

## Raj V. Siddharthan, Ph.D., P.E. Complete Resume

[Dr. Siddharthan's web page](http://unr.edu/cee/siddharthan), [unr.edu/cee/siddharthan](http://unr.edu/cee/siddharthan)

**Title:** Emeritus Professor of Civil Engineering

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### Education

1984 Ph.D.                      University of British Columbia, Canada

1981 M.S.                      University of British Columbia, Canada

1977 B.S. (Hons.)          University of Sri Lanka, Sri Lanka

### Academic experience

2023 – Present:	Emeritus Professor, University of Nevada, Reno
1995 – 2023:	Professor, Civil Engineering, University of Nevada, Reno
2016:	Visiting Scientist, Lawrence Berkeley National Lab and University of Costa Rica, San Jose
2007	Visiting Scholar, Lawrence Livermore National Security Laboratory, Livermore, CA
1989 - 1995	Associate Professor, Civil Engineering, University of Nevada, Reno (Tenured)
1992	Visiting Associate Professor, MIT (Sabbatical)
1984 – 1988	Assistant Professor, Civil Engineering, University of Nevada, Reno
1978 - 1984	Teaching Assistant, University of British Columbia, Canada
1977 - 1978	Assistant Lecturer, Civil Engineering, University of Sri Lanka, Peradeniya, Sri Lanka

## Registration

Registered Professional Engineer (State of Nevada, # 10656; 1994 - )

## Research citations and software release

**Citations:** His work has been cited by over 3,184 publications (scholar.google.com) with h-index of 27 and i10-index of 73.

**Software:** His [3D-Move software](#) developed with the funds from the federal government for heavy trucks and other special vehicle load applications is available for free. World-wide, more than 750 users from 50 countries have downloaded this software.

## Non-academic experience

1984-85            Research Associate, University of British Columbia

### Involved in the following engineering projects:

- Brenda Mines Extension - study for Klohn Leonoff Consultants, Ltd., Vancouver (1983).
- Gravel Island Response Study - for ESSO Resources Canada, Ltd., and Komex Consultants, Ltd., Calgary (1982, 1984).
- Pile Response Study for an Offshore Platform in Santa Barbara Channel - for Exxon, Houston (1983).
- Response of Gas Pipelines to Waves and Earthquakes for British Columbia Hydro, Canada (1983, 1984).
- Failure of Gas Pipeline in Fernley, Nevada - for GAB Corporation, Sacramento (1986)
- Evaluation of Design Storm Wave Data for Beaufort Sea Structures - for Komex Consultants Ltd., Calgary (1987)
- Evaluation of Seismic and Liquefaction Risk - for Pezonella Associates Inc. (1988)
- Seismic Risk Study of Cyprus Mine Tailings Dam, Tonopah - for Welsh Engineers, Denver (1989)
- Maui Runway Failure Mechanisms and Overlay Design -for Harding and Lawson Associates, Reno (1989)
- Seismic Guidelines for Idaho Gold Mine Tailings Dam at Buffalo Gulch, Idaho - for Welsh and Associates, Colorado (1990)
- Seismic Design and Analysis of Mine Tailings Dam, Phase II Tonopah - for Dr. Dirk van Zyl of EIC Consultants, Colorado (1991)
- Foundation Details of SIIS Building, Carson City - for Lumos Associates (1991)
- Development of Tailings Disposal System and Dynamic Analysis: Magma Robinson Project, Ely, Nevada - for Welsh Engineers, Reno (1991)
- Liquefaction Studies at a site located South of Reno - for Harding and Lawson Associates, Reno (1991)
- Conceptual and Seismic Stability Design of Tailings Dam at Bullfrog Mines at Beatty, Nevada - for Golder Associates, Colorado (1992)
- Seismic Liquefaction and Amplification Analysis of Three Sites using DESRA2- for Pacific Engineering Analysis (EPRI) --(1993)
- Stability Problems at Magma Mines, Ely -for WESTEC (1993)
- Development of Tailings Dam Systems, Magma Mines in Ely: Phase II - for WESTEC (1994)

- Development of Site-Specific Response Spectra for I-15/US-95 Interchange, Las Vegas- for SEA Engineers (1994)
- Investigation of Foundation and Structural Options for Bently Nevada Corporation, Minden (1995)
- Seismic Foundation Analysis for Nugget Tower for Nortec Engineers, Reno (1995)
- Behavior of Approach Fills Under Seismic Loading for Harding and Lawson Associates (1996)
- Stability Design of Flood Control Levees for Nortec Engineers, Reno (1998)
- Bently Nevada Training Facility Foundation Design Issues for Bently Nevada Corporation, Minden (1998)
- Amplification and Liquefaction Studies at Washoe Valley Bridge Site and at Fallon Site for Lumos and Associates, Carson City, Nevada (1999)
- Amplification and Liquefaction Studies at Water Pump Site for Stantec, Sparks, Nevada (1999, 2000)
- Seismic Issues at Grasburg Mine, Irian Jaya for CNI Consultants, Tucson, Arizona (2000)
- Fender Testing Under Dynamic Loads for Maritime International Inc., Louisiana (2001& 2002)
- Seismic Vulnerability of a Building in Downtown San Francisco for Bently Holdings Corporation, San Francisco, CA (2002)
- Development of Deep Soil Mix Analysis Program for FHWA/SALUT Inc., Washington D.C. (2003, 2004, 2005)
- Assessment Las Vegas Valley Responses from Nuclear Blasts for Lawrence Livermore National Laboratory (2003, 2004)
- Forensic Investigation of the Failures at Innsbrook Complex at Sparks, NV for Freeman, D'Aiuto, Pierce, Gurev, Keeling, and Wolf, Stockton, CA (2004)
- Seismic Vulnerability Investigation of Verrazano-Narrows Bridge Approaches (Brooklyn and Staten Island) for Weidlinger Associates, New York (2004, 2005)
- Seismic and Stability Investigation for Wood Rogers (2004, 2005)
- Foundation Design for South Reno Water Treatment Facility for Wood Rodgers/Corollo Engineers, CA (2005, 2006)
- Seismic Vulnerability at two MSE Wall sites at Lake Tahoe for Sunrise Engineering, Idaho (2006)
- Design and Construction of a Dam in Lake Tahoe for Nortec Inc., Reno (2006)
- Response Spectra Development at – Green Valley High School for Summit Engineering, Las Vegas (2007)
- Soil Type –F Spectra Analysis (Clay/Sand) for Stantec Engineering, Reno (2007)
- Fernley Floods Investigation and Failure Analysis for Robert Maddox and Associates (2008)
- Design of a well-point system at Toyota Car dealership for Nortec Inc., Reno (2008)
- Denton-Rawhide Gold Mine Expansion – Phase 3&4 for Applied Soil Water Technologies LLC, Sparks, Nevada (2009, 2010)
- Waste Management – Lockwood MSWLF Facility Expansion - for Applied Soil Water Technologies LLC, Sparks, Nevada (2012)
- Borealis Mine, Mineral County Heap Leach Pad – Concept & Design –for Eastern Sierra Engineers, Reno, Nevada (2013)
- Geotechnical Forensic Investigation of Distress at Somerset Area Reno – HEM Consulting LLC and Nancy Gilbert Law, Reno, Nevada (2014, 2015)
- Develop Procedures and use DSM Program to Analyze Deep Soil Mixing Configurations of Kwajalein Tank Farm at US Naval base in Marshall Island - Golder Associates Inc., Anchorage, Alaska (2017)

- SSI Analyses for Rehabilitation and Seismic Retrofit - Pulaski Skyway Super- and Substructure, New York City: Numerical Modeling, Geotechnical Input, Review of Design Analyses, and Final Report - Arora and Associates, P.C., New York City, NY (2018 - 2019)

## Professional societies and activities

- American Society of Civil Engineers, member
- Member of the ASCE Committee on Computer Applications and Numerical Methods
- Member of the ASCE Committee on Shock and Vibratory Effects (1986-88)
- Member of Earthquake Engineering Research Institute
- Member of ASCE, Reno Chapter
- Member of U.S. Universities Council on Geotechnical Engineering Research
- Member of the ASCE Committee on Soil Dynamics
- Member of the International Society of Numerical & Analytical Methods
- Associate Editor of the ASCE Journal of Geotechnical and Geo-Environmental Engineering.
- Member of Board of Studies at MS Ramaiah University Applied Sciences, Bangalore, India

## Awards

1979 - 1984	University of British Columbia Graduate Fellowship
1979 - 1984	Both M.S. and Ph.D. thesis work were sponsored by Exxon, Houston and Ertec Western Inc., California
1985	Junior Faculty Research Award, University of Nevada, Reno
1985 - 1986	Engineering Research Initiation Grant, Engineering Foundation (only 8 awards were made nationwide in all engineering fields)
1992	Visiting Research Associate Professor at MIT
1993	Member of $\beta$ -Testing of the PACE Software being developed by the Shell Oil Co and SWK Engineering.
1996	1996 EERI Student Research Paper Competition Award was presented to Mahmoud EL- Gamal. His paper was based on his Ph.D. work carried out under my supervision.
1997	1997 Shamsheer Prakash Foundation Citation for work on Dynamic Soil Structure Interaction and Stability of Retaining Structures under Earthquakes.
2011	Award by Tectonophysics "Top-50 Most Cited Articles published in Tectonophysics 2005 – 2010." This honor was given to the following paper co-authored by me: "A general framework for the occurrence and faulting of deformation bands in porous granular rocks" in Tectonophysics, Volume 411, Issue 1-4 (2005), Pages 1-18.
2019	Best Poster Session Paper Award 2019 for "Load Nucleus Approach for Flexible Pavement Responses under Complex Vehicles Move," at Transportation Research Board (TRB) 98th Annual Meeting, Washington, D.C., January 2019. Authors: Nimeri, M., Hajj, E.Y., Nabizadeh, H., Siddharthan, R.V. and Elfass, S.
2021	Second Place in the Best Poster category at the 4th International Conference on Transportation Geotechnics (ICTG 2021), held virtually on May 24-27, 2021 for paper titled "Investigation of Instantaneous Shear Failure in Pavement Subgrade Subjected to Superheavy Load Vehicle." Authors: Nabizadeh, H., Nimeri, M., Elie, H.Y., Siddharthan, R., Elfass, S.

2022 Keynote Address, International Conference on Engineering, JUICE – 2022, “Considerations in Sustainable Economic Initiatives in Sri Lanka: Recovering Era,” University of Jaffna, Sri Lanka, Aug. 17-18, 2022.

## Short courses and webinars

- Principal organizer and one of the instructors of the short course entitled: “Design and Construction of Tailing Dams,” March 23- 24, 1989, Reno. (with Dr. Dirk Van Zyl and Mike Henderson)
- Principal organizer and the instructor of the short course on “Liquefaction Procedures and Analysis of Tailings Dams,” Feb. 9, 1991, Reno.
- Instructor at the short course on “Geological Hazard: Seismic Issues,” Organized by the Association of Engineering Geologists, Reno, March 1994, Organized by the Technology Transfer Center, University of Nevada, Reno, April 29 - May 3, 1996.
- An instructor of the short course on “Seismic Design Issues: Highway Bridges,” Organized by the UC Davis Extension, April 10 - May 15 (Wednesdays), 1996.
- An instructor of the short course on “Deep Mixing Workshop and Symposium,” GeoTrans 2004, Los Angeles, July 27-31, 2004.
- Principal organizer and the instructor of the short course on “Near-Surface Soil Characterization and IBC 2003,” Sept. 13, 2004, Las Vegas and Sept. 29, 2004 in Reno.
- Invited presenter at the Second US-Japan Workshop on Ground Improvement, Sacramento, CA, May 16, 2008.
- Principal organizer and the instructor of the short course on “Slope Stability under Seismic Loading,” University of Costa Rica, Costa Rica, May 25 – 28, 2009.
- TRB Webinar presenter: [Evaluation of Superheavy Load Movement on Flexible Pavements](#), April 23, 2019
- Webinar presenter: Analysis Procedures for Evaluating Superheavy Load Movement on Flexible Pavements Using SuperPACK, June 16, 2021.

## National committee and review assignments

Reviewer for ASCE Journal of Structural Engineering; ASCE Foundation Engineering Congress 1989; ASCE Journal of Transportation Engineering; Bulletin of the Seismological Society of America; The National Science Foundation; ASCE Geotechnical Congress 1991; Annual ASCE Convention, Orlando, Florida, 1991; ASCE Journal of Geotechnical Engineering; International Conference on Geotechnical Earthquake Engineering, 1995; Journal Numerical & Analytical Methods in Geomechanics; Journal of Earthquake Engineering and Structural Dynamics; ASCE Journal of Bridge Engineering; A peer-review panel member of the US Army Corps Document EC-1110-2-6050; Organizer of two ASCE Technical Sessions - 1995; Reviewer for the Sixth National Conference on Earthquake Engineering and International Conference on Soil Dynamics and Earthquake Engineering- 1998; Organizer of three technical sessions at GeoTrans - 2004; Reviewer for the Fourth International Conference on Geotechnical Earthquake Engineering and Soil Dynamics - 2008; Reviewer of papers and session moderator at Sixth International Conference on Case Histories in Geotechnical Engineering Earthquake Engineering – 2008.

## Current research interests

Soil response modelling and laboratory investigation under static and dynamic loading including liquefaction behavior, dynamic behavior of rigid and flexible retaining walls, dynamic pavement response (analytical and laboratory investigation) to traffic and moving load effects, pavement materials characterization, effects of blast loading on saturated medium, wave loading on offshore slopes.

