus Contractor Selection An Analytical Approach", Engineering Costs and Production Economics, No. 7, 1983, pages 147158.

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Scheduling, Project Control and Concurrent Engineering

Bogus, S.M.; Molenaar, K.R., and Diekmann, J.E., "Strategies for overlapping dependent design activities", Construction Management and Economics, 24, August 2006, pages 829-837.

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Songer, A., Diekmann, J., Karet, D., "Animation-based Construction Schedule Review", Construction Innovation, Vol. 1, 2001, pages 181-190.

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Tamimi, S. and Diekmann, J.E., "Soft Logic in Network Analysis", ASCE Journal of Computers in Civil Engineering, Vol. 2, No. 3, July 1988, pages 289301.

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Other Work

Diekmann, C.V.

Diekmann, J.E., "Past Perfect: Historical Antecedents of Modern Construction Practices", ASCE Journal of Construction Engineering and Management, 50th Anniversary Issue, Vol. 133, No. 9, pages 652-660. (Invited Paper)

Ross B. Corotis, Dan M. Frangopol, James Diekmann, Keith Molenaar and George Hearn, "An Educational Experiment to Address Infrastructure Needs", International Journal of Critical Infrastructure, Vol 1, No.2/3, pages 169-180.

Chinowsky, P. and Diekmann, J., "CEM Educators: History And Misplaced Community" ASCE Journal of Construction Engineering and Management, Vol. 130, No 5, pages 751-758.

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CONFERENCE PRECEEDINGS

Nicolas A. Blacud, Susan M. Bogus, Keith R. Molenaar, and James E.

Diekmann, "Beginning Construction Under Design Uncertainty", ASCE/CIB Construction Research Congress, Grand Bahama Island, May 6-8, 2007.

Lee, J-S, Molenaar, K.R., Bogus, S.M. and Diekmann, J.E., "An Activity Overlapping Algorithm for Construction", Joint International Conference on Computing and Decision Making in Civil and Building Engineering, Montreal, Canada, June 14-16, 2006.

Bogus, S. M., "Consequences of Overlapping Dependent Activities to Reduce Project Delivery Time", ASCE Construction Research Congress, San Diego, CA, April 2005.

Gransburg, D. and Diekmann, J.E., "Quantifying Pavement Life Cycle Cost Inflation Uncertainty", AACE International Transactions, Pages Risk.08.1-Risk.08.11.

Thiengburanatham, P., Wang, Y., Diekmann, J. and Molenaar, K.; "Production Scheduling in Construction", Innovative Developments in Architecture, Engineering and Construction, Anumba ed., 25-27 June 2003, Loughborough, U.K., pages 325-334.

Diekmann, C.V.

Diekmann, J., Balonick, J., Krewedl, M. and Troendl, L.; "Measuring Lean Conformance", 11th Conference the International Group for Lean Construction, Blacksburg, VA, July 21-23, 2003. <http://www.strobos.ce.vt.edu/iglc11/index.html>

Poon Thiengburanathum and James Diekmann, Taxonomy of Construction Production Systems, Joint International Symposium of CIB Working Commissions W55, W65 and W107, 22-24 October 2003, Singapore, pages 753-762.

Poon Thiengburanathum and James E. Diekmann, "Design of Construction Production: Earthmoving System", Joint International Symposium of CIB Working Commissions W55, W65 and W107, 22-24 October 2003, Singapore, pages 743 - 752 (Best Paper Award).

Bogus, Susan, Diekmann, J.E. and Molenaar, K.M., "A Methodology to Reconfigure the Design-Construction Interface for Fast-Track Projects", Proceedings of the ASCE & EG-ICE Joint Conference on Computing in Civil Engineering, Washington D.C., November 2002.

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Bogus, Susan and Diekmann, J.E., "Digital Integration of Design Data and Construction Products: Applications in Education and Training", ASCE Specialty Conference on Fully Integrated and Automated Project Processes, January 24-25, 2002, pages 456-461.

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Bogus, Susan, Songer, A. and Diekmann, J., "Design-Led Lean", 8th Lean Construction Conference, Brighton, England, July 17-19, 2000.

Subramanian, P., Songer, A., and Diekmann, J., "Visualizing Process Performance through Integration of Workflow Modeling and 3D CAD", CIB W78 - IABSE-EG SEA AI International Conference on Construction Information Technology 2000 (CIT 2000), Rejvick, Iceland, June 28-30, 2000.

Nasr, E., Diekmann, J., and Kuprenas, J., "A Methodology to Develop Total Project Cost Success Factors Based On a Pareto Analysis of Completed Project Cost Control Data", AACE International 44th Meeting and 16th International Cost Engineering Congress, Alberta, Canada, June 25-28, 2000.

Songer, A., Diekmann, J., and Han S., "CDAT: Enhancing Professional Experience Using Digital Video", ASCE Construction Congress VI, February 20-22, 2000, Orlando, FL, pages 307-313.

Diekmann, C.V.

Lee, S., Diekmann J., Songer, A. and Brown H., "Identifying Waste: Applications of Process Analysis", 7th International Conference on Lean Construction", Berkeley, CA, July 26-27, 1999.

