Dr. Lalita Oka

Assistant Professor,
Department of Civil and Geomatics Engineering
California State University, Fresno
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EDUCATION

Ph.D. Civil & Environmental Engineering, University of Vermont, August 2012
M.E. Civil Engineering, University of Mumbai, India, August 2000
B.E. Civil Engineering, University of Mumbai, India, June 1995
Diploma in Civil Engineering, MH State Board of Technical Examinations, India, June 1985

PROFESSIONAL LIECENSURE

Licensed Professional Engineer (PE, Civil- License Number 27252) for the Nevada State Board.
Certified evaluator for Safety Assessment Program (SAP) for the State of California

AWARDS / NOMINATIONS

Faculty Innovation and Leadership Award Nomination, CSU Chancellor's Office (2019)
Outstanding Faculty Advisor Nomination, California State University, Fresno (2018)
Affordable Learning Solution adopting faculty award recipient, Center of Faculty Excellence, California State University, Fresno (2017)
Research Scholarship and Creative Activities (RSCA) Award recipient, California State University, Chancellor's Office (2016)
Promising New Faculty Nomination, Provost's Office, CSU Fresno (2015)
Rank 1, M.E. (Geotechnical Engineering), University of Mumbai, India, August 2000
National Open Merit Scholarship, Government of India, June 1982 – June 1985
State Scholarship by the State Government of Maharashtra, India, June1979 – June 1982

EXPERIENCE: Academic Experience

Assistant Professor, Civil and Geomatics Engineering, California State University, Fresno
August 2014 – Present

- Teaching and academic advising

CE 225 Numerical Methods in Geotechnical Engineering
CE 291T Advanced Geotechnical Engineering (New)
CE 220 Advanced Foundation Engineering (Redesigned – Last offered in 1994)
CE 134 Foundation Design
CE 125 Geotechnical Engineering Design (Redesigned)
CE 123 Soil Engineering
CE 123L Soil Engineering Laboratory
CE 121 Mechanics of Materials (Redesigned)
CE 124 Concrete Laboratory
CE 20 Engineering Mechanics: Statics

- Student Advising and Mentoring Activities
  - Provided academic advising for students. Conducted group advising sessions
  - Mentored Graduate students, Independent Study and Senior Capstone Projects

  - Incorporated tablet and other online resources to improve student learning
  - Advised students on various internship and scholarship opportunities
  - Collaborated with local industry partners to improve students' readiness after graduation
  - Faculty Advisor, American Public Works Association (APWA) Fresno State Student Chapter, August 2015 – Present
  - Faculty Advisor, California Geotechnical Engineers Association (CalGeo) Fresno State Student Chapter, August 2016 - Present
  - Faculty Advisor, Society of Women Engineers (SWE), Fresno State Student Chapter, August 2014 – August 2017
- Research and Scholarly Activities
  - Mentored six graduate projects and two undergraduate research projects
  - Currently mentoring four graduate research projects
  - Grant Proposals: Submitted external and internal grant proposals (NSF, CSUTC-SB1, FSTI, USUCGER, Cal State Chancellor's Office, CSU Fresno Provost Office and LCOE Dean's office).
  - Moderated a technical session at CoNECD conference by ASEE
  - Reviewer for ASTM- Geotechnical Testing Journal, ASCE Geo-Institute and MERLOT (Multimedia Educational Resource for Learning and Online Teaching)
  - Attended invitation only conferences/workshops: (a) CSUPERB – NSF IDEAS workshop, (b) Center for Bio-mediated and Bio-inspired Geotechnics (CBBG)-NSF workshop for Predominantly Undergraduate Institutions (PUI) faculty, (c) Geotechnical Engineering Early Career Faculty Workshop by USUCGER (d) NSF-Geotechnical Women Faculty (GTWF) workshop (e) Centrifuge modeling workshop, at UC Davis (f) Project Kaleidoscope STEM Leadership Institute at Washington DC

Visiting Faculty, Civil and Geomatics Engineering, California State University, Fresno
August 2013 – August 2014
Course Instructor for following courses: Soil Engineering, Soil Engineering Laboratory, Foundation Design, Geotechnical Engineering Design, Mechanics of Materials.