## Research grants

- “Dynamic Effective Stress Response of Surface Footings in Sand,” Junior Faculty Award, University of Nevada Reno, June 1, 1985 to August 31, 1985, \$4,213. (PI: R. Siddharthan)
- “Dynamic Effective Stress Response of Surface and Embedded Footings in Sand,” Engineering Foundation, Grant RI-A-85-2, September 1, 1985 to June 30, 1987, \$17,000. (PI: R. Siddharthan)
- “Use of a Modeling Facility for Studying Seismic Site Effect Problems,” Electric Power Research Institute, July 87 - Dec. 89, \$52,000. (PI: J. Brune; Co-PIs: R. Siddharthan and E. Maragakis)
- “An Improved Three-Layer Pavement Model and Granular Material Characterization,” NSF Grant CES-8713508, 1987 - 1990, \$58,332. (PI: D. Newcomb; Co-PIs: G.M. Norris, R. Siddharthan and E. Maragakis)
- “Development of Overlay Design Procedures,” Nevada Department of Transportation,” 1988-1992, \$140,000. (PI: J. Epps and P.E. Sebaaly; Co-PI: R. Siddharthan)
- “Survey and Evaluation of Highways in Nevada for Nuclear Waste Transport: Task 7.1,” Jan. 1989 - Aug. 1990, Nevada Nuclear Waste Project Office, \$89,474. (PI: R. Siddharthan; Co-PI: M. Stroup-Gardiner)
- “Pavement Response Studies Using Foam Rubber Models,” June 1989 - April 1990, UNR Research Advisory Board, \$6,300. (PI: R. Siddharthan)
- “Response of Layered Deposits to Traveling Surface Waves,” Mar. 1990 - Mar. 1992, NSF Grant No. MSS-8914775, \$75,608. (PI: R. Siddharthan; Co-PI: R. Fashbaugh)
- “Peak Bedrock Acceleration in Nevada,” Apr. 1990 - June 1993, Nevada Department of Transportation, \$84,191 (PIs: R. Siddharthan, J. Bell, J. Anderson and C. dePolo)
- “Physical Properties of NOVOPHALT Asphalt Concrete & Pavement Performance,” Mar. 1990 - Mar. 1993, NOVOPHALT, \$298,621 (PI: J. Epps; Co-PIs: A. Ebrahimpour, R. Siddharthan and M. Stroup-Gardiner)
- “Soil-Foundation-Structure Behavior at the Oakland Outer Harbor Wharf,” July 1990 - July 1991, California Strong Motion Instrumentation Program, \$24,953. (PI: G. Norris, Co-PI: R. Siddharthan)
- “Safety Evaluation of Proposed Rail Alignment,” Mar. 1990 - June 1991, Department of Energy, \$50,000. (PI: M. Coulson; Co-PIs: R. Siddharthan, G.M. Norris, and J. Carr)
- “Model Nonlinear Effects on Strong Motion,” April 1991 - Jan. 1992, Southern California Earthquake Center, \$38,000. (PI: J. Anderson, Co-PI: R. Siddharthan)
- “The Class A Prediction Phase of the VELACS Project,” Feb. 1992 - Jan. 1994, NSF, \$19,779. (PI: R. Siddharthan)
- “Nonlinear Soil Behavior in Strong Motion,” Feb. 1992 - Jan. 93, Southern California Earthquake Center, \$40,000. (PI: J. Anderson, Co-PI: R. Siddharthan)
- “Overview of Field Testing and ARS Plot Development at Sparks Nugget Viaduct” July 92 - Aug. 92, Nevada Department of Transportation, \$ 4,328. (PIs: G.M. Norris and R. Siddharthan)
- “Seismic Movements and Stiffness of Existing Bridge Abutments,” Jan. 93 - March 94, Nevada Department of Transportation, \$36,901. (PI: R. Siddharthan, Co-PI: E. Maragakis)

- “ARS PLOT Development for NDOT Sites,” Jan. 93 - June 93, Nevada Department of Transportation, \$4,328. (PIs : G.M. Norris and R. Siddharthan)
- “Abutment Movements and Bridge Design Implications in Strong Earthquakes,” April 93 - March 95, NSF, \$79,342. (PI: R. Siddharthan, Co-PI: E. Maragakis)
- “Permeability in Soils due to Fill and its Effects on the Groundwater Regime,” Oct. 1993 - Sept. 1995, Nevada Department of Transportation, \$74,999. (PI: G.M. Norris, Co-PI: R. Siddharthan)
- “Potential Railroad Alignment from UP/SP Across Northern Nevada to the Yucca Mountain Site,” Nov. 93 - Oct. 94, DOE, \$75,000 (PIs: R. Siddharthan and M.A. Coulson)
- “Seismological Perspective on Theoretical Non-Linear Effects on Strong Motions in Saturated Media: Phase I”, Feb. 1994 - March 1995, NSF/Southern California Earthquake Center, \$15,000. (PIs: J. Anderson and R. Siddharthan)
- “Integrated Study of Source, Path and Site Effects on Northridge Ground Motions,” July 1994 - July 1995, NSF, \$46,242. (PI: J. Anderson, Co-PIs: S. Feng and R. Siddharthan)
- “Investigation of Performance of Bridge Abutments in 1994 Northridge Earthquake,” Sept. 1994 - Aug. 95, NSF, \$46,788. (PI: R. Siddharthan, Co-PI: E. Maragakis)
- “Strain Wedge Modelling of Pile Group Interference and Pile Cap,” April 94 - June 95, Caltrans, \$44,496. (PI: G.M. Norris, Co-PI: R. Siddharthan)
- “Seismic Behavior of Reinforced Soil Walls,” Oct. 95 - Sept. 97, NSF, \$149,444. (PI: R. Siddharthan, Co-PI: B. Kutler and R.V. Whitman)
- “Seismological Perspective on Theoretical Non-Linear Effects on Strong Motions in Saturated Media: Phase II”, Feb. 1996 - March 1997, NSF/Southern California Earthquake Center, \$20,000. (PI: J. Anderson Co-PI: R. Siddharthan)
- “Determination of Pavement Damage from Super-Single and Singled-Out Dual Truck Tires,” Dec. 1996 - March 1998, NCHRP Project 1-36, Transportation Research Board, \$90,016. (PIs: P.E. Sebaaly and J.A. Epps, Co-PI: R. Siddharthan, C. Ashmore, and S. Tayabji)
- “Calibration of Fragility Estimation and Development of Fragility Information,” 10/97-10/99, NSF/State University of NY- Buffalo, \$194,827.(PIs: R. Siddharthan and E. Maragakis, Co-PIs: B. M. Douglas and G.M. Norris)
- “Theoretical and Field Non-Linear Effects on Strong Motions in Saturated Media”, Feb. 1998 - March 1999, NSF/Southern California Earthquake Center, \$20,000. (PI: J. Anderson, Co-PI: R.V. Siddharthan)
- “Pavement Material Characterization and Modeling of Long-Term Airfield Pavements,” May 1999 - May 2002, DOD-ARO, \$273,300. (PI: R. Siddharthan, Co-PI: J.A. Epps and P.E. Sebaaly)
- “Calibration of Fragility Estimation and Development of Fragility Information Year 2,” 10/99-10/00, NSF/State University of NY- Buffalo, \$199,872. (PIs: R. Siddharthan and E. Maragakis, Co-PIs: B. M. Douglas)
- “Precarious Rock Methodology for Seismic Hazard,” August 1999 - Dec. 2000, Harry Reid Center for Environmental Studies, \$181,780. (PI: J. Brune, Co-PI: A. Anooshehpour and R. Siddharthan)
- “Effects of Off-Road Equipment Tires on Flexible and Granular Pavements,” Nov. 1999 - Dec. 2001, South Dakota Department of Transportation (SD99-15), \$200,000. (PI: P. Sebaaly, Co-PI: R. Siddharthan and J. Epps)
- “Development and Implementation of a Scour Monitoring Program for Selected Bridge Crossing the Truckee River,” Dec. 2000 - Dec. 2003, Nevada Department of Transportation, \$92,179. (PI: K.E. Dennett, Co-PI: R. Siddharthan)
- “Calibration of Fragility Estimation and Development of Fragility Information Year 3,” 10/00-10/01, NSF/State University of NY- Buffalo, \$199,872.(PIs: R. Siddharthan and E. Maragakis, Co-PIs: B. M. Douglas)

- “Pilot Study of Soil-Structure Interaction under Earthquake Loading,” April 2000 - May 2001, DOE/EPSCOR Funding, \$16,000. (PI: B. Luke, Co- PIs: R. Siddharthan, G.M. Norris, and S. Ladkarny)
- “Calibration of Fragility Estimation and Development of Fragility Information Year 4,” 10/01-10/02, NSF/State University of NY- Buffalo, \$150,104.(PIs: R. Siddharthan and E. Maragakis)
- “Evaluation of Strategies to Control Erosion along US Highway 50 between Carson City and Lake Tahoe,” Nov. 2001-Aug. 2004, NDOT, \$120,600 (PI: K. Dennett, Co- PI: R. Siddharthan)
- “Study of Flexible Guide Post Performance and Revision of Existing Acceptance Specifications,” May 2002 - Jan. 2003, NDOT, \$41,198 (PI: R. Siddharthan, Co-PI: K. Dennett)
- “3-D Evaluation of Ground Shaking in the Las Vegas Basin,” May 2003 - April 2004, Lawrence Livermore National Laboratory, \$130,000 (PI: J. Anderson, Co. PI: J.N. Louie and R. Siddharthan)
- “Short Course on Near Surface Soils Effects: IBC 2003,” Jan. 2004 - Sept. 2004, NEHRP, \$12,708 (PI: Siddharthan)
- “Asphalt Research Consortium,” April 2006 to March 2014, FHWA, \$5,218,221 (Research Participant: R. Siddharthan)
- “Impact of Lime on Pavement Performance,” July 2007 – July 2009, National Lime Association, \$100,000 (PIs: E. Hajj and R. Siddharthan)
- “Investigation of Corrosion of MSE Walls in Nevada,” Feb. 2008 – Jan. 2010, Nevada Department of Transportation, \$47,953 (PI: R. Siddharthan)
- “Investigation of the Use of Different Type of Reinforcements in Nevada,” May. 2010 – Sept. 2011, Nevada Department of Transportation, \$57,199 (PI: R. Siddharthan)
- “Investigation of Corrosion of MSE Walls in Nevada- Phase II,” May 2010 – July 2011, Nevada Department of Transportation, \$54,412 (PI: R. Siddharthan)
- “Quantifying the Influence of Geosynthetics on Pavement Performance,” NCHRP Project 1-50 - Subcontract from Texas Transportation Institute (TTI), April 2011 – Jan. 2015, FHWA, \$188,375 (Research Participant: R. Siddharthan)
- “Investigation of Corrosion of MSE Walls in Nevada, Phase II – Revised,” Feb. 2012 – July 2015, Nevada Department of Transportation, \$367,522 (PI: R. Siddharthan)
- “Instrumentation and Analysis of Geosynthetic Reinforced Soil (GRS) Walls for use in Southern Nevada,” July 2012 – July. 2016, Nevada Department of Transportation, \$157,391 (PI: R. Siddharthan; Co- PI: S. Elfass)
- “Nonlinear Lateral Performance of Skew Abutments,” July 2012 – May 2016, Caltrans, \$589,963 (PI: M. Saiedi; Co-PI: R. Siddharthan)
- “Pavement Structural Evaluation at the Network Level – DTFH61-12-C-00031,” Jan. 2013 – July 2015, Federal Highway Administration, \$599,458 (PI: AMEC Consultants; Co. PI: R. Siddharthan- UNR Subcontract \$55,247)
- “Correlation of In Situ Test Data with Shear Strength for Deep Foundation Design,” Jan. 2013 – Dec. 2015, Nevada Department of Transportation, \$196,758 (PI: B. Luke; Co-PI: R. Siddharthan- UNR Subcontract, \$73,403)
- “Analysis Procedures for Evaluating Super-Heavy Load Movement on Flexible Pavements,” FHWA DTFH61-13-C-00014, Oct. 2013 – July 2018, \$299,772 (PI: E. Hajj; Co-PI: R. Siddharthan)
- “Mechanistic-Based Pavement Damage and Associated Cost from Oversize and Overweight Vehicles in Nevada,” Jan. 2014 – Aug. 2016, Nevada DOT, \$193,411 (PI: E. Hajj; Co-PI: R. Siddharthan)
- “Validation of a Computational Framework Using Large-Scale Experiments,” Dept. of Energy and Lawrence Berkeley National Laboratory (LBNL), \$754,937, June 2015 – July 2017 (PI: Buckle; Co-PIs: S. Elfass and R. Motamed; Research Participants: R. Siddharthan and G. Pekcan)



- “Characterization of Unbound Materials (Soils/Aggregates) for Mechanistic-Empirical Pavement Design Guide (MEPDG),” July 2016 – June 2017, Nevada DOT, \$148, 201 (PI: Sebaaly; Co-PI: E. Hajj; Research Participant: R. Siddharthan)
- “Structural Coefficient for High Polymer Modified Asphalt Mixes,” Florida DOT, \$249,796, Jan. 2017 – Aug. 2019 (PI: Sebaaly; Co-PI: E. Hajj, Senior Personnel: A. Hand and R. Siddharthan).
- “Lateral Analysis Guidelines for Drilled Shafts in Nevada Based on LRFD Framework,” Nevada DOT, \$ 295,891, Jan. 2018 – July 2021 (PI: R. Motamed, Co-PIs: D. Sanders and R. Siddharthan)
- “Correlating Soil Stiffness with Density State for Vehicle Mobility on Soft Soils,” Nevada Automotive Test Center, \$50,000, Nov. 2018 – May 2019 (PI: S. Elfass, Co-PI: R. Siddharthan)
- “Graduate Assistantships in Areas of National Need: Rebuilding the Nation's Structural Infrastructure for Resilience to Extreme,” NSF, \$746k, July 2019 - June 2022 (PI: Ryan, K., Co-PIs: Krin, A., McCallen, D., Mustafa, M., Peckan, G., and Siddharthan, R.)
- “Characterization of Unbound Materials for Mechanistic-Empirical Pavement Design for NDOT Districts 2 and 3,” NDOT, \$180,420, June 2020 – May 2022, (PI: Sebaaly; Co-PIs: E. Hajj and A. Hand, Senior Personnel -Siddharthan)
- “Develop a Study of Geosynthetic Materials for Use in Reducing Pavement Section Thickness,” NDOT, \$101,478, June 2021 – Dec. 2022 (PIs: A. Hand, E. Hajj, Senior Personnel -Siddharthan)
- "Pilot Case Studies of Pavement Structural and Risk Assessments of Super heavy Load Movements on Highway Routes," \$190,201, July 2021 – Dec. 2023, Engineering & Software Consultants, Inc., FHWA (PI: Hajj; Co-PI: Siddharthan)
- "FY2021 Support for Commissioning Soil Box and Shake Table," \$500,052, Dec. 2021 – Mar. 2022, Lawrence Berkeley National Laboratory (PI: Buckle; Co-PIs: R. Siddharthan, R. Motamed, S. Elfass)

## Courses taught

Undergraduate and graduate-level courses

### Undergraduate level:

- Introduction to Geotechnical Engineering
- Foundation Engineering
- Computer Applications in Civil Engineering
- Strength of Materials
- Retaining Structures
- Earthquake Engineering
- Numerical Methods in Civil Engineering

### Graduate level:

- Advanced Geotechnical Engineering
- Geotechnical Earthquake Engineering, also Long Distant to UNLV
- Seepage and Slope Stability

## Publications

Books, reviewed publications, discussions, conference publications/presentations and research reports

## Books:

- Earthquake-Induced Movements and Seismic Remediation of Existing Foundations and Abutments, ASCE Geotechnical Special Publication No. 55, Editors: Steve Kramer and Raj V. Siddharthan, 1995.
- Engineering Geology and Geotechnical Engineering, Proceedings of the 33rd Symposium, Editors: Richard A. Schultz and Raj V. Siddharthan, March 25-27, 1998.