Al-Sudairi, A., Diekmann, J., Songer, A. and Brown, M., "Evaluation of Construction Processes: Traditional Practices versus Lean Principles", 7th International Conference on Lean Construction", Berkeley, CA, July 26-27, 1999.

Songer, A., Diekmann, J. and Al Rasheed, K., "The Impact of 3D Visualization on Construction Planning", ASCE International Congress on Computing in Civil Engineering, Boston, MA, 1998.

Diekmann, J. and Almasoud, A., "Repetitive Project Scheduling for Large Scale Residential Housing", ASCE Construction Congress, October 4-8, 1997, Minneapolis, MN, pages 921-930.

Carlson, J., Diekmann, J. and Songer, A., "3D Animation in Tunneling", Rapid Excavation and Tunneling Conference, Las Vegas, NV, June 22-26, 1997.

Diekmann, J.E. and Songer, A., "Construction Information Technology in the 21st Century", ASCE Construction Congress IV, San Diego, CA, October 1995.

Diekmann, J.E., "DPI-Disputes Potential Index: On the Predictability of Contract Disputes on Tunneling Projects", Proceedings of the SME-AIME Rapid Excavation and Tunneling Conference, June 18-22, 1995, pages 165-184.

Diekmann, J.E. and Featherman, D., "New Approaches to Cost Risk Analysis", Proceedings of the ASCE Conference on Computers in Civil Engineering, Atlanta, GA, June 5-7, 1995, pages 1392-1399.

Diekmann, J.E. and Featherman, D., "Applying Influence Diagrams to Environmental Restoration Projects for Improved Project Risk Management", Second Annual EM Cost Management Conference, San Francisco, CA, December 5-9, 1994.

Diekmann, J.E., "DPI - Dispute Potential Index", presented at the annual meeting of the Construction Industry Institute, Boston, MA, August 2-5, 1994, separate bound publication.

Diekmann, J.E. and Al-Tayer, K., "A Knowledge Based System for Value Engineering", Proceedings of the 1992 Society of American Value Engineers, Phoenix, AZ, June 1-5, 1992, pages 51-55.

Diekmann, J.E. and Taher, K.A., "A Knowledge Based System for Value Engineering", Proceeding of the Society of Value Engineers, Phoenix, AZ, June 1-5, 1993, pages 51-56.

Diekmann, J.E., and Gjertsen, K., "Site Event Advisor: An Expert System for Contract Claims", MiniConference on Expert System Application in Construction Contract Law, Asian Institute of Technology, Bangkok, Thailand, June 24-26, 1991.

Diekmann, J.E. and Kim, M., "SuperChange: An Expert System for Changes Claims", MiniConference on Expert System Application in Construction Contract Law, Asian Institute of Technology, Bangkok, Thailand, June 24-26, 1991.

Diekmann, C.V.

Diekmann, J.E., Kayman, M., Kim, M. and Rotar, M., "An Expert System for the Analysis of Changes Claims", EPA Conference on Design and Construction Issues at Hazardous Waste Sites, Dallas, TX, May 1-3, 1991.

Diekmann, J.E., "Full Control on the Site", Employers Organization of the Swedish Construction Industry (Byggentrepenörerna), Rationaliserings Konferens, Skövde, Sweden, December 4, 1990.

Diekmann, J.E., Tamimi, S. and Bauman, R., "Risk Analysis Using Influence Diagrams", the First International Symposium on Uncertainty Modeling and Analysis, University of Maryland, December 3-5, 1990.

Diekmann, J.E., Byrnes, C. and Bauman, R.D., "Computer Aided Project Control", the International Conference on Applications of Advanced Technologies in Transportation Engineering, San Diego, CA, February 1989.

Diekmann, J.E., "DISCON: An Expert System for Contract Claims Analysis", Invited Paper, Engineering Foundation Conference on Expert Systems in Civil Engineering, Santa Barbara, CA, February 1988.

Diekmann, J.E., "Risk Management in Design and Construction", presented at the AACE/CII Conference on Modern Management Systems, Boston, MA, September 1987.

Diekmann, J.E., Thrush, K.B. and Wilson, T.A., "Design Engineering and Project Control", Proceedings of the ASCE Specialty Conference on Integrated Project Controls for Design and Construction, June 1987.

R.I. Carr, V.F. Spruill and J.E. Diekmann (Eds), Proceedings of the ASCE Specialty Conference on "Current Techniques of Estimating and Cost Control", April 1983, 248 pages.

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Diekmann, J.E. and Mayer, R.H., "Applications and Extensions to Unbalanced Bidding Models", presented at the ASCE National Convention, Las Vegas, NV, April 1982.

Diekmann, J.E. and Mayer, Jr., R.H., "Enhancing Profitability for Unit Price Contracts", Transactions of the American Association of Cost Engineers, Houston, TX, October 1982, pages M.3.1M.3.7.

Diekmann, J.E., Mayer, R.H. and Stark, R.M., "Coping with Uncertainty in Unit Price Contracting", presented at the ASCE National Convention, St. Louis, MO, October 1981, Preprint No. 81541, 11 pages.