Adjunct Faculty, Online Master of Civil Engineering Program, Norwich University
August 2013 – December 2013
Course instructor for Computer Modeling and Geotechnical Case Histories

Post-doctoral Researcher, School of Engineering, University of Vermont
September 2012 – August 2013
- Designed and incorporated miniature piezocone in large sized triaxial setup for simultaneous testing.
- Designed and conducted experiments to evaluate freeze-thaw resistance of pervious concrete in colder regions.
- Monitored the behavior of existing pervious concrete pavements at University of Vermont. Collected and analyzed the field data

Visiting Assistant Professor, College of Engineering, Bucknell University
September 2011 – August 2012
Course Instructor for following courses: Geotechnical Engineering-I (Soil Mechanics), Geotechnical Engineering-II (Foundation Engineering), Materials Engineering, Materials Testing Laboratory, Mechanics-I (Statics)

Teaching Assistant and Research Assistant, School of Engineering, University of Vermont
September 2004 – August 2011

- Laboratory Course Instructor for: Geotechnical Engineering Laboratory, Material Testing Laboratory, Geomatics Laboratory
- Developed complete set of laboratory instructions for Geotechnical Principles and Materials Testing laboratories for undergraduate courses.
- Evaluated and assessed the student work such as home work assignments, laboratory reports and project reports.
- Helped students prepare for FE examination with respect to prescribed geotechnical engineering syllabus.
- Conducted experimental research involving cyclic triaxial tests, laboratory shear wave velocity tests and miniature piezocone tests in calibration chamber supplemented with permeability tests on sands with varying fines content.
- Handled responsibility for instrumentation for the testing systems.
- Developed and analyzed finite element models using softwares such as PLAXIS and GEOSTUDIO
- Assisted the faculty in analyzing and interpreting student surveys, transcribed audio recorded surveys and developed and maintained a website for Systems Education

EXPERIENCE: <u>Engineering / Professional</u>
Director (Technical), M/S Vashi Builders Pvt. Ltd., India
June 1990 – July 2004

- Executed construction projects involving multistoried residential building.
- Supervised construction sites and planned material procurement and purchases.
- Negotiated contracts and maintained legal documentation.
- Worked with local authorities in regard to land use permits and certification.

Senior Design Engineer, **M/S Stabil Consultants, India (It is a sister concern of M/S Vashi Builders Pvt. Ltd. mentioned above)**
June 1990 – July 2004

- Prepared detailed geotechnical investigation reports.
- Designed and recommended foundation structures.
- In early career, specialized in fabrication drawings for industrial steel structures.

Civil Engineer under Research Program, Center of Science for Villages, India.
June 1989 - December 1989

- Conducted experiments on stabilization of mud blocks of local clays. The purpose of these experiments was to use the stabilized mud blocks in rural area under sustainable rural low cost housing projects funded by the Government of India.

PUBLICATIONS:

Peer Reviewed Journal Articles

- **Oka, L. G.**, Dewoolkar, M. M., Olson, S. M. (2018), "Comparing laboratory-based liquefaction resistance of a sand with non-plastic fines with shear-wave based field case histories", *Soil Dynamics and Earthquake Engineering*, Vol 113, 162-173
- **Oka, L. G.**, Dewoolkar, M. M. and Olson, S. M. (2012), "Evaluation of liquefaction potential of cohesionless soils in the vicinity of large embankments", *Soil Dynamics and Earthquake Engineering*, Vol 43, 33-44.