## Reviewed publications

1. Finn, W.D.L., Siddharthan, R.V., and Martin, G.R., "Wave Induced Instability in Ocean Floor Sands," Preprint No. 80 - 638, ASCE Convention and Exposition, Florida, Oct. 1980.
2. Finn, W.D.L., Siddharthan, R.V., and Martin, G.R., "Response of Seafloor to Ocean Waves," Journal of Geotechnical Engineering, ASCE, Vol. 109(4), April 1983, pp. 556-572.
3. Siddharthan, R.V., "Wave Induced Displacements in Seafloor Sands," International Journal of Numerical and Analytical Methods in Geomechanics, Vol. 11(2), March 1987, pp. 155-170.
4. Siddharthan, R.V., and Norris, G.M., "Deformation Response of Seafloor Sands to Storm Waves," Proceedings, 6th International Symposium on Offshore and Arctic Engineering, Houston, Vol. I, March 1987, pp. 417- 424.
5. Siddharthan, R.V., and Norris, G.M., "Performance of Foundations Resting on Saturated Sands," Proceedings, Earthquake Engineering and Soil Dynamics II Conference, Geotechnical Special Publication No. 20, ASCE, June 1988, pp. 508-522.
6. Siddharthan, R.V., and Maragakis, E.A., "Performance of Flexible Retaining Walls Supporting Dry Cohesionless Soils to Cyclic Loading," International Journal of Numerical and Analytical Methods in Geomechanics, Vol. 13, May 1989, pp. 309-326.
7. Maragakis, E.A. and Siddharthan, R.V., "A Simple Method for Estimation of the Nonlinear Abutment Stiffness in the Longitudinal Direction," ASCE Journal of Structural Engineering, Vol. 115(9), Sept. 1989, pp. 2382-2398.
8. Maragakis, E.A., Thornton, G., Saiidi, M. and Siddharthan, R.V., "A Simple Model for the Impact Between Bridge Deck and the Abutments During Earthquakes," Journal of Earthquake Engineering and Structural Dynamics, Vol. 18, 1989, pp. 1163-1178.
9. Siddharthan, R.V., and Norris, G.M., "Residual Porewater Pressure and Structural Response," International Journal of Soil Dynamics and Earthquake Engineering, Vol. 9(5), Sept. 1990, pp. 265-271.
10. Siddharthan, R.V., and Norris, G.M., "On the Seismic Displacement Response of Rigid Retaining Walls," Soils and Foundations, Vol. 31(2), June 1991, pp. 51-64.
11. Siddharthan, R.V., Ara, S., and Norris, G.M., "A Simple Rigid Plastic Model for Seismic Tilting of Rigid Walls," Journal of Structural Engineering, ASCE, Vol. 118(2), Feb. 1992, pp. 469-487.
12. Siddharthan, R.V., Anooshehpour, A., and Epps, J.A., "Model Tests for Moving Load Effects on Pavements," Transportation Research Record No. 1307, TRB, 1991, pp. 20-28.
13. Siddharthan, R.V., Norris, G.M., and Epps, J.A., "Use of FWD Data for Pavement Material Characterization and Performance," Journal of Transportation Engineering, ASCE, Vol. 117(6), Nov./Dec. 1991, pp.660-678.
14. Krutz, N.C., Siddharthan, R.V., and Stroup-Gardiner, M., "Investigation of Rutting Potential Using Static Creep Tests on Polymer Modified Asphalt Concrete Mixtures," Transportation Research Record No. 1317, TRB, 1991, pp. 100-108.

15. Ong, C.L., Newcomb, D.E., and Siddharthan, R.V., "Comparison of Dynamic and Static Backcalculation Modulus for Three Layer Pavements," Transportation Research Record No. 1293, TRB, 1991, pp. 86-92.
16. Siddharthan, R.V., Sebaaly, P.E., and Javaregowda, M., "Investigation of Statistical Variation in FWD on Pavement Analysis," Transportation Research Record No. 1377, TRB, 1992, pp. 57-66.
17. Yu, G., Anderson, J., and Siddharthan, R.V., "On the Characteristics of Non-Linear Soil Response," Bulletin of the Seismological Society of America, Vol. 83(1), Feb. 1993, pp. 218-244.
18. Siddharthan, R.V., Zafir, Z. and Norris, G.M., "Moving Load Response of Layered Soil I : Formulation," ASCE Journal of Engineering Mechanics, Vol. 119(10), Oct. 1993, pp. 2052-2071.
19. Siddharthan, R.V., Zafir, Z. and Norris, G.M., "Moving Load Response of Layered Soil II : Verification and Application," ASCE Journal of Engineering Mechanics, Vol. 119(10), Oct. 1993, pp. 2072-2089.
20. Siddharthan, R.V., and El-Gamal, M., "Modeling of the Interaction of Water Waves with Nonlinear Porous Seabed," Computers & Structures, Vol. 51(5), June 1994, pp. 571-578.
21. Siddharthan, R.V., and Norris, G.M., "Analysis of Offshore Pipeline Flotation During Storms in Liquefiable Soils," Third International Offshore and Polar Engineering Conference, Vol. II, Singapore, June 1993, pp. 106-113.
22. Norris, G.M., Siddharthan, R.V., Zafir, Z., and Gowda, P., "Soil and Foundation Conditions and Ground Motions at Cypress Viaduct," Transportation Research Record No. 1411, TRB, 1993, pp. 61-69.
23. Norris, G.M., Siddharthan, R.V., Zafir, Z. and Gowda, P., "Seismic Pile Foundation Stiffnesses at Cypress Street Viaduct," Transportation Research Record No. 1411, TRB, 1993, pp. 70-80.
24. Siddharthan, R.V., El-Gamal, M. and Maragakis, E.A., "Investigation of Performance of Bridge Abutments in Seismic Regions," ASCE Journal of Structural Engineering, Vol. 120(4), April 1994, pp. 1327-1346.
25. Zafir, Z., Siddharthan, R.V., and Sebaaly, P.E., "Dynamic Pavement Strains from Moving Traffic Loads," ASCE Journal of Transportation Engineering, Vol. 120(5), Sept./Oct. 1994, pp. 821-842.
26. Siddharthan, R.V., Sebaaly, P.E. and Zafir, Z., "Pavement Strains Induced by Spent Fuel Transportation Trucks," Transportation Research Record No. 1448, TRB, 1994, pp. 8-15.
27. Siddharthan, R.V., Sebaaly, P., and Zafir, Z., "Dynamic Response Evaluation of Inclined Pavements with Interface Shear," International Journal of Vehicle Design, Vol. 3 , Nos 1-4, 1996, pp. 382-398.
28. Siddharthan, R.V., and El-Gamal, M., "Earthquake-Induced Ground Settlements of Bridge Abutment Fills," Analysis and Design of Retaining Structures Against Earthquakes, ASCE Special Publication No. 60, 1996, pp. 100-123.
29. Siddharthan, R.V., Yao, J., and Sebaaly, P.E., "Field Verification of a Moving Load Model for Pavement Response," Transportation Research Record No. 1540, TRB, 1996, pp. 125-131.
30. Norris, G.M., Siddharthan, R.V., Zafir, Z., Abdel-Ghaffar, S., and Gowda, P., "Soil-Foundation-Structure Behavior at the Oakland Outer Harbor Wharf," Transportation Research Record No. 1546, TRB, 1997, pp. 100-111.
31. Norris, G.M., Siddharthan, R.V., Zafir, Z., and Madhu, P., "Liquefaction and Residual Strength of Sands from Drained Triaxial Tests," Journal of Geotechnical and Geo-Environmental Engrg., ASCE, Vol. 123(3), March 1997, pp. 220-228.
32. Ni, S.D., Siddharthan, R.V., and Anderson, J.G., "Characteristics of Nonlinear Response of Deep Saturated Soil Deposits," Bulletin of the Seismological Society of America Vol. 87(2), April 1997, pp. 342-355.

33. Siddharthan, R.V., El-Gamal, M., and Maragakis, E.A., "Stiffnesses of Abutments on Spread Footing with Cohesionless Backfill," *Canadian Geotechnical Journal*, Vol. 34(5), October 1997, pp. 686-697,
34. Norris, G.M., Zafir, Z., and Siddharthan, R., "An Effective Understanding of Liquefaction Behavior," *Journal of Environmental & Engineering Geoscience*, Vol. IV, No. 1, 1998, pp. 93-101.
35. El-Gamal, M., and Siddharthan, R.V., "Stiffnesses of Abutments on Piles in Seismic Bridge Analyses," *Soils and Foundations*, Vol. 38(1), March 1998, pp. 77-87.
36. Siddharthan, R.V., Yao, J., and Sebaaly, P.E., "Pavement Strain from Moving Dynamic 3-D Load Distribution," *Journal of Transportation Engrg., ASCE*, Vol. 124(6), Nov./Dec. 1998, pp. 557-566, DOI: 10.1061/(ASCE)0733947x(1998)124:6(557).
37. Siddharthan, R.V., and El-Gamal, M., "Permanent Rotational Deformation of Dry Cohesionless Slopes under Seismic Excitations," *Transportation Res. Rec. No. 1633*, TRB, 1999, pp. 45-50.
38. Siddharthan, R.V., and El-Gamal, M., "Investigation of Performance of Bridge Abutment Fills in 1994 Northridge Earthquake," *Seismic Response of Concrete Bridges*, ACI Publication No. SP-187, 1999, pp. 69-88.
39. Siddharthan, R.V., and Sebaaly, P.E., "Investigation of AC layer Strains from Wide-Base Tires," *Transportation Research Record No. 1655*, TRB, 1999, pp. 168 - 174.
40. Siddharthan, R.V., Krishnamenon, N., and Sebaaly, P.E., "Pavement Response Evaluation using Finite-Layer Approach," *Transportation Research Record No. 1709*, TRB, 2000, pp. 43-49, DOI: 10.3141/1709-06.
41. Ni, S.D., Anderson, J.G., Zeng, Y., and Siddharthan, R.V., "Expected Signature of Nonlinearity on Regression for Strong Ground Motion Parameters," *Bulletin of Seismological Society of America*, Vol. 90, 6B, 2000, pp. S53-S64.
42. Meis, R., Maragakis, E.A., and Siddharthan, R.V., "Static Axial Behavior of Some Typical Restrained Joints," *Journal of Testing and Evaluation*, Vol. 29(5), September 2001, pp. 485-491.
43. Siddharthan, R.V., Krishnamenon, N., El-Mously, M., and Sebaaly, P.E., "Investigation of Tire Contact Stress Distributions on Pavement Response," *Journal of Transportation Engineering*, ASCE, Vol. 128(2), March/April, 2002, pp. 136-144, DOI: 10.3141/1655-22.
44. Siddharthan, R.V., El-Mously, M., Krishnamenon, N., and Sebaaly, P.E., "Validation of a Pavement Response Model using Full-Scale Field Tests," *International Journal in Pavement Engineering*, Vol. 3(2), 2002, pp. 85-93, DOI:10.1080/10298430290030595.
45. El-Desouky, M.M., El-Mously, M., Siddharthan, R.V., and Sebaaly, P.E., "Development and Validation of a Pavement Response Model," *Proceedings, 9th International Conference on Asphalt Pavements*, Copenhagen, Norway, May 2002, Vol. I: 8-1 (CD ROM).
46. Saiidi, M., B. Gopalakrishnan, and Siddharthan, R.V., "Shake Table Studies of Effect of Foundation Flexibility on Seismic Demand in Substandard Reinforced Concrete Bridge Piers," *ACI Special Publication Series SP-209*, *Innovations in Design with Emphasis on Seismic, Wind, and Environmental Loading; Quality Control and Innovations in Materials/Hot-Weather Concreting*, December 2002, pp. 553-570.
47. Sebaaly, P.E., Siddharthan, R.V., and Huft, D., "Impact of Heavy Vehicles on Low-Volume Roads," *Transportation Research Record No. 1819*, Vol. 2, Part 9, TRB, 2003, pp. 228-237.
48. Sebaaly, P.E., Siddharthan, R.V., El-Desouky, M., Strand, D., and Huft, D., "Effect of Off-Road Equipment on Flexible Pavements," *Transportation Research Record No. 1821*, TRB, 2003, pp. 29-38.
49. Siddharthan, R.V., Ganeshwara, V., Kutter, B.L., El-Desouky, M., and Whitman, R.V., "Seismic Deformation of Bar Mat MSE Walls I: Centrifuge Tests," *Journal of Geotechnical and Geo-Environmental Engrg., ASCE*, Vol. 130(1), ASCE, January 2004, pp. 14-25.