Diekmann, J.E., "Selecting CostPlus Contractors A Case Study", presented at the ASCE National Convention, Portland, OR, April 1980, Preprint No. 80057, 23 pages.

INVITED LECTURES

Diekmann, J.E., "Legacy and Heritage: Who is Our Hippocrates?", ASCE 2007 Peurifoy Lecture, Orlando Florida, November 3, 2007.

Diekmann, C.V.

Diekmann, J.E., "IT in the North American Construction Industry", 3rd Annual CALS/EC International Symposium: Activating Electronic Commerce in the Construction Industry, Seoul, Korea, December 4-6, 2002.

Diekmann, J.E., "Construction Professionals in the Year 2020", Joint Session Yonsei, Seoul National and Seoul University, Seoul, Korea, December 5, 2002.

Diekmann, J.E. "Cost Risk analysis for Design Build Project", US Army Corps of Engineers Cost Engineering Conference, St. Louis, MO, June 20-21, 2001.

Diekmann, J.E. "Environmental Project Risk Analysis Using CostRisk", US Department of Energy Cost Users Conference, Albuquerque, NM, May 8, 2001.

Diekmann, J.E., "Design-Build Relationships", Presented to the Denver AIA Design-Build Roundtable, Denver Design Center, August 17th, 2000.

Diekmann, J.E., "Cost Risk Analysis for Environmental Remediation", Presented to the Department of Energy Cost Engineering Interests Group, Rocky Flats Technology Site, April 12, 2000.

Diekmann, J.E., "Probability Encoding for Cost Risk Analysis", Invited Presentation, U.S. Army Corps of Engineers Cost Engineering Conference, Albuquerque, NM, June 25-28, 1997.

Diekmann, J.E., "Cost Risk Analysis for Environmental Restoration Projects", Invited Presentation, Joint Conference on Environmental Remediation, Washington, D.C., August 21-23, 1995.

Diekmann, J.E., "Cost Risk Analysis - Theory and Practice", Invited Presentation, U.S. Army Corps of Engineers Cost Engineering Conference, Jacksonville, FL, June 26-29, 1995.

Diekmann, J.E., "DPI - The Disputes Potential Index", Invited Presentation, American Institute of Constructors Annual Meeting, Long Beach, CA, April 20 - 24, 1995.

Diekmann, J.E., "Risk Assessment in Capital Cost Estimates", U.S. Army Corps of Engineers, Cost Engineers National Meeting, 1993, Seattle, WA, May 24-26.

Diekmann, J.E., "Developing a Construction Research Program", presented at the Del E. Webb School of Construction, College of Engineering, Arizona State University, Tempe, AZ, February 24, 1993.

Diekmann, J.E., "Project Risk Analysis", presented at the ASCE National Convention, St. Louis, MO, 1988.

Diekmann, J.E., "Risk Management in Construction", presented at the Delaware Valley Construction User's Council Workshop, Philadelphia, PA, June 16, 1988.

Diekmann, J.E., "Management of Risk for Construction", presented at the Council of Owners and Constructors Seminar at Southern Illinois University, May 25, 1988.

Diekmann, C.V.

Diekmann, J.E., "Risk Management in Capital Projects", presented at Western Council of Construction Consumers Workshop, San Francisco, CA, March 2, 1988.

REPORTS

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.

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Diekmann, J.E. and Kraiem, Z., "DISCON: A Microcomputer Based Expert System for Differing Site Conditions", Final Report to the National Science Foundation, Washington, D.C., Grant No. MSM8415257, June 1988, 15 pages.

Diekmann, J.E. and Ivanoff, Daniel, "Project Labor Agreements in the Construction Industry", Technical Report to the Associated Builders and Contractors, Denver, CO, April 1987, 316 pages.

Diekmann, J.E., "An Expert System for Construction Management", An Interim Progress Report to the National Science Foundation, Washington, D.C., Grant No. MSM8415257, November 1986, 15 pages.

Tamimi, S., Diekmann, J. and Strzepek, K.; "Uncertain Reasoning in Artificial Intelligence", for CADSWES, Boulder, CO, September 1986, 42 pages.

Diekmann, J.E. and Bloom, J., "Prevailing Wage Survey Techniques for Larimer County, Colorado", for the Associated Builders and Contractors, Denver, CO, August 1986, 200 pages.

Diekmann, J.E. and Thrush, K.B., "Project Control in Design Engineering", Technical Report to the Construction Industry Institute, Austin, TX, December 1985, 230 pages.

Diekmann, J.E. and AlAssaf, A.M., "Improvement of the Construction CostEffectiveness of the Ministry of Defense and Aviation Kingdom of Saudi Arabia (Executive Summary)", Technical Report to the General Directorate of Military Works MODA KSA, Riyadh, Saudi Arabia, September 1985, 20 pages.

Diekmann, J.E. and AlAssaf, A.M., "Improvement of the Construction CostEffectiveness of the Ministry of Defense and Aviation Kingdom of Saudi Arabia", Technical Report to the General Directorate of Military Works MODA KSA, Riyadh, Saudi Arabia, September 1985, 254 pages.

