

Lonny Simonian
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Professional Preparation

Education

- University of California, Berkeley, postgraduate coursework, Civil Engineering (Engineering and Project Management) – Lean Construction research on Quality Process Improvement
- Stanford University, Advanced Project Management certificate, 2004
- University of California, Berkeley, Masters of Engineering, Civil Engineering (Construction Engineering and Management), 1992
- California Polytechnic State University, San Luis Obispo, B.S., Electrical Engineering, 1978

Certification and Licensing

- Professional Electrical Engineer, CA E 10744
- Project Management Professional, PMP 208939 (currently inactive)

Employment History

- 2015-Present Professor, Construction Management (CM) Department, California Polytechnic State University, San Luis Obispo, CA (Cal Poly)
- 2009-2015 Associate Professor, CM Department, Cal Poly
- 2006-2009 Assistant Professor, CM Department, Cal Poly
- 2005-2006 Lecturer, CM Department, Cal Poly
- 2003-2005 Administrative Services Manager, County of San Luis Obispo, CA
- 2000-2003 Senior Capital Projects Coordinator, County of San Luis Obispo, CA
- 1997-2000 Project Manager II, Lawrence Berkeley National Laboratory, Berkeley, CA
- 1980-1996 Electrical Engineering Supervisor, Bechtel National, San Francisco, CA

Industry Career Summary

25-year industry career experience in project and construction management throughout all phases of a project, including the management and administration of initial project planning and feasibility, financing, development of project design criteria, conceptual design, detailed design, construction documents, bidding, construction, start-up, commissioning, client/sponsor acceptance of the work and sign-off of the project. Major projects included:

- Design and construction of Space Launch Complex 3E, a new upgraded Atlas launch vehicle pad, completely designed with BIM for all MEP systems
- Design of the Waste Isolation Pilot Plant, the world's third deepest underground geological repository licensed to permanently dispose of radioactive research waste
- Construction Management of the Superconducting Super Collider, a multibillion-dollar high-energy subatomic particle accelerator that would have been the largest and most powerful in the world

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Administrative Services Manager / Senior Project Manager

Planned, organized, directed, and assisted in performing fiscal, personnel, office management, and general business activities, including preparation of departmental budgets and negotiation of contracts. Trained project managers and division supervisors in establishing, reviewing, and updating project cost-loaded schedules, including reconciling budget versus actual costs. Successfully managed multiple projects with varying risk.

Project Manager II

Responsible for leading a multi-discipline project team of engineers and architects, and ensuring project completion within budget, schedule, and in conformance with design documents. Reviewed and approved all project forecasts, schedules, cost estimates, and financial reports, including establishing and managing effective project control systems. Developed and administered project scopes, schedules, and overall program budget; primary point of client contact, including major correspondence, throughout the period of a project.

Electrical Engineering Supervisor

Supervised engineers and designers in the preparation of engineering analysis, studies, design drawings, and specifications for renovation of process, industrial, governmental, and institutional projects. Reviewed and developed project schedules, developed and tracked budgets, prepared status reports, work plans, cost estimates, and policies and procedures for design; tracked expended cost versus budgeted; conducted earned value analysis and lessons-learned at project completions. Extensive work on international and governmental projects.

Industry Instruction

American Society of Civil Engineers (2010 – Current)

- Instructor of *Managing the Design Process - Keeping on Schedule, within Budget, and Selecting the Right Resources*
- Co-Instructor of *Fire Protection and Detection Systems for Civil Engineers: Analysis, Design, Inspection, Testing, and Maintenance*
- Co-Instructor of *Construction Cost Estimating for the Civil Engineer*

National Electrical Contractors Association (2011 – Current)

- Instructor of *The Future is Now–BIM*
- Instructor of *Quality in Construction – Improving productivity and reducing rework by establishing a Built-in Quality (BIQ) program*

Academic Summary

Course Instruction

Professor in the College of Architecture and Environmental Design (CAED) and Professor by appointment in the College of Engineering (CENG). Academic instruction includes classes in Architectural Engineering Building Systems, Introduction to Construction Management, Fundamentals of Construction Management, Construction Jobsite Management, Specialty Mechanical / Electrical / Plumbing (MEP) Contracting (Primary Course Instructor), Integrated Project Delivery, Management of the Construction Firm (Primary Course Instructor), Project Controls, and Professional Practice for Constructors.