50. Siddharthan, R.V., Ganeshwara, V., Kutter, B.L., El-Desouky, M., and Whitman, R.V., "Seismic Deformation of Bar Mat MSE Walls II: A Multi-Block Model," *Journal of Geotechnical and Geo-Environmental Engrg.*, ASCE, Vol. 130(1), ASCE, January 2004, pp. 26-35.
51. Siddharthan, R.V., Porbaha, A., and Gopalan, V., "Effectiveness of Liquefaction Remediation Using Deep Soil Mixing," *Proceedings, 3rd International Conference on Soil Dynamics and Earthquake Engineering*, Berkeley, CA., Vol. 2, January 2004, pp. 622-629.
52. Siddharthan, R.V., El-Desouky, M., and Porbaha, A., "A Simplified Procedure for Seismic Analysis of Sites with Deep Soil Mixing," *Geo-Support Conference*, Florida, Feb. 2004.
53. Siddharthan, R.V., El-Desouky, M., and Sebaaly, P.E., "Modeling of Tire-Pavement Interactions from Heavy Vehicles," *Geotechnical Special Publication No. 126*, Vol. 1, 2004, pp. 1014-1022.
54. Siddharthan, R.V., Sebaaly, P.E., El-Desouky, M., Strand, D., and Huft, D., "Heavy Off-road Vehicle Tire-Pavement Interactions and Response," *Journal of Transportation Engineering*, ASCE, Vol. 131(3), March/April 2005, pp. 239-247.
55. Meis, R., Maragakis, E.A., and Siddharthan, R.V., "Dynamic Axial Stiffness of Typical Restrained and Unrestrained Underground Pipe Joints," *Journal of Testing and Evaluation*, Vol. 33(6), November 2005.
56. Schultz, R., and Siddharthan, R.V., "A General Framework for the Occurrence and Faulting of Deformation Bands in Porous Granular Rocks," *Technophysics*, Vol.411, November 2005, pp. 1-18.
57. Hajj, E.Y., Sebaaly, P.E., and Siddharthan, R.V., "Response of an Asphalt Pavement Mixture Under a Slow Moving Truck," *Geotechnical Special Publication No. 146*, 2006, pp. 134-146.
58. Hajj, E.Y., Siddharthan, R.V., and Sebaaly, P.E., "Development of Laboratory-Based Unified Permanent Deformation Model for HMA Mixture," *Journal of Testing and Evaluations*, Vol. 35(3), May 2007, pp. 272-280.
59. Hajj, E.Y., Siddharthan, R.V., Sebaaly, P.E., and Wietzel, D., "Hot Mix Asphalt Mixtures for Nevada's Intersections," *Transportation Research Record No. 2001*, TRB, 2007, pp. 73-83.
60. Hajj, E.Y., Sebaaly, P.E., Siddharthan, R.V., and Wietzel, D., "Investigation and Analysis of Hot Mix Asphalt Mixtures at Nevada's Intersections," *Proceedings, Advanced Characterization of Pavement and Soil Engineering Materials*, 2007, Greece, Taylor & Francis Group, London, ISBN 978-0-415-44881-6, pp. 1679-1689.
61. Siddharthan, R.V., and Porbaha, A., "Seismic Response Evaluation of an Onshore Building Site Improved by Deep Mixed Foundation System," *Proceedings, 4th International Conference on Geotechnical Earthquake Engineering and Soil Dynamics*, Sacramento, CA, May 2008.
62. Siddharthan, R.V. and Vishnan, G., "Permanent Seismic Deformation of MSE Walls with Uneven Reinforcement," *Proceedings, 4th International Conference on Geotechnical Earthquake Engineering and Soil Dynamics*, Sacramento, CA, May 2008.
63. Siddharthan, R.V., and Porbaha, A., "Seismic Response Evaluation of Deep Mixed Improved Ground Part I: Proposed Approach," *Ground Improvement*, Vol. 131, Issue G13, Institute of Civil Engineers, UK, August 2008, pp. 153-162.
64. Siddharthan, R.V., and Porbaha, A., "Seismic Response Evaluation of Deep Mixed Improved Ground Part II: Verification," *Ground Improvement*, Vol. 131, Issue G13, Institute of Civil Engineers, UK, August 2008, pp. 163-169.
65. Siddharthan, R.V. and Porbaha, A., "Seismic Response Validation of DM treated Liquefiable Soils," *Sixth International Conference on Case Histories in Geotechnical Engineering*, Arlington, VA, 2008, Aug.
66. Thornley, J.D. and Siddharthan, R.V., "Effects of Corrosion Aggressiveness on MSE Wall Stability in Nevada," *Proceedings, Earth Retention Conference 3*, *Geotechnical Special Publication No. 208*, Seattle, WA, Aug. 2010, pp. 539-547.

67. Hajj, E.Y., Ulloa, A., Siddharthan, R.V., and Sebaaly, P.E., "Characteristics of the Loading Pulse for the Flow Number Performance Test," *Journal Association of Asphalt Paving Technologists*, Vol. 79, 2010, pp. 253 - 294.
68. Hajj, E.Y., Ulloa, A., Siddharthan, R.V., and Sebaaly, P.E., "Estimation of Stress Conditions for Flow Number Simple Performance Test," *Journal of the Transportation Research Board*, No. 2181, Transportation Research Board, 2011, pp. 67–78.
69. Thornley, J.D., Siddharthan, R.V., Luke, B. and Salazar, M., "Investigation and Implication of MSE Wall Corrosion in Nevada" *Journal of the Transportation Research Board*, No. 2186, Transportation Research Board, 2011, pp. 154-160.
70. Siddharthan, R.V., and Bukhary, S., "Characteristics of Laboratory-Measured Saturated Soil Behavior under Multidirectional Shaking," *Journal of Nevada Water Resources Association*, Vol. 6(1), June 2011, pp. 362 – 376.
71. Hajj, E.Y., Thusyanthan, P., Sebaaly, P.E., and Siddharthan, R.V., "Influence of Tire-Pavement Stress Distribution, Shape and Braking on Asphalt Pavement Performance Predictions," *Journal of the Transportation Research Board*, No. 2306 Transportation Research Board, 2012/2013, pp. 73 – 85.
72. Hajj, E.Y., Ulloa, A., Siddharthan, R.V., and Sebaaly, P.E., "Equivalent Loading Frequencies for Dynamic Analysis of Asphalt Pavements," *Journal of the Materials in Civil Engineering*, Vol. 25(9), ASCE, Sept. 2013, pp. 1162-1170.
73. Kasozi, A., Siddharthan, R.V., and Bafghi, A., "Strength Reduction Factor for Geogrid Reinforcement at Elevated Temperatures," Accepted for presentation at 2014 TRB Annual Meeting of Transportation Research Board, Jan. 2014.
74. Kasozi, A. M., Siddharthan, R. V. and Mahamud, R., "Temperature Distribution in Mechanically Stabilized Earth Wall Soil Backfills for Design under Elevated Temperature Conditions," *ASME Journal of Thermal Science and Engineering Applications*, Vol. 7(2), Paper No. 021004, June 2015, pg. 1-9.
75. Kasozi, A., Siddharthan, R.V., and Mahamud, R., "MSE Wall Geogrid Tensile Strength at High Temperature Sites," *Environmental Geotechnics*, Vol. 3, Issue EG1, Institute of Civil Engineers, <http://dx.doi.org/10.1680/envgeo.13.00073>, Feb. 2016., pp. 4-16.
76. Nasimifar, M., Siddharthan, R., Rada, G., Nazarian, S., "[Dynamic Analyses of Traffic Speed Deflection Devices.](#)" *International Journal of Pavement Engineering*, Vol. 18(5), 2015, pp. 381-390.
77. Nasimifar, M., Thyagarajan, S., Siddharthan, R., and Sivanesarwan, N., "Robust Deflection Indices from Traffic Speed Deflectometer Measurements to Predict Critical Pavement Responses for Network Level Pavement Management System Application," *Journal of Transportation Eng.*, ASCE, Vol. 142(3), March 2016. ([http://dx.doi.org/10.1061/\(ASCE\)TE.1943-5436.0000832](http://dx.doi.org/10.1061/(ASCE)TE.1943-5436.0000832))
78. Nasimifar, M., Siddharthan, Rada, G., Nazarian, S., "Validation of Dynamic Simulation of Slow Moving Surface Deflection Measurements," *Journal of the Transportation Research Board*, Vol. 2589, National Academies of Sciences, Washington D.C., April 2016. DOI: 10.3141/2589-14.
79. Hajj, E.Y., Batioja-Alvarez, D., and Siddharthan, R.V., "Assessment of Pavement Damage from Bus Rapid Transit: A Case Study for State of Nevada," *Journal of the Transportation Research Board*, Record No. 2591, National Academies of Sciences, Washington D.C., April 2016, pp. 70 – 79. doi: 10.3141/2591-09.
80. Gu, F., Luo X., Lytton, R.L., Hajj, E., and Siddharthan, R.V., "Numerical Modeling of Geogrid-Reinforced Flexible Pavement and Corresponding Validation using Large-Scale Tank Test," *Construction & Building Materials*, Vol. 122, 2016, pp. 214 – 230.

81. Liu, F. and Siddharthan, R.V., "The Differences between Undergraduate Education in Civil Engineering in China and America," [\*American Journal of Educational Research\*, Vol. 4, No. 10](#), 2016, pp 711-719. doi: 10.12691/education-4-10-1.
82. Siddharthan, R., Nasimifar, M., Tan, X., Hajj, E., "Investigation of Impact of Wheel Wander on Pavement Performance," *Journal of Road Materials and Pavement Design*, RMPD, Vol. 18(2), April 2017, pp. 390-407. <http://dx.doi.org/10.1080/14680629.2016.1162730>.
83. Nasimifar, M., Siddharthan, R.V., Thyagarajan, S., and Motamed, R., "Field and Numerical Evaluation of Traffic Speed Deflection Measurements to Estimate Load-Induced Fatigue Response," *Journal of Testing and Evaluation*, ASTM, Vol. 45(5), Sept. 2017, pp. 1702 – 1712, doi:101520/JTE2015044.
84. Velarde, J.A., Rocha, S., Nazarian, S., Rada, G., Thyagarajan, S., and Siddharthan, R.V., "Use of Embedded Sensors to Evaluate Performance of Traffic Speed Deflection Devices," *Journal of Testing and Evaluation*, ASTM, Vol. 45(4), July 2017, pp. 1316 – 1325, doi:101520/JTE20150376.
85. Batioja-Alvarez, D.D., Kazemi, S.F., Hajj, E.Y., Siddharthan, R.V., and Hand, A.J.T., "Probabilistic Mechanistic-Based Pavement Damage Costs for Multi-Trip Overweight Vehicles," *Journal of Transportation Engineering, Part B: Pavements*, Vol. 144(2), June 2018.
86. Batioja-Alvarez, D.D., Kazemi, S.F., Hajj, E.Y., Siddharthan, R.V., and Hand, A.J.T., "Statistical Distributions of Pavement Damage Associated with Overweight Vehicles: Methodology and Case Study," *Journal of the Transportation Research Board*, TRB, Aug. 2018.
87. Rada, G., Nazarian, S., Siddharthan, R.V., Thyagarajan, S., Visintine, B., Nasimifar, M., and Velarde, J.A., "Network Level Pavement Structural Evaluation," *Journal of Infrastructure Systems*, Vol. 24, Issue 4, Dec. 2018.
88. Nimeri, M., Nabizadeh, H., Hajj, E.Y., Siddharthan, R.V., Elfass, S., and Piratheepan, M., "Design, Fabrication, and Instrumentation of a Full-Scale Pavement Testing Box," *ASCE Special Publication: International Airfield and Highway Pavements Conference*, 2019, pp. 131-142, 2019.
89. Nabizadeh, H., Siddharthan, R. V., Nimeri, M., Hajj, E. Y., and Elfass, S., "Validation of the Subgrade Shear Strength Parameters Estimation Methodology Using Light Weight Deflectometer: Numerical Simulation and Measured Testing Data," *Transportation Geotechnics*, 21, Paper No. 100259, 2019.
90. Bhuiyan, F.M., Siddharthan, R.V. and Motamed, R., and Sanders, D.H., "Evaluation of a New p-y Analysis Tool for Lateral Analysis of Drilled Shafts Using Load Tests in Nevada," *Deep Foundations Institute 45th Annual Conference on Deep Foundations*, October 2020, pp. 303-312.
91. Mojtahedzadeh, N., and Siddharthan, R.V., "Estimating Free Field Seismic Settlement History in a Saturated Layered Soil Profile," *Journal of Soil Dynamics and Earthquake Engineering*, 150, 106937, Nov., 2021.
92. Bhuiyan, F.M., Toth, J., Siddharthan, R.V. and Motamed, R., "Evaluation of Existing t-z Models for Caliche based on Numerical Analysis of Bi-directional Load Tests using NVShaft," *Deep Foundations Institute 46th Annual Conference on Deep Foundations*, October 12-15, 2021, pp. 21-31.
93. Bhuiyan, F.M., Motamed, R., Siddharthan, R.V., and Sanders D. H., (2022) "Evaluation of a Unified p-y Method for Lateral Analysis of Large-diameter Drilled Shafts using NVShaft." *Transportation Geotechnics* 36 100813, 2022.
94. Bhuiyan, F.M., Motamed, R., and Siddharthan, R.V., Sanders, D.H., "Evaluations of Existing p-y Models for Caliche Based on Numerical Analysis of Raider Stadium Lateral Load Tests," *47th Annual Conference of Deep Foundation Institute, National Harbor, Maryland*, October 4-7, 2022, pp. 297-309.

