Iris D. Tommelein

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Education

PhD Civil Engineering (Construction Engineering & Management), Stanford University, September 1989, Dissertation Title: *SightPlan: An Expert System that Models and Augments Human Decision-Making for Designing Construction Site Layouts*. Advisors: Prof. Raymond E. Levitt and Dr. Barbara Hayes-Roth

MS Computer Science (Artificial Intelligence), Stanford University, June 1989

MS Civil Engineering (Construction Engrg. & Mgmt.), Stanford University, June 1985

Civil Engineer-Architect (5-year engineering program), Vrije Universiteit Brussel (Free Univ. Brussels), Belgium, July 1984, Professional Civil Engineer's license.

Academic Experience

Civil and Environmental Engineering Department, University of California, Berkeley

Professor	since July 2001
Vice Chair of Instruction	July 2004 to June 2006
Associate Professor with tenure	July 1998 to June 2001
Acting Associate Professor	July 1996 to June 1998

Civil and Environmental Engineering Department, University of Michigan, Ann Arbor

Associate Professor with Tenure	September 1995 to June 1996
Assistant Professor	September 1989 to August 1995

Teaching and research in the areas of:

- Lean Construction. Production and Project Management. Integrated Product and Process Design and Development, Sustainability and Whole-life Design.
- Supply-chain Management. Materials Management. Site Logistics, Layout, Productivity Improvement. Specialty Contracting.
- Design, Planning, Scheduling, Simulation, and Visualization of Design and Construction Processes, Building Information Modeling (BIM), Virtual Design and Construction (VDC)..

Professional Development

Director, Project Production Systems Laboratory, UC Berkeley, p2sl.berkeley.edu, since 2005

Non-academic experience

Project Consultant on Lean Construction/Lean Project Delivery (e.g., Last Planner® System, Takt Planning)

Instructor of Short Courses and Workshops on Lean Construction organized by the Project Production Systems Laboratory (since 2005). Recognized as "Improved Instructor" by the Lean Construction Institute (since 2016).

Researcher at Lyondell-CITGO Refinery Expansion Project in Houston, Texas: studied H.B. Zachry's materials management system and interfaces to engineering/procurement and suppliers, field-tested MoveCapPlan system for laydown yard inventory control (research leave of absence in 1995-96)

Employee in Research and Development, Bechtel Natl., San Francisco, CA, Summer 1986.

Assistant Project Engineer, The Weitz Company, Des Moines, Iowa, Summer 1983.

Architect's Assistant, Architecture Technique Universelle, Brussels, Belgium, July 1982.

Certifications or Professional Registrations

Licensed Civil Engineer in Belgium (European Community)

Current Membership in Professional Organizations

American Society of Civil Engineers

International Group for Lean Construction

Honors and Awards (only major ones)

Lean Pioneer Award from the Lean Construction Institute (LCI), recognizing an individual (or organization) who has moved the design and construction industry forward in embracing and implementing Lean tools and techniques on capital projects, 2015.

ASCE Peurifoy Construction Research Award "for her contributions in developing Lean Project Production theory, methods and tools, and for successfully disseminating these theories, methods and tools into multiple large, complex projects in the US and worldwide," 2014.

ASCE Walter L. Huber Civil Engineering Prize "for her research on civil engineering computing for managing project-based production systems in the engineering-architecture-construction industry," 2002.

Service Activities (major ones)

UC Berkeley, Civil and Environmental Engineering Department, College of Engineering

- Graduated 22 PhD students (at University of Michigan and at UC Berkeley)
- Engineering and Project Management Program: Group Leader, Admissions Officer, Grad. Student Adviser
- Faculty Advisor to the Construction Competition Team (about 75 student participants)
- Faculty Advisor to Student Chapters of AGC and CMAA

UC Berkeley, Academic Senate

- Academic Planning and Resource Allocation (CAPRA), Member since 2018

International Group for Lean Construction (iglc.net)

- Secretary General, 2015-2017, Member since 1996

Selection of Key Publications in Chronological Order

Tommelein, I.D. (1998). "Pull-driven Scheduling for Pipe-Spool Installation: Simulation of Lean Construction Technique." ASCE, *J. of Constr. Engrg. and Mgmt*., 124 (4) 279-288.

Tommelein, I.D., Riley, D., and Howell, G.A. (1999). "Parade Game: Impact of Work Flow Variability on Trade Performance." ASCE, *J. of Constr. Engrg. and Mgmt*., 125 (5) 304-310, Sept/Oct.

Koskela, L., Howell, G., Ballard, G., and Tommelein, I. (2002). "The Foundations of Lean Construction." Chapter 14 in Rick Best and Gerard de Valence (editors, 2002). *Design and Construction: Building in Value.* Butterworth-Heinemann, Elsevier Science Ltd, pp. 211-226.

Ballard, G., Tommelein, I., Koskela, L., and Howell, G. (2002). "Lean Construction Tools and Techniques." Chapter 15 in Rick Best and Gerard de Valence (editors, 2002). *Design and Construction: Building in Value*. Butterworth-Heinemann, Elsevier Science Ltd, pp. 227-255.

Tommelein, I.D., Walsh, K.D., and Hershauer, J.C. (2003). *Improving Capital Projects Supply Chain Performance.* Research Report PT172-11, Construction Industry Institute, Austin, TX, 241 pp.

Howell, G.A., Ballard, G., and Tommelein, I. (2011). "Construction Engineering: Reinvigorating the Discipline." ASCE, *Journal of Construction Engineering and Management*, October, 137 (10) 740-744.

Lee, H.W., Tommelein, I.D., and Ballard, G. (2012). "Design of a design-build infrastructure project using a point-based methodology." ASCE, *Journal of Management in Engineering*, July, 28(3) 291-299.

Arroyo, P., Tommelein, I.D. and Ballard, G. (2014). "Comparing AHP and CBA as Decision Methods for the 'Choosing Problem' in Detailed Design." ASCE, *J. of Constr. Engrg. and Management*, August, pp. 1-8.

Hamzeh, F.R., Saab, I., Tommelein, I.D., and Ballard, G. (2015). "Understanding the Role of 'Tasks Anticipated' in Lookahead Planning through Simulation." *Automation in Construction*, Jan., 49(A) 18-26

Tommelein, I.D. (2015). "Journey toward Lean Construction: Pursuing a Paradigm Shift in the AEC Industry." ASCE, *Journal of Construction Engineering and Management*, June, 141 (6) 1-12, https://doi.org/10.1061/(ASCE)CO.1943-7862.0000926

Tommelein, I.D. and Ballard, G. (2016). *Lean Construction Glossary*. Production Systems Laboratory, UC Berkeley, CA (includes approximately 350 terms).

Tommelein, I.D. and G. Ballard (2016). *Target Value Design: Introduction, Framework, and Current Benchmark*. Book published by Lean Construction Institute, March, 71 pp.

Ballard, Glenn and Tommelein, Iris (2016). "Current Process Benchmark for the Last Planner System." Project Production Systems Laboratory, UC Berkeley, CA. https://goo.gl/rS42Wa

Tommelein, I.D. and Demirkesen, S. (2018). *Mistakeproofing the Design of Construction Processes Using Inventive Problem Solving*. CPWR, Silver Spring, MD, 60 pp., https://www.cpwr.com/sites/default/files/publications/Tommelein-mistakeproofing-construction-process.pdf,