Peer Reviewed Conference Proceedings

- Schallberger, J.*, and **Oka, L. G** (Accepted In Revision), "Investigating the effect of direction of grass roots on shear strength of soil and stability of embankment slope", The 4th *International Conference on Transportation Geotechniques – ICTG-2020, May 23-26, 2021, Chicago, Illinois*
- Stillmaker K., **Oka, L. G**, Lozano, C.*, Gutierrez-Plascencia, J.*, Lor, K.* (In Review), "Investigating the Role of Faculty Gender in Mentoring Female Engineering Students for Success", *ASEE annual Conference and Exposition, June 20-24, 2020, Montreal, Quebec, Canada*
- Cardoza, R.*, and **Oka, L. G** (2020), "Measuring the effect of grass roots on shear strength parameters of sandy soils", *Geo-Congress 2020, February 25 – 28, 2020, Minneapolis, Minnesota*
- **Oka, L. G.**, Stillmaker, K., Jones, C, Sadrinezhad, A, Nazari, M. (2019), "Cal-State WEFSN-Women Engineering Faculty Support Network", *ASEE annual Conference and Exposition, June 15-19, 2019, Tampa, Florida.(**ASEE Women's division - Best Diversity Paper Award, 2019)*
- **Oka, L. G.**, Stillmaker, K. (2018), "The role of female engineering faculty in female student success and belonging: A case study at California State University, Fresno", *CoNECD-Collaborative Network for Engineering and Computing Diversity, April 29-May 2, 2018, Crystal City, Virginia.*
- **Oka**, **L. G.**, Dewoolkar, M. M. (2018), "Influence of non-plastic fines on laboratory shear wave velocity measurements and cyclic resistance", *International Foundation Congress and Equipment Expo, March 5-10, 2018, Orlando, Florida*
- Hayden N. J., Rizzo D. M., Dewoolkar, M. M., **Oka, L. G.**, and Neumann, M. (2010), "Incorporating systems thinking and sustainability within civil and environmental engineering curricula at UVM", *ASEE St.Lawrence Section Meeting, RIT, March 26-27.* ** (2010 Best Paper Award - ASEE Zone I)
- Rizzo, D. M., Dewoolkar, M. M., Neumann, M., Lathem, S. A., **Oka, L. G.**, and Hayden, N. J., "Curriculum Reform: Systems Modeling and Sustainability within Civil and Environmental Engineering Programs at UVM", *2009 Symposium on Engineering and Liberal Education: Educating the Stewards of a Sustainable Future, Union College, Schenectady N.Y. June 5-6, 2009.*
- **Oka, L. G.**, and Dewoolkar, M. M. (2007), "Effect of existing dams on liquefaction potential analysis of foundation soils", *GeoDenver 2007, ASCE Geotechnical Special Publication, Dewoolkar & Koester (eds).*

***** Represents Fresno State Student Author

Technically Reviewed Articles / Technical Reports

- Anderson, I. A., Walsh, D., **Oka, L. G.**, Dewoolkar M. M., Limberg, S., Sevi, A., Schmeckpeper, E. (2015), "Laboratory Performance of Pervious Concrete Subjected to Deicing Salts and Freeze-Thaw", *UVM Transportation Research Center Report 15-006, Burlington, VT, June 10, 2015.*