95. Bhuiyan, F.M., Motamed, R., Siddharthan, R.V., "Evaluation of a Semi-Empirical p-y Model for Caliche Material Based on Numerical Simulations of Field Load Tests in Cemented Soils," Geo-Congress 2023, Los Angeles, CA, March 26-29, 2023.
96. Skaff, R., Hajj, E.Y., and Siddharthan, R.V., "Shear Failure Investigation of Unbound Pavement Layers Under Accelerated Heavy Aircraft Loading: Case Study," Presented at the 102nd Transportation Research Board, TRB, Washington D.C., Jan. 8 – 12, 2023.
97. Skaff, R., Hajj, E.Y., Siddharthan, R.V., Garg N., and Sivaneswaran, N., "Shear failure investigation of unbound pavement layers under accelerated heavy aircraft loading: case study," International Journal of Pavement Engineering, Vol. 24, Issue 2, 2023.
98. Mojtahedzadeh, N., Siddharthan, R.V., and Zogh. P., Simplified Procedure for Estimating Seismic Permanent Settlement in a Layered Liquefiable Ground, Journal of GeoEngineering, Vol. 19, No. 2, pp. 065-072, June 2024.
99. Hajj, E.Y., Skaff, R. S. and Siddharthan, R.V., "Leveraging Non-Destructive Testing in Superheavy Load (SHL) Movement Analysis on Flexible Pavements: A PennDOT Case Study," 3rd Annual Falling Weight Deflectometer User Group (FWDUG) Meeting, September 2024.

## Discussions

1. Siddharthan, R.V. and Norris, G.M., Discussion on "Wave-Induced Instability in Sandy Submarine Sediments," Soils and Foundations, Vol. 28(3), Sept. 1988, pp. 176-178.
2. Siddharthan, R.V., Towhata, I. and Zafir, Z., Discussion on "Oscillatory Pore Pressure and Liquefaction in Seabed Induced by Ocean Waves," Soils and Foundations, Vol. 32(3), Sept. 1992, pp. 192-194.
3. Siddharthan, R.V., Gowda, P. and Norris, G.M., Closure - "Displacement Based Design of Retaining Walls," Proceedings, Second International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics, Vol. III, June 1992, pp. 2046.
4. Siddharthan, R.V., and Ara, S., Discussion on "Impact of Earthquakes on Cantilever Retaining Walls," Journal of Structural Engineering, ASCE, Vol. 117(10), Oct. 1991, pp. 3193-3196.

## Conference publications/presentations

1. Finn, W.D.L., Siddharthan, R.V., and Yogendrakumar, M., "Response of Caisson Retained and Tanker Islands to Waves and Earthquakes," Proceedings, 36th Canadian Geotechnical Engineering Conference, Vancouver, Canada, June 1983, pp. 1.4.1-1.4.9.
2. Finn, W.D.L., Siddharthan, R.V., Lee, F., and Schofield, A.N., "Seismic Response of Drilling Islands in a Centrifuge Including Soil-Structures Interaction," Proceedings, 16th Annual Offshore Technology Conference, Paper No. OTC 4693, Houston, Texas, May 1984, pp. 399-406.
3. Finn, W.D.L., and Siddharthan, R.V., "Analysis of Dynamic Soil Structure Interaction," Proceedings, First Canadian Conference on Computer Methods in Offshore Engineering, Halifax, Nova-Scotia, May 1984.
4. Finn, W.D.L. and Siddharthan, R.V., "Seismic Response of Caisson-Retained and Tanker Islands," Proceedings, 8th World Conference on Earthquake Engineering, San Francisco, July 1984, pp. 857-864.
5. Finn, W.D.L., Siddharthan, R.V., and Ledbetter, R.H., "Soil-Structure Interaction During Earthquakes," Proceedings, 11th International Conference on Soil Mechanics and Foundation Engineering, Section 1B, Vol. 1, San Francisco, Aug. 1985, pp. 751-757.
6. Siddharthan, R.V., "The Influence of Wave Induced Foundation Movement on the Vertical Response of Piles," Asian Regional Symposium on Geotechnical Problems and Practices in Foundation Engineering, Colombo, Sri Lanka, Feb. 1986, pp. 345-352.



7. Siddharthan, R.V., and Norris, G.M., "Response of Piles Subjected to Wave Induced Soil Motions," 3rd Canadian Conference on Marine Geotechnical Engineering, Volume I, Newfoundland, Canada, June 1986, pp. 181-200.
8. Siddharthan, R.V., and Norris, G.M., "Seismic Displacement Response of Surface Footings in Sand," 5th Canadian Conference on Earthquake Engineering, Ottawa, July 1987, pp. 407- 416.
9. Siddharthan, R.V., and Maragakis, E.A., "Seismic Performance of Flexible Retaining Wall Supporting Dry Cohesionless Soils," Structures and Stochastic Methods (3rd International Conference on Soil Dynamics and Earthquake Engineering), edited by A.S. Cakmak, Princeton, July 1987, pp. 151-166.
10. Maragakis, E.A., Siddharthan, R.V., and Thornton, G., "Application of a Simple Model for the Investigation of Impact between Bridges and Abutments," Pacific Conference on Earthquake Engineering, New Zealand, 1987, Vol. 2, pp. 257-267.
11. Maragakis, E.A., Siddharthan, R.V., and Thornton, G., "Nonlinear Interaction Models for the Evaluation of the Response of Bridge Structures," Ninth World Conference on Earthquake Engineering, Japan, Vol. VI, 1988, pp. 459- 464.
12. Siddharthan, R.V., Norris, G.M. and Maragakis, E.A., "Deformation Response of Rigid Retaining Walls to Seismic Excitation," Structural Dynamics and Soil-Structure Interaction, Proceedings of the 4th International Conference on Soil Dynamics and Earthquake Engineering, Mexico City, Oct. 1989, pp. 315-330.
13. Siddharthan, R.V., Ara, S., and Anderson, J., "Seismic Deformation Behavior of Rigid Retaining Walls," Proceedings, 4th U.S. National Conference on Earthquake Engineering, Vol. 3, May 1990, pp. 673-682.
14. Siddharthan, R.V., Norris, G.M., and Zafir, Z., "Pavement Material Properties using Non-Destructive Testing," Proceedings, 3rd International Conference on Constitutive Laws for Engineering Materials, Tucson, ASME Press, Jan. 1991, pp. 859-862.
15. Siddharthan, R.V., Anooshehpour, A., and Epps, J.A., "Model Tests for Moving Load Effects on Pavements," Presented at the 70th Annual TRB Meeting, Washington D.C., Jan. 1991.
16. Krutz, N.C., Siddharthan, R.V., and Stroup-Gardiner, M., "Investigation of Rutting Potential Using Static Creep Tests on Polymer Modified Asphalt Concrete Mixtures," Presented at the 70th Annual TRB Meeting, Washington D.C., Jan. 1991.
17. Ong, C.L., Newcomb, D.E., and Siddharthan, R.V., "Comparison of Dynamic and Static Backcalculation Modulus for Three Layer Pavements," Presented at the 70th Annual TRB Meeting, Washington D.C., Jan. 1991.
18. Siddharthan, R.V., Gowda, P., and Norris, G.M., "Displacement Based Design of Retaining Walls," Proceedings, Second International Conference on Recent Advances in Geotechnical Engineering and Soil Dynamics, Missouri, Vol. I, March 1991, pp. 657-661.
19. Siddharthan, R.V., "Seismic Design of Abutment Walls," Proceedings, Ninth Structures Congress '91, Indianapolis, April 1991, pp. 741-744.
20. Siddharthan, R.V., "Geotechnical Seismic Consideration for Highway Bridges," Presented at the Ninth Structures Congress '91, Indianapolis, April 1991.
21. Norris, G.M., and Siddharthan, R.V., Zafir, Z., Abdel-Ghaffar, S. and Gowda, P., "Soil-Foundation-Structure Behavior at the Oakland Harbor Wharf," Proceedings, Seminar on Seismological and Engineering Implications of Recent Strong Motion Data, SMIP91, California Department of Conservation, May 1991, pp. 11-1 - 11-11.
22. Siddharthan, R.V., Sebaaly, P.E., and Javaregowda, M., "Influence of Random Error in FWD on Pavement Moduli and Pavement Performance Parameters," Presented at the Symposium on Nondestructive Deflection Testing and Backcalculation for Pavements, Nashville, Aug. 1991.

23. Siddharthan, R.V., "Research Needs in the Development of Numerical Procedures for Seismic Evaluations," Presented at the NSF Workshop on Geotechnical Research Needs in Infrastructure Deterioration in Response to Earthquake Hazards, Davis, Feb. 1992.
24. Zafir, Z., and Siddharthan, R.V., "Dynamic Response of Elastic Layered Medium to Moving Loads," Proceedings, 33rd AIAA/ASME Conference of Structures, Structural Dynamics and Materials, Dallas, Vol. 3, April 1992, pp. 1549-1557.
25. Siddharthan, R.V., and El-Gamal, M., "On the Influence of Seismically Induced Residual Forces on Bridge Abutment Design," Proceedings, 9th Engineering Mechanics Conference, ASCE, Texas, May 1992, pp. 51-54.
26. Whitman, R.V. and Siddharthan, R.V., "Integration of Design into Upper-Level Subject," Proceedings, Workshop on Engrg. Coalition of Schools for Excellence in Education and Leadership (ECSEL), MIT, Oct. 1992.
27. Norris, G.M., Zafir, Z., and Siddharthan, R.V., "Liquefaction and Residual Strength of Loose Sands from Drained Triaxial Tests," Proceedings, 29th Engineering Geology and Geotechnical Engineering Symposium, March 1993, pp. 301-315.
28. Siddharthan, R.V., and El-Gamal, M., "Numerical Predictions for Model No. 1, 2, 3, and 4A," International Conference on Verification of Numerical Procedures for the Analysis of Soil Liquefaction Problems, Vol. I, 1993, pp. 221-246; pp. 395-413; pp. 561-582; pp. 651-664.
29. Chan, A.H.C., Siddharthan, R.V., and Ito, K., "An Overview of Numerical Predictions for VELACS Model No. 3," International Conference on the Verification of Numerical Procedures for the Analysis of Soil Liquefaction Problems, Vol. 2, Edited by K. Arulanandan and R. F. Scott, 1994, pp. 1443-1456.
30. Sebaaly, P.E., Siddharthan, R.V., and Srikantiah, S., "Overlay Design Procedure for Nevada," Presented at the 73 rd Annual Transportation Research Board, Washington, D.C., Jan. 1994.
31. Zafir, Z. and Siddharthan, R.V., "Response of Layered Soil Deposits to Moving Loads," Computer Methods and Advances in Geomechanics, Balkema Publishers, Editors: H. Siriwardena and M. M. Zaman, Vol. 2, May 1994, pp. 1541-1548.
32. Siddharthan, R.V., and El-Gamal, M., "Selection of Optimum Dimensions for Seat-Type Abutments in Seismic Areas," Proceedings, Fifth U.S. National Conference on Earthquake Engineering, Vol. IV, July 1994, pp. 901-910.
33. Sebaaly, P.E., Schoener, P., Siddharthan, R.V., and Epps, J.E., "Implementation of Nevada's Overlay Design Procedure," Proceedings, Fourth International Conference on Bearing Capacity of Roads and Airfields, Vol. II, Minneapolis, 1994, pp. 1139-1162.
34. Sebaaly, P.E., Siddharthan, R.V., and Epps, J.A., "Impact of Nuclear Waste Traffic on Highways," Proceedings, 1994 International High-Level Radioactive Waste Management Conference, Vol. 3, May 1994, pp. 1255-1262.
35. Siddharthan, R.V., Sebaaly, P., and Zafir, Z., "Dynamic Response Evaluation of Inclined Pavements with Interface Shear," Presented at the International Conference on Vehicle-Road and Vehicle-Bridge Interaction held in Holland in June 1994.
36. Norris, G.M., Siddharthan, R.V., Maragakis, M., and El-Gamal, M., "Seismic Pile Foundation and Abutment Research at the University of Nevada, Reno," 10th U.S.-Japan Bridge Engineering Workshop, Lake Tahoe, 1994, Vol. I, pp. 347-361.
37. Siddharthan, R.V., El-Gamal, M., and Maragakis, E.A., "Performance of Bridge Abutments in 1994 Northridge Earthquake," Presented at the Northridge Earthquake Research Coordination Conference, Los Angeles, December, 1994.
38. Siddharthan, R.V., Norris, G.M., and El-Gamal, M., "Dynamic Modeling of Layered Systems to Moving Surface Loads: Applications," Proceedings, Third International Conference on Recent