Diekmann, C.V.

Diekmann, J.E., Sture, S. and Yousef, A., "Superconducting Super Collider Civil Engineering Task Report", Technical Report to Colorado SSC Siting Committee, Denver, CO, April, 1985, 86 pages.

Diekmann, J.E. and Yousef, Ali, "Construction Markets 1988", Technical Report to Phelps, Inc., Greeley, CO, November 1983, 138 pages.

Diekmann, J.E., "Contract Disputes and Computer Reasoning: An Artificial Intelligence Approach to Claims Resolution", Technical Report to the U.S. Army Corps of Engineers' Construction Engineering Research Labs, Champaign, IL, September 1983, 23 pages.

Diekmann, J.E. and Moore, D.E., "Growth of Open Shop Construction in Colorado", Technical Report to the Construction Industry Management Council and the Colorado Building and Construction Trades Council, Denver, CO, March 1983, 133 pages.

Diekmann, J.E., "Risk Assessment in Cost Estimating Techniques", Technical Report to the Solar Energy Research Institute, Golden, CO, August 1982, 98 pages.

Diekmann, J.E. et al., "An Investigation of the Economic and Technical Feasibility of the Madaras Power Plant Concept", Technical Report to the Solar Energy Research Institute, Golden, CO, August 1981, 116 pages.

Diekmann, J.E., "Selection of CostPlus Contractors Using Normative Decision Methodologies", unpublished doctoral dissertation, University of Washington, 1979, 472 pages.

ACADEMIC EXPERIENCE

1989 to present Professor
1983 to 1989 Associate Professor
1979 to 1983 Assistant Professor
Department of Civil, Environmental and Architectural Engineering, University of Colorado Boulder

Program Coordinator for the Construction Engineering and Management Program. Responsible for developing both a graduate and undergraduate course of study covering all aspects of Construction Engineering and Management. Responsibilities also include funds generation, industry liaison, graduate student recruitment and conducting scholarly research on topics pertinent to the Construction Industry.

1977 to 1979 Lecturer in Civil Engineering, Department of Civil Engineering, University of Washington, Seattle, Washington. Responsible for developing and presenting both graduate and undergraduate courses covering topics in engineering construction and project management.

TEACHING

AREN 3406 "Building Construction" An undergraduate course designed to acquaint students with the fundamentals of building design, materials, and construction. Discussion includes foundation systems, structural systems, and materials, mechanical and electrical systems.

Diekmann, C.V.

CVEN 3246 "Introduction to Construction" An undergraduate course on the engineer's role in the Construction Industry. Topics include bidding procedures, basic contracts, bonding, insurance and safety.

AREN 4466 "Construction Planning and Control" A course in project controls. Coverage includes PERT, CPM, resource allocation, probabilistic time scheduling, cost control and progress measurement.

CVEN 4087/CVEN 5246 "Engineering Contracts" A joint listed course in contract law and contract administration. Covers contracts between designers and owners, contractors and owners, contractor and subcontractors. Specific emphasis on AIA A201 and B141 contract language. Also coverage of tort law and construction claims.

CVEN 4830 "Senior Design" A course that is designed to give graduating seniors with interests in Structural, Geotechnical or Construction Engineering a significant design experience. Emphases on students' independent, professional level work on real-world problems.

CVEN 5256 "Construction Project Management" A graduate course treating the management of the construction process. Coverage includes project organizations, project delivery systems, construction safety, insurance and bonds, labor law, labor productivity, conceptual estimating and project control.

CVEN 5276 "Project Risk and Decision Analysis" A graduate course that introduces students to various methods of risk and decision analysis. Standard probabilistic models are covered as well as Monte Carlo and influence diagramming approaches. Decision tree and analytical hierarchy methods are described.

CVEN 5286 "Construction Engineering I" A graduate course which discusses application productivity improvement and production management. The course focuses on student led projects that apply the principals of the course.

CVEN 5296 "Construction Engineering II" A graduate course that investigates the principals and practices of construction operations and equipment. The course includes a discussion of heavy lifting equipment, site layout, drilling, blasting, dewatering, and paving equipment. Emerging technologies, robotics and GPS applications are described.

CVEN 5996 "Special Topics Contract Claims Analysis" A graduate case study course addressing contract claims administration. Teaching strategies include guest lecturers, student presentations and case study reports.

INDUSTRIAL EXPERIENCE

1983 to present Diekmann and Associates, Lafayette, Colorado

Principal in consulting firm specializing in project cost and schedule risk analysis, project policy and strategy analysis, decision analysis and project control system design.

1976 to 1977 EBASCO Services Incorporated, Elma, Washington

Cost and Scheduling Supervisor on the Construction Management Team for the Washington Public Power Supply System Nuclear Projects Nos. 3 and 5. Responsibilities included development and implementation of the Management Information System. Directed and supervised the 30 member project controls staff in the formulation of the project CPM, progress measurement system, and cost accounting system for a \$3 billion Nuclear Power Plant Project.