New Course Preparation

- Mechanical, Electrical, and Plumbing Systems for Buildings (pilot class)
- Specialty Contracting (integrated class)

Major Revisions and Innovations in Existing Courses

- Professional Practice for Constructors
 - Incorporated materials from the Project Management Institute to allow students to qualify for a credential as a Certified Associate Project Manager
- Management of the Construction Firm
 - Introduced the online Building Industry Game (BIG), a computer simulation of a realistic business environment where participants play the role of contractors, competing in a market with variable demand for construction work.
- Electrical Systems for Buildings
 - Introduced class trips to electrical contractor offices, prefabrication shops, and construction sites to encourage and foster interest in specialty construction
 - Implemented hands-on electrical circuit wiring exercises to reinforce subject matter presented during class lectures
- Specialty Contracting (Designated Course Instructor)
 - Introduced “Reduction in Energy Demand and Utility Consumption Evaluation” (REDUCE) Project, based upon National Electrical Contractors Association (NECA) Green Energy Challenge providing a complete MEP reduced-energy project.
 - Introduced Building Information Modeling (BIM) Project, requiring students to integrate and incorporate MEP design and construction building system modules into a Building Model of the Construction Innovations Center.

International Course Instruction

Summer Academic Instruction in Prague, Czech Republic, 2013, 2015, 2017, and 2019

Teaching Awards and Scholarships

- CAED Wesley Ward Teaching Award
- CAED Verla and Paul Neel Faculty Scholarship

Senior Projects and Student Research Supervised

- Academic advisor for over 30 student senior projects
- Total number of undergraduate students advised: approximately 45

Student Service-Learning Projects

As Faculty Co-Advisor of the National Electrical Contractors Association (NECA) Student Club, received seven NECA awards to organize student teams and implement several renewable energy and energy efficiency photovoltaic and water distribution projects in Central America, South America, and Africa - three in Ecuador, two in Costa Rica, one in Belize, and one in Ghana.

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University, College, and Department Committees

- Intellectual Property Review
- Planning Design and Construction Institute
- Instructional Technology
- Graduate Programs
- Off-Campus/International Programs
- Senior Project Task Force
- Promotion & Tenure
- Technology & Facilities
- Curriculum and Scheduling

Associated Schools of Construction Competition

- Region 8 (International) Coach
- Region 7 (Western Region) Electrical Coach
- Region 7 Mechanical Coach
- Region 7 BIM Coach

Student Club Advisor

- NECA and MCAA Advisor/Co-Advisor
- CMAA Advisor

Publications (since 2010)

Peer Reviewed

- Simonian, Lonny and Packard, Mitchell (2018). “Implementing an Occupancy Sensor Lighting Control System in a University Lab Classroom”, accepted for publication GeoMEast 2018 International Congress and Exhibition, Cairo, November 24-28, 2018
- Simonian, Lonny and Schork, Jakob (2018). “Construction of a Solar Farm on a Rolling Terrain: a Case Study”, 6th Annual International Conference on Architecture and Civil Engineering, Singapore, May 14-15, 2018
- Nam, Nicholas, Simonian, Lonny G., and Weber, Paul (2017). “Advantages of Integrating Technology Knowledge into an Undergraduate Curriculum”, *Proceedings of the 8th International Conference on Construction and Project Management*, Sapporo, Japan, August 17-19, 2017
- Simonian, Lonny (2017). “Applications for Unmanned Aerial Vehicles in Electric Utility Construction,” *Ninth International Conference on Construction in the 21st Century*, Dubai, United Arab Emirates, March 5-7, 2017
- Haerr, P., Mulder, D., Peinado, T., Potuhera, D., Simonian, L., Redden, P. (2016) “Photovoltaic Powered Water System for an Indigenous Community in the Ecuadorian Amazon Rainforest”, Conference Proceedings of SBE16 Brazil & Portugal. Vol 1, Page 305, Vitoria, Brazil.
- Simonian, Lonny G. (2016). “Electrical Distribution and Construction – Developing an Agile Supply Chain Partnership”, *Proceedings of the 4th Annual International Conference on Architecture and Civil Engineering*, April 25-26, 2016