- Advances in Geotechnical Earthquake Engineering and Soil Dynamics, Vol. II, April 1995, pp. 659-664.
39. Siddharthan, R.V., El-Gamal, M., and Maragakis, E.A., "Influence of Free-Field Strain on Nonlinear Lateral Abutment Stiffnesses," Seventh Canadian Conference on Earthquake Engineering, Montreal, 1995, pp. 739-746.
  40. Siddharthan, R.V., and El-Gamal, M., "Investigation of Performance of Bridge Abutments in 1994 Northridge Earthquake," Presented at the 1995 ACI National Convention, Montreal, Nov. 1995.
  41. Zeng, Y., Anderson, J., Su, F., Yu, G., Lee, Y., Ni, S., Chen, Q., Siddharthan, R. V., and Day, S., "Composite Source Model: Applications to Generating Realistic Strong Ground Motion and to Understanding the Underlying Physical Processes," Proceedings, 10th World Conference on Earthquake Engineering, Paper No. 1798, Mexico, July 1996.
  42. Siddharthan, R.V., and El-Gamal, M., "Characterization of Nonlinear Abutment Stiffnesses for Seismic Design and Retrofit," Proceedings, 4th National Conference on Bridge Research in Progress, Buffalo, June 1996, pp. 83-88.
  43. Siddharthan, R.V., and Norris, G.M., "Difficulties in Modeling Dynamic Soil-Structure Interaction Problems," Presented at the NSF Workshop on Application of Numerical Procedures in Geotechnical Earthquake Engineering, Davis, October 1996, (Invited Presentation), 21pp.
  44. Siddharthan, R.V., Ni, S.D., and Anderson, J., "Nonlinear Amplification Studies in Deep Soil Deposits in Reno, Nevada", Proceedings, Basin and Range Province Seismic Hazard Summit, Miscellaneous Publication 98-2, Utah Geological Survey, 1998, pp. 147-154.
  45. Bell, J., Siddharthan, R.V., Anderson, J., De Polo, C., and Hess, R., "Probabilistic Ground Motion Maps for Nevada by Trend Surface," Basin and Range Province Seismic Hazard Summit, Reno, May 1997.
  46. Siddharthan, R.V., "Case Histories of Retaining Structures and Deep Excavations," Proceedings, Fourth International Conference on Case Histories in Geotechnical Engineering, March 9-12, 1998, St Louis.
  47. Ganeshwara, V., and Siddharthan, R.V., "Seismic Analysis of Reinforced Earth Walls," Proceedings of the 33rd Symposium of Geology and Geotechnical Engineering, Reno, Nevada, March 25-27, 1998, pp. 135-148.
  48. Siddharthan, R.V., and El-Gamal, M., "Development of Abutment Fill Settlement Model From 1994 Northridge Earthquake Data," Proceedings, NEHRP Conference and Workshop on Research on the Northridge, California Earthquake of January 17, 1994, Vol. II, 1998, pp. 165-172.
  49. Siddharthan, R.V., and El-Gamal, M., "Simplified Approach for Nonlinear Stiffness Characterization of Abutments on Piles," Proceedings, Sixth U.S. National Conference on Earthquake Engineering, Seattle, June 1998 (CD-ROM).
  50. Howard, R.W.A., Kutter, B.L., and Siddharthan, R.V., "Seismic Deformation of Reinforced Soil Centrifuge Models," Geotechnical Earthquake Engineering and Soil Dynamics III, Geotechnical Special Publication No. 75, ASCE, Vol. II, Seattle, 1998, pp. 1307-1318.
  51. Siddharthan, R.V., and El-Gamal, M., "Nonlinear Stiffnesses of Abutments on Spread Footings for Seismic Design and Retrofit," Geotechnical Earthquake Engineering and Soil Dynamics III, Geotechnical Special Publication No. 75, ASCE, Vol. I, Seattle, 1998, pp. 446-457.
  52. Siddharthan, R.V., El-Gamal, M., and Maragakis, E.A., "On the Selection of Abutment Stiffnesses in Analytical Seismic Design and Retrofit Procedures," Proceedings, Structural Engineering Congress, Elsevier Publications, Paper No. T143-2, July 1998 (CD-ROM).
  53. Thurai, A., Sebaaly, P.E., and Siddharthan, R.V., "Computer Applications in Pavement Engineering," Second Transportation Speciality Conference, Canadian Society of Civil Engineering, Vol. IVa, Nova Scotia, 1998, pp. 385-394.

54. Siddharthan, R.V., Ganeshwara, V., and Kutter, B.L., "Development of a Seismic Deformation Model for Mechanically Stabilized Earth (MSE) Walls," Proceedings, 8th Canadian Conference on Earthquake Engineering, June 1999, pp. 353-359.
55. Sebaaly, P., Epps, J.A., and Siddharthan, R.V., "Effectiveness of Anti-Stripping Additives in Asphalt Mixtures," Proceedings, 1999 International Materials Research Congress, Mexico, Sept. 1999. (CD ROM)
56. Sebaaly, P.E., Venukanthan, S., and Siddharthan, R. V., "Performance Models for Pavement Rehabilitation," Proceedings, Sixth International Conference on Application of Advanced Technologies in Transportation, Singapore, June 2000. (CD-ROM)
57. Siddharthan, R.V., and El-Mously, M., "Estimation of Ground-Borne Vibrations from Moving Trucks," Proceedings, Fourth International Conference on Recent Advances in Geotechnical Earthquake Engineering, San Diego, Paper No. 2.11, March 2001. (CD ROM)-Reviewed.
58. Siddharthan, R.V., El-Mously, M., Kanatani, M., and Zhang, J. M., "General Report - Session 7: Seismic Analysis and Design of Retaining and Marine Structures, Field Studies on Retaining Walls in California, Japan and Around the World," Proceedings, Fourth International Conference on Recent Advances in Geotechnical Earthquake Engineering, San Diego, March 2001. (CD ROM)
59. Elfass, S., Ladkany, S., Norris, G., Luke, m B., Siddharthan, R., O'Donnell, J., Yang, H., Nguyen, T., Ahmad, A., and Binard, J.P., "A Study of Soil-Structure Interaction using A Laminar Soil-Box," Proceedings, 34th Conference on Engineering Geology and Geotechnical Engineering, Las Vegas, March 2001. (CD ROM)
60. Venukanthan, K. S., Sebaaly, P. E., and Siddharthan, R. V., "Development of a Customized Pavement Management System Software," Proceedings, 5th International Conference on Managing Pavements, Seattle, 2001 August. (CD ROM)
61. Meis, R., Maragakis, M., and Siddharthan, R.V., "Behavior of Buried Pipe Joints Subjected to Seismic Motions," Proceedings, 7th U.S. National Conference on Earthquake Engineering, Boston, July 2002 (CD ROM)- Reviewed.
62. Siddharthan, R.V., Ganeshwara, V., Kutter, B.L., El-Desouky, M., and Whitman, R.V., "Seismic MSE Wall Behavior: Centrifuge Tests and Analytical Studies," Proceedings, 7th U.S. National Conference on Earthquake Engineering, Boston, July 2002 (CD ROM)-Reviewed.
63. Siddharthan, R.V., El-Gamal, M., El-Desouky, M.M., and El-Mously, M., "Applicability of an Abutment Stiffness Model to a Large-Scale Field Test," 81st Annual Transportation Research Board Meeting, Washington, D.C., January 2002 (CD ROM)- Reviewed.
64. Siddharthan, R.V. and El-Desouky, M., "Field-Calibration of an Abutment Stiffness Model for Seismic Analysis," Proceedings, Third International Workshop on Performance-Based Seismic Design and Retrofit of Transportation Facilities, Technical Report TIT/EERG 02-2, Editors: K. Kawashima, I.G. Buckle, C-H Loh, Japan, July 2002, pp. 111-122.
65. Dennett, K., Fritchel, P., Siddharthan, R., and Soltani, A., "Evaluation of Strategies to Control Erosion along US Highway 50 between Carson City and Lake Tahoe," Proceedings, First International Conference on Scour of Foundations, Texas A&M University, Texas, Nov. 2002.
66. Dennett, K., Fritchel, P., Siddharthan, R., and Soltani, A., "Development and Implementation of a Scour Monitoring Program for Selected Bridges Crossing the Truckee River," First International Conference on Scour of Foundations, Texas A&M University, Texas, Nov. 2002.
67. Sebaaly, P.E., Siddharthan, R., and Huft, D., "Impact of Heavy Vehicles on Low Volume Roads," Proceedings, 8th International Conference on Low-Volume Roads, Reno, Paper No. LVR8-1028, June 22-25, 2003.
68. Liu, Y., Luke, B., Skidmore, V., Siddharthan, R.V., and Rodgers, A., "Assessing Contributions from Shallow Soils to Small-Strain Seismic Response of the Las Vegas Basin," Proceedings, 38th Annual Symposium on Engineering Geology and Geotechnical Engineering, Reno, 2003.

69. Skidmore, V., Luke, B., Liu, Y., and Siddharthan, R.V., "Half-space Depth for Soil-Column Seismic Response Studies in the Las Vegas Basin," Proceedings, 38th Annual Symposium on Engineering Geology and Geotechnical Engineering, Reno, 2003.
70. Siddharthan, R.V., Hitti, E., and Sebaaly, P.E., "Interpretation of SHRP Frequency Sweep Test and Pavement Response," Proceedings, 38th Annual Symposium on Engineering Geology and Geotechnical Engineering, Reno, 2003.
71. Siddharthan, R.V., Gopalan, V. and Porbaha, A., "Pore Pressure Response of Treated Sites due to Strong Excitations," Proceedings, International Conference on Deep Mixing 2005, Sweden, May 23-25, 2005, 297-304.
72. Siddharthan, R.V., Selventhiran, K., and Maragakis. E.M., "Seismic Hazard Estimation of Buried Pipelines Subjected to Permanent Ground Deformations (PGD)," Presented at 48 th Annual Meeting of the Association of Engineering Geologists, Las Vegas, Sept. 2005.
73. Siddharthan, R.V., Porbaha, A., and Thuraiajah, A., "Seismic Response of Bridge Approach Fill Sites Improved by Deep Mixing," Proceedings, 5th National Seismic Conference on Bridges and Highways, San Francisco, Sept. 2006. (CD ROM)
74. Schultz, R.A., and Siddharthan, R.V., "Strength of Lunar Soil using the Cam Cap Approach," Proceedings, Lunar and Planetary Science XXXVIII, July 2007 (CD ROM).
75. Siddharthan, R.V., "Near Surface Amplification of Acceleration and Nonlinearity in Sandy Soils," Presented at 52 nd Annual Meeting of the Association of Engineering Geologists, Lake Tahoe, Sept. 2009.
76. Sebaaly, P. E., and Siddharthan, R.V., "Behavior of Asphalt Pavements Subjected to Non-Standard Heavy Vehicles," Proc. of the 7th Int. Conference on Advanced Testing and Characterization of Bituminous Materials (RILEM Symposium ATCBM09), Rhodes, Greece, 2009, pp. 1071-1080.
77. Siddharthan, R.V., Vishnan, G., and Bukhary, S., "Application of Displacement-Based Seismic Design Approach for MSE Walls with Uneven Reinforcement," Proceedings, 9th US National Earthquake Engineering Conference, Paper No. 1033, Toronto, Canada, July 2010.
78. Thornley, J., Siddharthan, R.V., and Stanley, D., "MSE Wall Corrosion in Nevada - a Case Study in Geotechnical Asset Management," Geotechnical Asset Management Symposium, Oklahoma City, TRB, August 23-26, 2010.
79. Siddharthan, R.V., and Bukhary, S., "Characteristics of Laboratory-Measured Saturated Soil Behavior under Multidirectional Shaking," Proceedings, 43rd Engineering Geology and Geotechnical Engineering Symposium, Paper No. 58, University of Nevada, Las Vegas, March, 2011 (CD Rom).
80. Siddharthan, R.V., and Bukhary, S., "Evidence of Nonlinearity in Soils and Modeling under Strong Excitations," Proceedings, 36th Southwest Geotechnical Engineers Conference, Reno, April 2011.
81. Cycholl, D. M. and Siddharthan, R.V., "Gold Mine Heap Leach Pad Slope Stability and Deformation Analysis Concerning Solution Injection Wells," Proceedings, 44th Symposium on Engineering Geology and Geotechnical Engineering, Reno, March 2012.
82. Muliika, A., and Siddharthan, R.V., "Ultimate Strength Capacity of Geogrids under Elevated Temperatures," Proceedings, 44th Symposium on Engineering Geology and Geotechnical Engineering, Reno, March 2012.
83. Siddharthan, R.V., Hajj, E. and Nitharsan, R., "Response and Performance of Layered Systems under 3D Contact Stress Distribution," Proceedings, 44th Symposium on Engineering Geology and Geotechnical Engineering, Reno, March 2012.
84. Kasozi, A., Mahamud, R. and Siddharthan, R.V., "Investigation of Temperature Variation in Soil Backfill and its Consequence to Tensile Strength," Proceedings, Geosynthetics 2013, Long Beach, CA, April 2013.

85. Nazarian, S., Rada, G., Siddharthan, R.V., Sivanesarwan, S., and Thyagarajan, S., "Evaluation of Accuracy and Precision of Several Highway Speed Deflection Devices," Proceedings of the Conference on Pavement Evaluation 2014, Blacksburg, VA, Sept. 2014.
86. Siddharthan, R.V., Nasimifar, M., Rada, G., Nazarian, S., Sivanesarwan, S., and Thyagarajan, S., "Investigation of Applicability and Use of a Pavement Response Model with High Speed Deflection Devices (HSDDs)" Proceedings of the Conference on Pavement Evaluation 2014, Blacksburg, VA, Sept. 2014.
87. Siddharthan, R.V. and Nasimifar, M., "Use of 3D-Move for Pavement Condition Evaluations with HSDDs" Proceedings, Third Conference on Deflection at Road Traffic Speeds (DaRTS3), Blacksburg, VA, Sept. 2014.
88. Rada, G., Nazarian, S., Siddharthan, R.V., and Sivanesarwan, S., "Use of High-Speed Deflection Devices in Network-Level PMS Applications: Are We Ready?," Proceedings, 9th International Conference on Managing Pavement Assets (ICMPA9), Washington, D.C., May 2015.
89. Rada, G., Nazarian, S., Siddharthan, R.V., Thyagarajan, S., and Sivanesarwan, S., "Network Level Pavement Structural Evaluation," International Symposium on Non-Destructive Testing in Civil Engineering (NDT-CE), Berlin, Sept. 2015.
90. Samuel, R., Badrzadeh, Y., Luke, B., Lawrence, A., Siddharthan, R.V., and Bafghi, A., "Seismic Site Characterization in Support of Drilled Shaft Design in Southern Nevada," International Foundations Congress. & Equipment Exposition ([IFCEE 2015](#)), ASCE, San Antonio, TX, 2015.
91. Hajj, E.Y., Batioja-Alvarez, D., and Siddharthan, R.V., "Assessment of Pavement Damage from Bus Rapid Transit: A Case Study for State of Nevada," Presented at the 95th TRB Annual Meeting, Washington D.C., Jan. 2016.
92. Nasimifar, M., Siddharthan, R.V., Rada, G., and Nazarian, S., "Validation of Dynamic Simulation of Slow Moving Surface Deflection Measurements." Presented at the 95th TRB Annual Meeting, Washington D.C., Jan. 2016.
93. Nasimifar, M., Siddharthan, R.V., Hajj, E. and Motamed, R., "Investigation of 3D-Move responses under traffic speed deflection devices (TSDDs)," The Roles of Accelerated Pavement Testing in Pavement Sustainability, Proceedings, 5th International Conference on Accelerated Pavement Testing, San Jose, Costa Rica, Sept. 2016, pp. 161 – 176, ISBN: 978-3-319-42796-6.
94. Nabizadeh, H., Hajj, E.Y., Siddharthan, R.V., Elfass, S., and Sebaaly, P.E., "Estimation of In-Situ Shear Strength Parameters for Subgrade Layer Using Non-Destructive Testing," The Roles of Accelerated Pavement Testing in Pavement Sustainability, 5th International Conference on Accelerated Pavement Testing, San Jose, Costa Rica, Sept. 2016, pp. 525-538, ISBN: 978-3-319-42796-6, Also: Aguiar-Moya J., Vargas-Nordbeck A., Leiva-Villacorta F., Loría-Salazar L. (eds) The Roles of Accelerated Pavement Testing in Pavement Sustainability. Springer, Cham. 2016.
95. Kazemi, S. F., Hand, A. J. T., Hajj, E. Y., Sebaaly, P. E., and Siddharthan, R.V., "Modeling Interface Debonding Between Asphalt Layers under Dynamic Aircraft Loading," International Conference on Highway Pavements & Airfield Technology, August 27-30, Philadelphia, PA. 2016.
96. Bitsani\*, I.G. Buckle, R. Motamed, P. Laplace, D. Istrati, S. Elfass, Siddharthan, R.V., "Design of a Large-Scale Laminar Soil Box for Nonlinear Soil-Structure Interaction Experiments of Nuclear Power Plants". 1st US-Chile Workshop on Bridge Earthquake Engineering, University of Nevada, Reno, August 30-31, 2016.
97. Nabizadeh, H., Hajj, E. Y., Siddharthan, R. V., Elfass, S., and M., Nimeri., "Application of Falling Weight Deflectometer for the Estimation of In-Situ Shear Strength Parameters of Subgrade Layer," 10th International Conference on the Bearing Capacity of Roads, Railways and Airfields (BCCRRA 2017), Loizos A., Al-Qadi I., Scarpas T. (eds) Bearing Capacity of Roads, Railways and Airfields. CRC Press, London. June. 2017.