1971 to 1976 Bechtel Power Corporation, San Francisco, California

Lead Cost Engineer. Responsibilities included development of management information systems and implementation of same to be used to control multibillion dollar construction projects. While in field, duties also included developing and maintaining the cost reporting and monitoring system for a \$300 million coalfired power project. Responsibilities also included supervision of four cost engineers and various estimating and scheduling functions.

Diekmann, C.V.

1974 to 1975 Symtic Corporation, St. Louis, Missouri

Partner in construction management consulting firm specializing in scheduling and project controls.

1970 to 1971 University of Missouri, Rolla, Missouri

Graduate Research Assistant. Research activities included data base management systems, statistical analysis and operations research.

1968 to 1970 U.S. Army, Los Angeles, California

Assigned to the Post Engineer at Fort Macarthur, California. Performed various Civil Engineering functions related to support of defensive missile sites on the West Coast and post maintenance activities.

1967 to 1968 General Electric Company, Evendale, Ohio

Controls Design Evaluation Engineer. Responsibilities included designing and performing service tests on various components for jet aircraft.

RESEARCH SUPPORT

A Communications-Based Approach to Infrastructure Recovery, (Co-PI, James Diekmann) SGER, National Science Foundation, \$35,000,

“A Methodology to Reconfigure the Design Construction Interface”, with Keith Molenaar co-PI, National Science Foundation, \$253,000, August 2003 – August 2005.

“Application of Lean Principles to Construction”, Extension - Construction Industry Institute, \$19,250, June, 2003- Aug 2004.

“Application of Lean Principles to Construction”, Construction Industry Institute, \$149,000, January 2002- Aug 2004.

“Data Exchange Standards for Construction”, Korean Ministry of Construction and Transportation, \$100,000, January 2002-January 2005.

"Enhancing Professional Experience Using Digital Video", Atlas Technology in Education Program, \$7500, 1998 – 1999, w/ Prof. Brown and Songer.

“Construction Craft Productivity Improvement”, Construction Industry Institute, June 1997 - June 2000, \$149,000.

“A Procedure for Cost Risk Analysis on DOE Environmental Restoration Projects”, through Oak Ridge National Labs, \$198,000, September 1995-August 1996.

“Reengineering the EPC Process”, w/ A. Songer (co-PI), Construction Industry Institute, \$120,000, June 1995-May 1997.

“Cost Risk Analysis for Hazardous Waste Projects”, U.S. Department of Energy EM 43 - through Argonne National Labs, \$179,000, July 1994 - July 1996.

“Use of Influence Diagrams or Risk Analysis”, U.S. Department of Energy EM 43 - through Argonne National Labs, (continuation), \$25,000, January 1994.

“HTRW Scope Definition”, U.S. Army Corps of Engineers - Construction Engineering Research Lab, \$24,811, January 1993.

“Disputes Audit Tool”, Construction Industry Institute, \$56,401, June 1992.

Diekmann, C.V.

"Influence Diagramming Based Risk Assessment for HTRW Projects", US Department of Energy, \$79,930, December 1992.

"Risk Analysis Seminar", Colorado Department of Transportation, \$2,295, February 1992.

"Decision Support System for Conceptual Estimating of Pipelines" (continuation), U.S. Bureau of Reclamation (through CADSWES), \$60,000, March 1990.

"Decision Support System for Conceptual Estimating of Pipelines", U.S. Bureau of Reclamation (through CADSWES), \$20,000, June 1989.

"Influence Diagramming Risk Analysis System", National Science Foundation, \$25,000, July 1989.

"Legal Analysis Expert Systems" (continuation), U.S. Army Corps of Engineers Construction Research Lab, \$33,000, June 1990.

"Legal Analysis Expert Systems", Submitted to U.S. Army Construction Engineering Research Lab, \$30,000, March 1989.

"SSC Civil Engineering Task Effort", with S. Sture, A. Touran, B. Amadei, J. Silverstein, Colorado Advanced Technology Institute, \$16,390, February 1987.

"SSC Civil Engineering Task Effort", with S. Sture, Colorado Advanced Technology Institute, \$8,350, June 1986.

"A Data Base for Conceptual Estimating", Saudi Arabian Ministry of Defense and Aviation, \$63,300, March 1986.

"Orthotropic Plate Decks for Bridge Rehabilitation", with G. Goble, Submitted to the National Science Foundation, \$30,000, March 1986.

"Cost/Schedule Contingency", J.E. Diekmann (PI), Construction Industry Institute, \$40,000, February 1986.

"DavisBacon Effects in Selected Colorado Counties", Associated Builders and Contractors, \$6,000, September 1984.

"Artificial Intelligence Applications to Construction Contract Management", National Science Foundation, \$101,201, May 1984.

"Control of Engineering and Design Projects", Construction Industry Institute, \$49,999, April 1984.

"CostEffectiveness on MODA Construction Projects", Saudi Arabian Ministry of Defense and Aviation, \$30,000, April 1983.

"Application of Artificial Intelligence to Contract Claim Management", U.S. Army Corps of Engineers Construction Engineering Research Labs, \$7900, June 1983.

Diekmann, C.V.