Abstracts / Posters / Oral Presentations

- Cardoza, R.*, and **Oka, L. G** (2020), "Measuring the effect of grass roots on shear strength parameters of sandy soils", *Geo-Congress 2020, February 25 – 28, 2020, Minneapolis, Minnesota*
- Cardoza, R.*, and **Oka, L. G** (2019), Oral presentation, "Shear Strength Properties of Bio-Structured Sandy Soils", *EMI - Engineering Mechanics Institute, CalTech, CA*
- **Oka, L. G.**, Stillmaker, K., Jones, C, Sadrinezhad, A, Nazari, M. (2019), Oral presentation , "Cal-State WEFSN-Women Engineering Faculty Support Network", *ASEE annual Conference and Exposition, June 15-19, 2019, Tampa, Florida*
- **Oka, L. G.**, (2018), Poster presentation, "Geotechnical Engineering Research at California State University, Fresno", *United States Universities Council for Geotechnical Education and Research (USUCGER) - Early Career Faculty Workshop, May 20 -22, 2018, Cleveland, OH.*
- **Oka, L. G.**, Stillmaker, K. (2018), Oral presentation, "The role of female engineering faculty in female student success and belonging: A case study at California State University, Fresno", *CoNECD-Collaborative Network for Engineering and Computing Diversity, April 29-May 2, 2018, Crystal City, Virginia.*
- **Oka**, **L. G.**, Dewoolkar, M. M. (2018), Oral Presentation, "Influence of non-plastic fines on laboratory shear wave velocity measurements and cyclic resistance", *International Foundation Congress and Equipment Expo, March 5-10, 2018, Orlando, Florida.*
- Cardoza, R.*, and **Oka, L. G** (2018), Abstract and Poster presentation, "Shear Strength of Bio-Structured Soils Using Direct Shear Test", 39th Annual Central California Research Symposium, Fresno, *April 25, 2018 ** (*Honorable Mention Poster).
- Alam, T.,* and **Oka, L. G** (2018), Oral presentation, "Soil Liquefaction and Counteractive Solutions", *39th Annual Central California Research Symposium, Fresno, April 25, 2018*
- **Oka, L. G.** (2017), Abstract and Poster presentation, "Increasing student engagement in Discover-e tablet based course in Civil Engineering", *California State University Chancellor's office summer meeting, June 12, 2017* (https://tinyurl.com/LalitaOka-CRT)
- Basa, J*, K.C., Bijay*, and **Oka, L. G** (2017), Oral presentation, "Simulating groundwater flow at Fresno's Leaky Acres recharge facility", *38th Annual Central California Research Symposium, Fresno, April 18-19, 2017. ** (Outstanding oral presentation award)*
- Basa, J*, K.C., Bijay*, and **Oka, L. G** (2017), Oral Presentation, "Modeling groundwater flow through gravity drains at Leaky Acres, Fresno", *31st Annual*

California State University Student Research Competition at Cal-Poly, San Luis Obispo, April 28-29, 2017

- Magdaleno, A.*, and **Oka, L. G** (2017), Abstract and Poster presentation, "Land Subsidence in the Central Valley", 38th Annual Central California Research Symposium, Fresno, *April 18-19, 2017.*
- Gudino E.*, Velazquez, A.*, and **Oka, L. G.** (2017), Abstract and Poster presentation, "Hands-on Learning with Mechanically Stabilized Earth Sandbox", 38th Annual Central California Research Symposium, Fresno, *April 18-19, 2017.*
- Mahajan, S.*, and **Oka, L. G.** (2017), Abstract, "Geotechnical model for failure of Fujinuma dam using Geostudio", *Project Day, Lyles College of Engineering, California State University, Fresno, May 9, 2017.*
- Mahajan, S.*, and **Oka, L. G.** (2017), Abstract, "Effect of heating and cooling cycles on the strength of pervious concrete", *Project Day, Project Day, Lyles College of Engineering, California State University, Fresno, May 9, 2017.*
- Singh, S.*, and **Oka, L. G.** (2017), Abstract, "Parametric study of gravity drains to recharge ground water at Leaky Acres", *Project Day, Lyles College of Engineering, California State University, Fresno, May 9, 2017.*
- **Oka, L. G.**, Anderson, I. A., Walsh, D., and Dewoolkar, M. M. (2013), "Pervious Concrete Pavements for Cold Climates - Mechanical and Hydraulic Behavior, Durability and Field Performance", *UVM Transportation Research Center Exposition, Burlington, VT, March 27, 2013.*
- Rizzo, D. M., Dewoolkar, M. M., Hayden N. J. and **Oka, L. G.**, "Analysis of Student Service-Learning Reflections for the Assessment of Transferable-Skills Development", *EOS Transactions, American Geophysical Union, 90 (52), Abstract ED23A-0541, Fall Meeting, December 2010*.
- Hayden N. J., Rizzo D. M., Dewoolkar, M. M., Neumann, M., and **Oka, L. G.**, (2010), "Incorporating sustainability in civil and environmental engineering systems courses and service-learning projects", Poster Presentation, *NSF Engineering Education Awardees Conference, February 2010, Reston, VA.*
- **Oka, L. G.**, and Dewoolkar, M. M. (2007), "Effect of fines on cone penetration resistance and liquefaction resistance of sands", *2007 Northeast Geotechnical Graduate Research Symposium, UMass, Amherst, MA, October 26,2007*
- **Oka, L. G.**, and Dewoolkar, M. M. (2007), "Effect of existing dams on liquefaction potential analysis of foundation soils", *Poster presentation at 2007 VT EPSCOR annual meeting, University of Vermont, March 2007*