98. Kazemi, S. F., Sebaaly, P. E., Siddharthan, R. V., Hajj, E. Y., Hand, A. J. T., and Md., Ahsanuzzaman, "Dynamic Pavement Response Coefficient to Estimate the Impact of Variation in Dynamic Vehicle Loading," 10th International Conference on the Bearing Capacity of Roads, Railways and Airfields (BCRRA 2017), June 28-30, Athens, Greece, Feb 2017, Also: Loizos A., Al-Qadi I., Scarpas T. (eds) Bearing Capacity of Roads, Railways and Airfields. CRC Press, London. June. 2017.
99. Batioja-Alvarez, D.D., Kazemi, S.F., Hajj, E.Y., Hand, A. J. T., and Siddharthan, R.V., "Case Study for Overweight Vehicle Pavement Damage Associated Costs," International Conference on Advances in Materials and Pavement Performance Prediction (AM3P), Qatar, April 2018.
100. Siddharthan, R.V., Hajj, E.Y., and Nasimifar, M., "Moving Deflectometer Devices to Predict Critical Pavement Responses," International Conference on Advances in Materials and Pavement Performance Prediction (AM3P), Qatar, April 2018.
101. Nimeri, M., Nabizadeh, H., Hajj, E.Y., Siddharthan, R.V. and Elfass, S., "Nucleus Approach for Pavement Analysis under Superheavy Load," International Conference on Advances in Materials and Pavement Performance Prediction (AM3P), Qatar, CRC Press, London, April 2018.
102. Nabizadeh, H., Elfass, S., Hajj, E.Y., Siddharthan, R.V., Nimeri, M. and Pirattheepan, M., "Experimental Performance of Pipes Buried under Flexible Pavements Subjected to Heavy Dynamic Loads," Submitted for Publication at UESI Pipelines 2018 Conference, July, 2018.
103. Nabizadeh, H., Hajj, E. Y., Siddharthan, R. V., Nimeri, M. and Elfass, S., "Application of Light Weight Deflectometer to Estimate the Strength Parameters of Subgrade with Softening Behavior," Paper No: 18-05437, Transportation Research Board 97th Annual Meeting, Washington, D.C., January 2018.
104. Bitsani, D. Istrati, I. G. Buckle, R. Motamed, S. Elfass, P. Laplace, R. Siddharthan, "Design of a Large-Scale Biaxial Soil-Box for Seismic Soil-Structure-Interaction Studies," Proc. 11th National Conference on Earthquake Engineering, Los Angeles California, June 25-29, 2018
105. Nabizadeh, H., Hajj, E. Y., Siddharthan, R. V., Nimeri, M. and Elfass, S., "Modified Wedge Method for Investigation of Side Slope Failure in Flexible Pavements Subjected to Heavy Vehicle Loads," Paper No: 19-04771, Transportation Research Board (TRB) 98th Annual Meeting, Washington, D.C., January 2019.
106. Nimeri, M., Hajj, E.Y., Nabizadeh, H., Siddharthan, R.V., and Elfass, S, "Load Nucleus Approach for Flexible Pavement Responses under Complex Vehicles Move," Presentation at the Transportation Research Board (TRB) 98th Annual Meeting, Washington, D.C., January 2019.
107. Nimeri, M., Nabizadeh, H., Hajj, E.Y., Siddharthan, R.V., Elfass, S., and Pirattheepan, M., "Design, Fabrication, and Instrumentation of a Full-Scale Pavement Testing Box," American Society of Civil Engineers, 131-142, 2019.
108. Nabizadeh, H., Siddharthan, R. V., Hajj, E. Y., Nimeri, M. and Elfass, S., "Investigation of the Influence of Slopped Shoulder on Pavement Responses Using Full-Scale Experiments," Conference on Geo-Structural Aspects of Pavements, Airfields, and Railways, Colorado Springs, April 2019.
109. Nabizadeh, H., Siddharthan, R. V., Hajj, E. Y., Nimeri, M. and Elfass, S., "Bearing Capacity Analysis of Soft Subgrade Pavement Layers Under Superheavy Load Vehicle Movements," Conference on Geo-Structural Aspects of Pavements, Railways, and Airfields, Colorado Springs, GAP, April 2019.
110. Hajj, E.Y., Siddharthan, R. V., Nabizadeh, H., Kazemi, F., "Webinar: Evaluation of Superheavy Load Movement on Flexible Pavements," TRB, April 23, 2019. 403 Participants.
111. Bitsani, A., Istrati, D., Buckle, I.G., Motamed, R., Elfass, S., Laplace, P., Siddharthan, R.V., "Analytical Studies of a Large-Scale Soil-box for Experiments in Soil-Structure Interaction," Structural Mechanics in Reactor Technology (SMiRT) Conf, 04-09, Aug. 2019, Charlotte, NC, USA.
112. Nabizadeh, H., Hajj, E. Y., Siddharthan, R. V., Nimeri, M., Elfass, S., and Pirattheepan, M., "Experimental Performance of Buried Concrete Utility under Flexible Pavements Subjected to

- Heavy Dynamic Loads,” International Conference on Advances in Materials and Pavement Performance Prediction (AM3P), Virtual Meeting, CRC Press, London, Aug. 3 – 7, 2020.
113. Nabizadeh, H., Hajj, E.Y., Siddharthan, R.V., Elfass, S., and Nimeri, M., “Using Hyperbolic Stress–Strain Relationship to Estimate Shear Strength Parameters of Pavement Subgrade.” Presentation 100th Annual Meeting of the Transportation Research Board (TRB), Paper No. 21-03198, Jan. 2021.
  114. Nabizadeh, H., Siddharthan, R. V., Nimeri, M., Hajj, E. Y., and Elfass, S., “Investigation of Instantaneous Shear Failure in Pavement Subgrade Subjected to Superheavy Load Vehicle,” Fourth International Conference on Transportation Geotechnics, Paper No. 321, May 2021.
  115. Elfass, S., Buckle, I., Laplace, P., Isarati, D., Motamed, R., and Siddharthan, R., “Design of a Large-Scale, Biaxial Soil Box and Shake Table for Seismic Soil-Structure Interaction Studies,” Large-Scale Shake Table Testing for the Assessment of Soil-Foundation-Structure System Response for Seismic Safety of DOE Facilities, PEER DOE Virtual Workshop: May 17-18, 2021.
  116. Isarati, Buckle, I., Elfass, S., Laplace, P., Motamed, R., and Siddharthan, R., “Advanced Numerical Modeling of a Large-Scale Soil-box for Experiments in Soil-Structure-Interaction,” Large-Scale Shake Table Testing for the Assessment of Soil-Foundation-Structure System Response for Seismic Safety of DOE Facilities, PEER DOE Virtual Workshop: May 17-18, 2021.
  117. Siddharthan, R., “Considerations in Sustainable Economic Initiatives in Sri Lanka: Recovering Era,” Keynote Address, International Conference on Engineering, JUICE – 2022, University of Jaffna, Sri Lanka, Aug. 17 – 18, 2022.

## Research reports

1. Siddharthan, R.V., and Finn, W.D.L., “STAB-MAX: Analysis of Instantaneous Instability Induced in Seafloor Sands by Large Waves,” Soil Mechanics Series, Soil Dynamics Group, University of British Columbia, Sept. 1979.
2. Siddharthan, R.V., and Finn, W.D.L., “STAB-W: Analysis of Instability Induced in Seafloor Sands by Cumulative Effects of Storm Waves,” Soil Mechanics Series, Soil Mechanics Group, University of British Columbia, Dec. 1979.
3. Siddharthan, R.V., and Finn, W.D.L., “TARA-1: Two-Dimensional Non-Linear Static and Dynamic Response Analysis: Total Stress,” Soil Mechanics Series, Soil Dynamics Group, University of British Columbia, May 1982.
4. Siddharthan, R.V., and Finn, W.D.L., “TARA-2: Two-Dimensional Non-Linear Static and Dynamic Response Analysis: Effective Stress,” Soil Mechanics Series, Soil Dynamics Group, University of British Columbia, May 1982.
5. Siddharthan, R.V., “Dynamic Effective Stress Response of Surface and Embedded Footings in Sand,” Report No. CCEER 87-1, Center for Civil Engineering Earthquake Research, University of Nevada-Reno, Reno, Report to Engineering Foundation, July 1987.
6. Siddharthan R.V., and Stroup-Gardiner, M., “Task 7.1-Structural Capacity of Selected Nevada Highways,” Report to University of Nevada Transportation Research Center, Aug.,1989, Revised Jan. 1991.
7. Siddharthan, R.V., Bell, J.W., Anderson, J.G., and dePolo, C., “Peak Bedrock Acceleration for Reno-Carson City Region,” Report No. 91-01, submitted to Nevada Department of Transportation, Jan. 1991.
8. Siddharthan, R.V., “Risk Based Approach for Rail Route Selection,” Report No. CIS-91-10, Department of Energy, March 1991.



9. Sebaaly, P.E., Siddharthan, R.V., and Javaregowda, M., "Evaluation of FWD Data for NDOT Overlay Design Procedure," Report to Nevada Department of Transportation, March 1991.
10. Siddharthan, R.V., and Zafir, Z., "Response of Porous Layered Deposits to Moving Loads Using Cray," Scene, The National Supercomputing Center, Las Vegas, Vol. 1, No. 3, Aug. 1991, pp. 3-4.
11. Norris, G.M., Siddharthan, R.V., Zafir, Z., Abdel-Ghaffar, S. and Gowda, P., "Soil-Foundation-Structure Behavior at the Oakland Outer Harbor Wharf," Report No. CCEER 91-2, Submitted to Calif. Strong Motion Instrumentation Program, July 1991.
12. Norris, G.M., Gowda, P., Siddharthan, R.V., Sanders, D., and Ahmad, U., "Laterally Loaded Pile Analysis for Layered Soil Based on the Strain Wedge Model," Report No. CIS 91-11, College of Engineering, University of Nevada, Reno, Aug. 1991.
13. Siddharthan, R.V., Bell, J.W., Anderson, J.G., and dePolo, C., "Peak Bedrock Acceleration for Las Vegas Valley Region," Report to Nevada Department of Transportation, Nov. 1991.
14. Norris, G.M., Siddharthan, R.V., Zafir, Z. and Gowda, P., "Seismic Lateral and Rotational Pile Foundation Stiffnesses at Cypress," CCEER Report No. 91-3, Dept. of Civil Engineering, University of Nevada, July 1991.
15. Stroup-Gardiner, M., Siddharthan, R.V., and Lee, B., "Chip Seal Induced Rutting," Report to Nevada Department of Transportation, March 1992.
16. Sebaaly, P.E., Siddharthan, R.V., Javaregowda, M., and Srikantiah, S., "Mechanistic Overlay Design Procedure for the State of Nevada," Report No. 410-4, Submitted to Nevada Department of Transportation, June 1992.
17. Siddharthan, R.V., and Zafir, Z., "Response of Layered Deposits to Traveling Surface Pressure Waves," Report No. CCEER-92-5, Submitted to the National Science Foundation, Sept. 1992.
18. Siddharthan, R.V., and El-Gamal M., "Class - A Prediction of VELACS Project," Report to National Science Foundation, Sept. 1992.
19. El-Gamal, M. and Siddharthan, R.V., "Bridge Abutments: Optimum Seismic Design," Report No. CIS 92-5, Submitted to NWPO, College of Engrg., Nov. 1992.
20. Siddharthan, R.V., Bell, J.W., Anderson, J.G., and dePolo, C., "Peak Bedrock Acceleration for the State of Nevada," Report to Nevada Department of Transportation, Final Report, Oct. 1993.
21. Siddharthan, R.V., and Bhandarkar, G., "Economic Impact Assessment of Yucca Mountain Spent Fuel Transportation on Nevada's Transportation Infrastructure: Pavement Capacity Analysis," Report to the Department of Energy, May 1993.
22. Siddharthan, R.V., and El-Gamal M., "Class - B Prediction of VELACS Project," Report to the National Science Foundation, April 1993.
23. Zafir, Z. and Siddharthan, R.V., "MOVLOAD: A Program to Determine the Behavior of Nonlinear Horizontally Layered Medium Under Moving Load," Report No. CCEER-93-9, Civil Engineering Department, University of Nevada, Reno, Aug. 1993.
24. Siddharthan, R.V., Sebaaly, P.E. and Obeaid, S.M., "Costs of Maintaining Highway Pavements for Spent Fuel Traffic," Report No. CIS 93-10, Center for Infrastructure Studies, University of Nevada, Sept. 1993.
25. Siddharthan, R.V., and El-Gamal, M., "Prediction of Soil Liquefaction in Centrifuge Model Tests," Final Report to the National Science Foundation, March 1994.
26. Sebaaly, P.E., Siddharthan, R.V., Egbert, D., and Becker, B., "Choosing A Pavement Rehabilitation Technique: A Computer Program," Report CIS 93-16, March 1994.
27. Obeaid, S., Siddharthan, R.V., Coulson M.A., and Carr J., "Potential Railroad Alignment from UP/SP Across Northern Nevada to the Yucca Mountain Site," Report No. CIS 94-1, Submitted to DOE, Jan. 1995.