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- Simonian, Lonny G., “Reliability Centered Approach to Inspection, Testing, and Maintenance of Fire Protection Systems and Equipment.” *Proceeding of the CIB IFireSS 2015 International Fire Safety Symposium*, April 20-23, 2015, Coimbra, Portugal
- Simonian, Lonny G., and Korman, Thomas (2013). “Prefabrication within the Electrical Construction Industry – a Survey of Electrical Contractors.” *CIB 2013 World Building Congress*, Brisbane, Australia, May 5-9, 2013
- Korman, Thomas M., Lu, Na, and Simonian, Lonny G. (2012). “Context Sensitive Solutions for Infrastructure Projects”. *Proceedings of the International Conference on Sustainable Design, Engineering, and Construction*, Fort Worth, Texas, November 7-9, 2012.
- Korman, Thomas M., and Simonian, Lonny G., and Johnston, Hal A. (2012). “New Disadvantaged Business Enterprise (DBE) Requirements for United States Federal Stimulus Funded Projects.” *Royal Institution of Chartered Surveyors' (RICS) Legal Research Symposium 2012*, September 11th -13th, Las Vegas, NV.
- Korman, Thomas M., and Simonian, Lonny G., and Johnston, Hal A. (2012). “Protecting Highway Construction Workers through Legislation”. *Royal Institution of Chartered Surveyors' (RICS) Legal Research Symposium 2012*, September 11th -13th, Las Vegas, NV.
- Korman, Thomas M., and Simonian, Lonny (2012). “Lessons Learned from the implementation of Integrated Project Based Construction Management Curriculum: A Faculty Perspective.” 2012 ASEE Annual Conference and Exposition, San Antonio, TX., June 2012.
- Simonian, Lonny G., Korman, Thomas M., Schultz, Audrey, and Ayala-Navarro, Arturo (2012). “Energy Efficiency Improvement of an Institutional Facility through Retro-Commissioning (RCx) – A Case Study.” *Proceedings of the 42nd Annual CIB International Conference*, Birmingham, United Kingdom, April 11-14, 2012
- Simonian, Lonny G., and Goodell, Nick (2011). “Energy Information System Dashboard Integrating Wireless Sensing Devices with Wired Metering and Controls - A Case Study.” *Proceedings of the CIB W78 and W102 2011 International Conference*, Sophia Antipolis, France, October 26, 2011
- Korman, Thomas M., and Simonian, Lonny (2011). “Teaching Energy Efficiency Fundamentals in Construction Education: Project REDUCE,” *Proceedings of the 2011 ASEE Annual Conference and Exposition*, Vancouver, B.C., June 2011.
- Simonian, Lonny G., and Korman, Thomas M. (2011). “Building Information Modeling for Electrical Contractors: Current Practice and Recommendations.” *Proceedings of the American Society of Civil Engineers Architectural Engineering Institute Conference*, Oakland, California, March 30-April 2, 2011
- Ibbs, William, Nguyen, Long D., and Simonian, Lonny (2011). “Concurrent Delays and Apportionment of Damages.” *American Society of Civil Engineers Journal of Construction Engineering and Management*, February 2011
- Simonian, Lonny G., and Korman, Thomas M. (2010). “Legal Considerations in the United States Associated with Building Information Modeling”, *Proceedings of the CIB World Congress*, Paris, France, September 2-3, 2010
- Korman, Thomas M and Simonian, Lonny G. (2010). “Potential Impacts of Anti-Idling Regulations on Construction Operations, Estimating, and Fleet Management.” *RICS COBRA Research Conference Proceedings*, Paris, France, September 2-3, 2010

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- Simonian, Lonny G., Korman, Thomas M. and Schultz, Audrey (2010) “Emerging Organizational Structure and Cultural Trends in Public Agencies.” *Proceedings of the CIB World Congress*, Salford Quays, United Kingdom, May 10-13, 2010