"Growth of Open Shop Construction in Colorado", Construction Industry Management Council and the Colorado Building and Construction Trades Council, \$10,000, June 1982.

ENDOWED INDUSTRY SUPPORT

K. Stanton Lewis Chair in Construction Engineering and Management, 2000	\$1,500,000
Nick and Nancy Petry Endowment, 1999	\$1,000,000
Kyle Morgan Endowment, 2000	\$ 25,000
Max Morton Endowment, 2000	\$ 50,000

REVIEWER FOR

AddisonWesley
ASCE Journal of Computing in Civil Engineering
ASCE Journal of Construction Engineering & Management
ASCE Journal of Infrastructure Systems
Construction Management and Economics
Engineering Construction and Architectural Management
Harper and Row
International Journal of Construction Procurement - Editorial Board
Journal of Construction Management and Economics
McGrawHill
National Research Council - Board on Infrastructure and the Constructed Environment
National Science Foundation

Ph. D. STUDENTS

Major Advisor, Completed Degrees (18)

Susan Bogus (with Keith Molenaar co-Chair), "Concurrent Engineering Strategies for Reducing Design Delivery Time", Ph.D. Dissertation, 210 pages, December 2003.

Poon Thiengburantham, "Design of Construction Production Systems: Representation, Taxonomy, and Design Frameworks", Ph.D. Dissertation, 378 pages, September 2003.

Abdullah Al Sudari, "Discrete Event Simulation of Lean Construction Principles" Ph.D. Dissertation, 220 pages, August 2000.

Seung Han, "Cross Impact Method for Evaluation of Foreign Construction Opportunities" Ph.D. Dissertation, 406 pages, May 1999.

Jong Ho Ock, "A Methodology for Evaluating BOT Projects", Ph.D. Dissertation, 259 pages 1997.

Nader Abdul Hadi, "Simulation as a Tool for Re-Engineering Construction Processes", Ph.D. Dissertation, 273 pages, 1997.

Khaled Al-Rasheed (co-chair with Tony Songer) "Construction Schedule Logic Development: The Impact of Visualization", Ph.D. Dissertation, 172 pages, 1997.

Diekmann, C.V.

Abdullah Al Masoud, "A Simulation Model for Repetitive Project Scheduling", Ph.D. Dissertation, 226 pages, 1996.

Saeed Fenis, "A Spatial Decision Support system for Planning Pipelines", Ph.D. Dissertation, 329 pages, 1994.

Pei yu Huang, "Object Oriented Design Approach", Ph.D. Dissertation, 229 pages, 1993.

Isam Kabbani, "Decision Support Life Cycle Analysis System in Building Design", Ph.D. Dissertation, 267 pages, 1993.

Khalid Taher, "ValuExpert: A KnowledgeBased System for Value Engineering in Building Design", Ph.D. Dissertation, 166 pages, 1991.

Herb Schroeder, "DYCAM 1.0: Dynamic Construction Activity Model A Decision Support Tool for Construction Planning", Ph.D. Dissertation, 482 pages, 1991.

Mohd Tamimi, "An Influence Diagramming Based Risk Analysis System", Ph.D. Dissertation, 136 pages, 1989.

Adel Salamah, "COAD: A KnowledgeBased Expert System for Conceptual Estimates and Designs", Ph.D. Dissertation, 285 pages, 1989.

Nasar Akeel, "A Data Base Tool for Statistically Based Construction Cost Estimates", Ph.D. Dissertation, 528 pages, 1989.

Hashem AlTabtabai, "Procon: A Knowledge Based Approach to Construction Project Control", Ph.D. Dissertation, 450 pages, 1989.

Zaki Kraiem, "DISCON: An Expert System for Contract Claims Analysis", Ph.D. Dissertation, 500 pages, 1988.

M.S. STUDENTS

Jason Coker, "A Simulaiton-based Analysis of Concurrent Engineering Applications in the Architecture, Engineering and Construction Industry", M.S. Thesis, 2007.

Chris Harper, "Using Concurrent Engineering and Simulations to Analyze Design Activities in a Construction Project", M.S. Report, 2007.

Georgios Paterakis, "Comparative Study of the Public-Private partnerships Systems for the Delivery of Highway Projects in the Countries of USA and Greece, M.S. Report 2007.

Sam Hosfelt, "The Efficacy of Building Information Models", M.S. Report, 2007.

Kymberly Haley, "Historical Construction St. Peter's Basilica & Church of San Lorenzo", M.S. Report, 2007.

Josh Balonick, "Measuring Lean Conformance", M.S. Report, 2004.

Mark Krewedl, "Evaluation of the Construction Value Stream", M.S. Thesis, 2003.

Diekmann, C.V.

Mari Nagai, "A Compendium of Risks in International Construction Projects, M.S. Report, 2003.

Travis Stewart, "Application of Manufacturing Principles, M.S. Thesis, 2002.

Yang Wang (w/ Keith Molenaar), "The application of Production Scheduling Techniques in Construction" MS Report, 2001.

Mike Derosier, "Use of Computer Modeling in Traffic Control Planning for Highway Construction" M.S. Thesis, 2001.