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Dissertation/Thesis:

- Assessment of the cyclic stress method for liquefaction potential evaluation (July 2012) – PhD dissertation, University of Vermont.
- Critical Review of Piling Practice in Mumbai Region (August 2000) – Master's degree (M.E.) thesis, University of Mumbai, India.

COMPUTATIONAL SKILLS

GeoStudio software suite (QUAKE/W, SEEP/W, SLOPE/W, SIGMA/W), PLAXIS, MATLAB, ArcGIS, JMP, Minitab, LabView, Microsoft Office (Word, Excel and PowerPoint), Endnote (referencing and citations), KompoZer (web designing)

ACADEMIC SERVICE

- Writing Competency Committee, California State University Fresno (2018 – Present)
- Equal Employment Opportunity (EEO) Officer – California State University, Fresno (2017 – present)
- Member, Recruitment and Retention Committee, Lyles College of Engineering, Fresno State (2014 – Present)
- Faculty adviser, American Public Works Association (APWA), Fresno State student Chapter (2016 – Present)
- Faculty adviser, California Geotechnical Association (CalGeo), Fresno State Student Chapter (2016 – Present)
- Faculty Adviser, Society of Women Engineers (SWE), Fresno State Student Chapter (2014 -2017)
- Secretary, Civil Engineering Advisory Board, Department of Civil an Geomatics Engineering, Fresno State (2014 -2016)
- Untenured Female Faculty - Special Interest Group Chair, Tenure-Track Faculty Organization (TTFO – earlier known as UFO), Fresno State (2017 – 2018)
- Election Committee Chair, Tenure-Track Faculty Organization (TTFO – earlier known as UFO), Fresno State (2018 – 2019)
- Member, Web-based Course Task Committee, Department of Civil Engineering, Fresno State (2014 – 2015)
- Member, Committee on Graduate Student Alumni Survey, Department of Civil Engineering, Fresno State (2016)
- Member, CE Department Graduate Program Review Committee on Incorporating leadership, project management skills, and innovation into program educational goals, Department of Civil Engineering, Fresno State (2019)

PROFESSIONAL MEMBERSHIP

- Associate Member, American Society of Civil Engineers (ASCE) (2014-Present)
- Reviewing and voting member, American Society for Testing and Materials (ASTM) – Committee D18 for developing standards for soil testing (2018 – Present)
- Associate Member, United States Universities Council on Geotechnical Education and Research (USUCGER) – Represent California State University, Fresno (2014 – Present)
- Member, American Society for Engineering Education (ASEE) (2014 –Present)
- Associate Member, Society of Women Engineers (SWE) (2014 – 2019)
- Associate Member, American Public Works Association (APWA) (2016 – 2018)

COMMUNITY SERVICE

- Parent Volunteer, Clovis West High School Marching Band Program (2014 – 2018)
- Volunteer, Elderly Abuse Services, Inc. (2016 – 2017)
- Life worker trainee, Vivekananda Kendra, India (1986 – 1989)