Un-Refereed Publications

- Hore, A., Simonian, L., McAuley, B. (2020). “An Independent Review of Design & Build Procurement/Construction Model for Delivery Of School Buildings (or Other Similar Public Buildings) Internationally.” *Department of Education and Skills, Government of Ireland*
- Simonian, Lonny (2020). “Robots in Construction and Maintenance - Current Use in Power System Work and Inside Construction; Outlook for the Future.” *ELECTRI International*
- Simonian, Lonny (2018). “Improving Productivity and Reducing Rework By Establishing A Built-In Quality (BIQ) Program.” *ELECTRI International*
- Simonian, Lonny (2017). “Applications for Unmanned Aerial Vehicles in Electric Utility Construction.” *ELECTRI International*
- Simonian, Lonny (2016). “Electrical Distribution and Construction – Developing an Agile Supply Chain Partnership”. jointly published by *The National Association of Electrical Distributors* and *ELECTRI International*
- Korman, Thomas M and Simonian, Lonny G. (2013) “Combining Charging Station Installation with Energy Efficiency Upgrades– an Emerging Market.” *ELECTRI International*
- Mowrer, Frederick W., Simonian, Lonny, Korman, Thomas M., and Phillips, David C. (2012). “Potential Impacts of Smart Grid on Fire Protection Engineering.” *Fire Protection Engineering*, July 2012.
- Simonian, Lonny G., Korman, Thomas M., Mowrer, Frederick W. and Phillips, David C. (2012). “Electrical Vehicle Charging and NFPA Electrical Safety Codes and Standards.” *NECPlus Magazine*, March 2012
- Korman, Thomas, and Simonian, Lonny (2011). “Instructional Strategies to Enhance Energy Efficiency Design and Construction using Building Information Modeling for Mechanical, Electrical, and Plumbing Systems”, *ECOBUILD America BIM-Related Academic Workshop*, Washington DC, December 2011.
- Simonian, Lonny G., Korman, Thomas M., Mowrer, Fredrick, W., and Phillips, David (2011). “Smart Grid and NFPA Electrical Safety Codes and Standards”, *International Association of Electrical Inspectors*, November/ December 2011
- Korman, Thomas M. and Simonian, Lonny G. (2010). “Enhancing Student Learning of Mechanical, Electrical, and Plumbing Coordination through the use of Building Information Modeling.” *ECOBuild Conference Proceedings*, Washington D.C., December 7-9, 2010

Synergistic Activities (since 2010)

Fellowships

- Fulbright Scholarship (Technical University, Dublin, Ireland), Autumn 2019
- Department of Energy (DoE) /National Science Foundation (NSF), Energy Information Systems for Commercial Buildings: Efficiency Opportunities and Economic Analysis, Project Director, Summer 2011
- DoE/NSF, Energy Information Systems for Commercial Buildings: Efficiency Opportunities and Economic Analysis, Project Director, Summer 2010

Research

- Department of Education and Skills, Government of Ireland “An Independent Review of Design & Build Procurement/Construction Model for Delivery Of School Buildings (or Other Similar Public Buildings) Internationally.” 2019/2020 AY
- ELECTRI International (the foundation for NECA), “Robots in Construction and Maintenance - Current Use in Power System Work and Inside Construction; Outlook for the Future.” 2019/2020 AY
- ELECTRI International, “Improving Productivity and Reducing Rework by Establishing a Built-In Quality Program”, Primary Investigator, 2016/2017 AY
- National Association of Electrical Distributors (NAED) and ELECTRI International (co-funded), “Electrical Distribution and Construction – Developing an Agile Supply Chain Partnership”, Primary Investigator, 2015/2016 AY
- ELECTRI International, “Applications for Unmanned Aerial Vehicles in Electric Utility Construction”, Primary Investigator, 2015/2016 AY
- ELECTRI International, “Charging Station Installation with Energy Efficiency Upgrades - an Emerging Market”, Primary Investigator, 2014/2015 AY
- ELECTRI International, “Customer Side Smart Grid Installations: Preparing for the Future”, Co-Primary Investigator, 2013/2014 AY
- California State Senate Office of Research, “Environmental Impact of Approving Biomass Conversion Plants in California”, Co-Primary Investigator, 2012/2013 AY
- Fire Protection Research Foundation, “Guide to Applying Reliability Based Decision Making to Inspection, Testing, and Maintenance (ITM) Frequency for Fire Protection Systems and Equipment”, Primary Investigator, 2011/2012 AY
- ELECTRI International, “Building information Modeling Training and Implementation Course for Electrical Contractors”, Co-Investigator, 2011/2012 AY
- ELECTRI International, “Combining charging station installation with energy efficiency upgrades - an emerging market”, Primary Investigator, 2011/2012 AY
- California Energy Commission via California Institute for Energy and Environment (CIEE) Public Interest Energy Research (PIER) Program, "Leveraging renewable energy and natural gas with waste heat driven combined cooling heat power for non-residential buildings", CM Faculty, 2011/2012 AY
- Fire Protection Research Foundation, “Electrical vehicle charging and NFPA electrical safety codes and standards”, Primary Investigator, 2010/2011 AY
- Fire Protection Research Foundation, “Smart Grid and NFPA Electrical Safety Codes and Standards”, Principal Investigator, 2010/2011 AY