Jason Heinz, "Determinants of Jobsite Productivity", M.S. Thesis, 1999.

Seung Lee, " Identifying Waste: Applications of Process Analysis", M.S. Report 1999.

Young Lee, " Corporate Risk Management for Global Construction corporations: A Multi-Integrated Systematic Analysis" M.S. Thesis, 1999.

Michael Hernandez, "A Digital Video System for Construction Education" M.S. Report, 1996.

Dean Sirulnik, "Environmental Risk Assessment - A Survey and Consolidated Approach", M.S. Report, 1995.

Roger Pecsok, "Cost Risk Analysis for Public/Private Partnership Projects", M.S. Report, 1995.

Shinobu Yamanake, "Neural Network Prediction of Contract Disputes", M.S. Report, 1995.

Maria Rodriguez-Guy, "Cost and Schedule Risk Analysis and Bayesian Updating of Hazardous Waste Remediation Projects", M.S. Report, 1995.

Wen Chen, "Adapting Construction Management Techniques to Taiwanese Construction Industry", M.S. Report, 1994.

Katsua Ogihara, "Risk Assessment of Long Span Bridge Configurations", M.S. Report, 1994.

Timothy Papich, "Contractual and Ethical Issues in New Forms of Contracts", M.S. Report, 1994.

David Featherman, "Quantification of Expert Judgment for Risk Assessment", M.S. Report, 1994, 157 pages.

Roger Wilson, "Project Partnering, More than a Workshop", M.S. Report, 1994.

Mathew Girard, "DPI - The Disputes Potential Index", M.S. Thesis, 1993.

James Haskell, "Alternative Dispute Resolution in Construction", M.S. Report, 1993.

Jan Haugan, "Risk Analysis Procedure for North Sea Oil Projects", M.S. Report, 1993.

Diekmann, C.V.

Ty Jackson, "On Interestingness and Project Control", M.S. Report, 1993.

Sunil Chayla, "Neural Network Approach to Building Cost Estimating", M.S. Thesis, 1992.

Mathew Kibben, "Construction Control", M.S. Report, 1992.

Fauzian Sjarindra, "Computer Support of Project Financial and Risk Analysis Methods", M.S. Report, 1992.

Nina Yogasara, "Procedures for Delay Claim Analysis", M.S. Report, 1992.

Michael Rotar, "Evaluation, Testing and Modification of an Expert System for Claims Analysis under the Changes Clause", M.S. Thesis, 1991.

Eric Forgaard, "Construction Claims", M.S. Report, 1990.

Knut Gjertsen, "An Expert System for Claims Classification", M.S. Thesis, 1990.

PeiYu Huang, "A Computer Environment for Conceptual Design & Estimating of Pipelines", M.S. Thesis, 1990.

Samer Alkhaznadar, "Risk Analysis Study on North I25 Colorado Project", M.S. Report, 1989.

Daval Dagli, "An Expert System to Provide Prelegal Assistance in Handling Potential Claims under the Changes Clause", M.S. Thesis, 1989.

Abdullah Alsugair, "Performance Sensitivity of the Project Control System to Estimating Errors", M.S. Report, 1988.

John Hixon, "Determination of Concrete Quantities from the Autocad Environment", M.S. Report, 1988.

Hik Peng Lim, "Conceptual Cost Estimating for Buildings Using Multiple Regression Analysis", M.S. Report, 1988.

Monther H Mardini, "A Simulation Program for Cost Estimation, Version 2", M.S. Report, 1988.

SeeKing Ng, "A Systems Approach to Bridge Management System (BMS)", M.S. Report, 1988.

James Oberg, "Construction of the SSC Experimental Halls and Project Risk Analysis", M.S. Report, 1988.

William Hollowell, "Critical Decision on Commercial Construction", M.S. Report, 1987.

Daniel Ivanoff, "Project Labor Agreements in the Construction Industry", M.S. Report, 1987.

David Riker, "Construction Claims Analysis: An Expert System Application for Project Engineers", M.S. Report, 1987.

Diekmann, C.V.

Edward Sewester, "Risk Analysis: A Construction Management View", M.S. Report, 1987.

David Telle, "The ACER Management Information System", M.S. Report, 1987.

Tariq AlTayer, "Cost Estimate for CastInPlace Concrete, Formwork Reinforcement, and Labor Using LOTUS 123", M.S. Thesis, 1986.

Federico Calderon, "Microcomputer's Application in Analyzing Delay Claims", M.S. Thesis, 1986.

James Cobb, "Artificial Intelligence and Construction Claims: A Microcomputer Based Expert Knowledge System", M.S. Thesis, 1986.

Randolph Scamfer, "Construction Contract Claims: A Statistical Analysis", M.S. Thesis, 1986.

Samer Tamimi, "Soft Logic in Network Analysis", M.S. Report, 1986.

Ali AlAssaf, "Improvement of the Construction CostEffectiveness of the Ministry of Defense and Aviation Kingdom of Saudi Arabia", M.S. Thesis, 1985.

Hal Alguire, "Cost Overruns on Large Construction Projects", M.S. Report, 1985.

Guy Denneulin, "A DBASE II Program to Control the Cost of Construction Projects", M.S. Report, 1985.

Garth Guyer, "A Cyclone Model of the Tabor Center Office Tower Construction Sequence", M.S. Report, 1985.

Bryan Thrush, "Project Control in Design Engineering", M.S. Thesis, 1985.

Adnan Adas, "The Saudi Arabian Residential Construction Industry and Its Problems", M.S. Thesis, 1984.

Abdulaziz AlJallal, "Value Engineering in Construction", M.S. Report, 1984.

Robert Bossa, "The Bank of Westminster and Hyland Park Office Construction Contracts as Engineering Student Classroom Projects", M.S. Report, 1984.

Zaki Kraiem, "Application of Microcomputers in Analyzing Delay Claims", M.S. Thesis, 1984.

Timothy Kruppenbacher, "Application of Artificial Intelligence to Contract Management", M.S. Thesis, 1984.

David Moore, "Union and NonUnion Construction in Colorado", M.S. Thesis, 1984.

Leopoldo Paoli, "Travel Time and Earthmoving Production Computer Program for the Apple II Microcomputer", M.S. Report, 1984.

Mark Nelson, "Modification Frequency: A Tool for Claims Prediction", M.S. Report, 1983.

Diekmann, C.V.

Scott Pappas, "A Comparison of Productivity and Wages Between Colorado Open Shop and Union General Contractors", M.S. Report, 1983.

Glyn Slattery, "Concrete Pumping for Mid-Rise and High Rise Construction", M.S. Report, 1983.

Sverre Skogen, "A Simulation Program for Cost Estimation", M.S. Report, 1983.

Hasen Almahdi, "Construction Cost Estimation", M.S. Report, 1981.

Robert Potter, "Cost Estimation Program for Hydronic FlatPlate Solar Space Heating Systems", M.S. Thesis, 1981.

Todd Barnes, "Construction Management Games", M.S. Report, 1980.

Clifford Borton, "Earth Sheltered Housing", M.S. Report, 1980.

Benoit PujolSouet, "A Review of Time Motion Studies in the Construction Industry", M.S. Report, 1980.

COLLEGE & DEPARTMENTAL COMMITTEE ACTIVITY

2007-present	Departmental Search Committee
2004-2006	Departmental Graduate Committee
2001-2003	University – Vice Chancellors Advisory Committee
1998-2001	College First Level Review Committee
1998-2003	Department Executive Committee
1997-2003	Department Facilities Committee, Chairman
1989-present	Department Personnel Committee
1998-1999	CADSWES Center Review Committee
1998-1999	Departmental Search Committee, Chairman
1991-1998	College Engineering Management Steering Committee, Chairman
1982-1997	Graduate Committee
1995-1997	College Non-traditional Teaching Committee
1995-1996	Engineering Management Department Search Committee
1994-1995	Departmental Self Study Committee
1992-1995	Departmental Executive Committee
1992-1993	Centers Review Committee, Chairman
1990-1991	Department Chair Search Committee
1990-1991	Colorado Transportation Coordination Committee
1989-1990	College Industrial Affiliates Committee
1989-1989	Post-Tenure Review Committee, Chairman
1988-1989	Departmental Self Study Committee
1987-1988	College Freshman Preceptor
1987-1988	Construction Search Committee, Chairman
1985-1986	College Committee on Engineering Management, Chairman
1984-1987	Departmental Executive Committee
1983-1984	College Library Committee, Chairman
1982-1984	University Cooperative Education Committee
1982-1983	Construction Search Committee

Diekmann, C.V.
19811982 Departmental Review Committee
19811983 Departmental Computer Committee, Chairman
19801983 College Educational Policy and Planning Committee
19801981 Geotechnical Search Committee
19791981 Departmental Curriculum Committee
19791980 Construction Search Committee, Chairman

PROFESSIONAL SERVICE

American Society of Civil Engineers
Associated General Contractors of Colorado
Construction Industry Institute

CONSULTING ACTIVITIES

Bryan, Cave, McPheters & McRoberts, St. Louis, MO
CDM Federal Programs Inc., Fairfax, VA
EarthTech, Denver, CO
Kellogg Corporation, Littleton, CO
Martin Marietta Data Systems, Denver, CO
MDC Systems Corp., Philadelphia, PA
Morrison Knudsen Infrastructure, Boise, ID
Phelps Inc., Greeley, CO
Pickard, Lowe, and Garrick, Newport Beach, CA
Project Time and Cost, Atlanta, GA
RTD - Regional Transportation District, Denver, CO
Science Applications International, Cincinnati, OH
Sherman and Howard, Denver, CO
Solar Energy Research Institute, Golden, CO
Talisman Partners, LTD. Englewood, CO
TRANSPLAN Associates, Boulder, CO
U.S. Army Corps of Engineers, Washington, D.C.
U.S. Department of Energy, Washington, D.C.
U.S. Environmental Protection Agency, Washington, D.C.
Washington Department of Transportation, Olympia, WA
Washington Group International, Denver, CO