28. Siddharthan, R.V., El-Gamal, M., and Maragakis, E.A., "Nonlinear Bridge Abutment Stiffnesses: Formulation, Verification and Design Curves," Report No. CCEER 95-01, Civil Engineering Department, University of Nevada, Reno, January 1995.
29. Thurai, A., Siddharthan, R.V., and Epps, J.A., "Mechanistic Overlay Design Procedure with Milling for the State of Nevada - User's Manual," Report to Nevada Department of Transportation, Department of Civil Engineering, February 1995.
30. Ambroz, J., Thurai, A., Sebaaly, P., Siddharthan, R.V., and Epps, J.A., "Evaluation of Rehabilitation Techniques for Flexible and Rigid Pavements in Nevada," Report Submitted to Nevada Department of Transportation, February 1995.
31. El-Gamal, M., and Siddharthan, R.V., "Programs to Compute Translational Stiffnesses of Seat-Type Bridge Abutments," Report No. CCEER 96-1, Department of Civil Engineering, University of Nevada, Reno, March 1996.
32. Siddharthan, R.V., and El-Gamal, M., "Abutment Movements and Bridge Design Implications in Strong Earthquakes," Final Report Submitted to NSF, July 1996.
33. Siddharthan, R.V., and El-Gamal, M., "Investigation of Performance of Bridge Abutments in 1994 Northridge Earthquake," Final Report Submitted to NSF, July 1996.
34. Yao, J., and Siddharthan, R.V., "3D-MOVE: A Program to Determine Response of Horizontally Layered Viscoelastic Medium Under 3D Moving Load," Report No. CCEER 97-8, Department of Civil Engineering, University of Nevada, Reno, August 1997.
35. Siddharthan, R.V., Ganeshwara, V., Kutter, B.L., and Whitman, R.V., "Centrifuge Tests and Analytical Modeling of Permanent Seismic Displacement of MSE Walls," CCEER Report, Department of Civil Engineering, University of Nevada, Reno, January 1999.
36. Sebaaly, P.E., Venukathan, S., Siddharthan, R.V., Hand, A., and Epps, J.A., "Development of Pavement Network Optimization System," Research Report No. 1198-1, Pavement Materials Program, Department of Civil Engineering, University of Nevada, Reno, March 1999.
37. Venukathan, S., Siddharthan, R.V., and Sebaaly, P.E., "User's Manual: Program for Pavement Management System (PMS) Analysis," Research Report No. 1198-2, Pavement Materials Program, Department of Civil Engineering, University of Nevada, Reno, March 1999.
38. Krishnamenon, N., and Siddharthan, R.V., "3D-MOVE (DOS Version 2) - A Program to Determine the Response of Horizontally Layered Viscoelastic Medium Under 3D Moving Load," CCEER Report No. 2000-3, Department of Civil Engineering, University of Nevada, Reno, February 2000.
39. Pirathapan, Y., Siddharthan, R.V., and Krishnamenon, N., "3D-MOVE (Windows Version 2) - A Program to Determine the Response of Horizontally Layered Viscoelastic Medium Under 3D Moving Load," CCEER Report No. 2000-5, Department of Civil Engineering, University of Nevada, Reno, February 2000.
40. Siddharthan, R.V., Krishnamenon, N., and Sebaaly, P.E., "Verification of the Pavement Response Model and Program 3D-MOVE," CCEER Report, Department of Civil Engineering, University of Nevada, Reno, May 2000.
41. Siddharthan, R.V., Sebaaly, P.E., and Epps, J.A., "Pavement Response Models Using 3D-Move," Annual Report to U.S. Army Research Office, Jan. 2001.
42. Sebaaly, P.E., R. Siddharthan, M. El-Desouky, Y. Pirathapan, E. Hitti, and Y. Vivekanathan, "Effects of Off-Road Tires on Flexible & Granular Pavements," Final Report, South Dakota Department of Transportation, SD1999-15-F, December 2001.
43. Saiidi, M., Gopalakrishnan, B., Reinhart, E., and Siddharthan, R.V., "A Preliminary Study of Shake Table Response of A Two-Column Bridge Bent on Flexible Footings," Report No. CCEER 02-3, Department of Civil Engineering, University of Nevada, Reno, June 2002.
44. Siddharthan, R.V., Sebaaly, P.E., and Epps, J.A., "Pavement Material Characterization and Response," Final Report to U.S. Army Research Office, April 2003.

45. Siddharthan, R.V., Fine, R., and Dennett, K. E., "Study of Flexible Delineator Post Performance and Revision of Existing Acceptance Criteria," Final Report to Nevada Department of Transportation, July 2003.
46. Reinhart, E., Saiidi, M.S., and Siddharthan, R.V., "Seismic Performance of a CFRP/Concrete Bridge Bent on Flexible Footing," Final Report to National Science Foundation, Report No. CCEER 03-04, University of Nevada, Reno, August 2003.
47. Meis, R.D., Maragakis, E.M., Siddharthan, R.V., "Behavior of Underground Piping Joints Due to Static and Dynamic Loading," Technical Report MCEER-03-0006, MCEER, NY, Nov. 2003.
48. Siddharthan, R.V. and Suthahar, N., "User's Guide for DSM-LIQ: Liquefaction Analysis of DSM Sites," Report to SaLUT, Agreement DTFH61-02-C-00068- SaLUT Project No. 02-067, Department of Civil and Environmental Engrg., University of Nevada, Reno, Feb. 2005.
49. Siddharthan, R.V. and Suthahar, N., "Simplified Seismic Evaluation of Sites Improved by Deep Mixing," Final Report to SaLUT, Agreement DTFH61-02-C-00068- SaLUT Project No. 02-067 Department of Civil and Environmental Engrg., University of Nevada, Reno, Feb. 2005.
50. Siddharthan, R.V. and Suthahar, N., "Simplified Seismic Response of DM Treated Site," Research Digest, National Deep Mixing (NDM) Research Program, Federal Highway Administration Pool Fund Study, NDM 111, March 2005.
51. Siddharthan, R.V., Thornley, J., and Luke, B., "Review of MSE Wall Corrosion at I-515/Flamingo Intersection," NDOT Research and Technology Review, Vol. 18(2), Jan. 2009.
52. Thornley, J., Siddharthan, R.V., and Luke, B., "Investigation of Corrosion at MSE Walls in Nevada," NDOT Research and Technology Review, Vol. 18(3), July 2009.
53. Thornley, J., Siddharthan, R.V., and Luke, B., "Investigation of Corrosion at MSE Walls in Nevada," Final Report Submitted to NDOT, November 2009.
54. Hajj, E. Y., Sebaaly, P. E., Siddharthan R. V., and A. Ulloa, "Recommended Deviator and Confining Stresses for the Flow Number Test," Report submitted to Mix ETG, January 2009.
55. Hajj, E.Y., Ulloa, A., Sebaaly, P.E., Siddharthan, R.V., "Characteristics of Dynamic Triaxial Testing of Asphalt Mixtures," Final Report to FHWA, Contract No. DTFH61-07-H-00009, Feb. 2010.
56. Hajj, E. Y., Ulloa, A., Sebaaly, P. E., and Siddharthan, R.V., "Repeated Load Permanent Deformation Triaxial Testing Conditions of Asphalt Mixtures," Final Report, FHWA, May 2011.
57. Abodallahi, B, Saiid, S. and Siddharthan, R.V., "State-of-the-Art Literature Survey of Bridge Abutment Research," Report to Caltrans, April 2013.
58. Siddharthan, R.V., Norris, G.M., and Kasozi, A., "Investigation of the Use of Geogrid Reinforcement for MSE Walls Under Elevated Temperature Conditions in Nevada," Agreement No: P171-10-803, Report Submitted to NDOT, October 2013.
59. Elie Y.H., Alvaro U., Sebaaly, P.E. and Siddharthan, R.V., "Rutting Performance of Asphalt Mixtures under Critical Conditions," Final Report, Contract FHWA DTFH61-07-H-00009, June 2014.
60. Siddharthan, R.V., and Nelson P., "Investigation of Corrosion of MSE Walls in Nevada, Phase II," Draft Report submitted to NDOT, Nov. 2014.
61. Siddharthan, R.V., Hajj, E., Sebaaly, P.E., and Nitharsan, R., "Formulation and Application of 3D-MOVE: A Pavement Analysis Program," Report Submitted to FHWA Project DTFH61-07-H-00009, June 2015.
62. Hajj, E., Siddharthan, R.V., Elfass, S. A., Piratheepan, M., Pournoman, S., "Large-Scale Tank Testing on Flexible and Rigid Pavement Layers with Geosynthetics. NCHRP 01-50: Quantifying the Influence of Geosynthetics on Pavement Performance (pp. 454)," Washington D.C.: National Cooperative Highway Research Program, Transportation Research Board of The National Academies, Sept. 2015

63. Luo, R., Gu, F., Luo, X., Lytton, R. L., Hajj, E., Siddharthan, R., Elfass, S. A., Piratheepan, M., Pournoman, S., NCHRP 01-50: Quantifying the Influence of Geosynthetics on Pavement Performance (pp. 675). Washington D.C.: National Cooperative Highway Research Program, Transportation Research Board of The National Academies, Nov. 2015.
64. Siddharthan, R.V., Nasimifar, M., and Luke, B., "Evaluation of the Role of Cementitious-Caliche Layers on Axial Capacity of Drilled Shafts," Final Report Submitted to Nevada Department Transportation, Jan. 2016.
65. Rada, G., Nazarian, S., Visintine, B., and Siddharthan, R.V., and Thyagarajan, S., Pavement Structural Evaluation at the Network Level: Final Report – DTFH61-13-C-00014, Report FHWA-HRT-15-074, Federal Highway Administration, Transportation Research Board of The National Academies, Sept. 2016.
66. Abdollahi, B., Saïidi, M., Siddharthan, R., and Elfass, S., "Shake Table Studies on Soil – Abutment - Structure Interaction in Skewed Bridges," Final Report Submitted to CalTrans, Report No. CCEEER 17-04, Center of Civil Engineering Earthquake Research, University of Nevada, Reno, July 2017
67. Elie Y. H., Siddharthan, R.V., Nabizadeh, H., Elfass, S., Nimeri, M., Kazemi, S.F., Batioja, D., and Piratheepan, M., Analysis Procedures for Evaluating Superheavy Load Movement on Flexible Pavements: Final Report – DTFH61-12-C-00031, Federal Highway Administration, Transportation Research Board of The National Academies, Feb. 2018.
68. Hajj E. Y., Siddharthan, R.V., Nabizadeh H., Elfass S., Nimeri N., Kazemi S. F., Batioja-Alvarez D., Piratheepan M., "Analysis Procedures for Evaluating Superheavy Load Movement on Flexible Pavements, Volume I: Final Report," Report No. FHWA-HRT-18-049, Federal Highway Administration, Washington D.C. Oct. 2018.
69. Nabizadeh H., Hajj E. Y., Siddharthan, R. V., Elfass S., "Analysis Procedures for Evaluating Superheavy Load Movement on Flexible Pavements, Volume IV: Appendix C, Material Characterization for Superheavy Load Movement Analysis," Report No. FHWA-HRT-18-052, Federal Highway Administration, Washington D.C. Oct. 2018.
70. Nimeri N., Nabizadeh H., Hajj E. Y., Siddharthan, R. V., Elfass S., Piratheepan M., "Analysis Procedures for Evaluating Superheavy Load Movement on Flexible Pavements, Volume II: Appendix A, Experimental Program," Report No. FHWA-HRT-18-050, Federal Highway Administration, Washington D.C. Nov. 2018.
71. Nabizadeh, H., Nimeri, M., Hajj, E., Siddharthan, R., Elfass, S. A., Piratheepan, M., "Analysis Procedures for Evaluating Superheavy Load Movement on Flexible Pavements, Volume VI: Appendix E, Ultimate and Service Limit Analyses (FHWA-HRT-18-054 ed., vol. VI, pp. 42)," Washington, D.C., U.S. Department of Transportation; Federal Highway Administration, 2019.
72. Kazemi, S.-F., Nabizadeh, H., Nimeri, M., Batioja, D., Hajj, E., Siddharthan, R., Hand, A. J., "Analysis Procedures for Evaluating Superheavy Load Movement on Flexible Pavements, Volume X: Appendix I, Analysis Package for Superheavy Load Vehicle Movement on Flexible Pavement (SuperPACK) (FHWA-HRT-18-058 ed., vol. X, pp. 47)," Washington, D.C., U.S. Department of Transportation; Federal Highway Administration, 2019.
73. Nabizadeh, H., Siddharthan, R., Elfass, S. A., Hajj, E., "Analysis Procedures for Evaluating Superheavy Load Movement on Flexible Pavements, Volume VII: Appendix F, Failure Analysis of Sloped Pavement Shoulders" (FHWA-HRT-18-055 ed., vol. VII, pp. 51), Washington, D.C., U.S. Department of Transportation; Federal Highway Administration, 2019.
- Nabizadeh, H., Hajj, E., Siddharthan, R., Nimeri, M., Elfass, S. A., Piratheepan, M., "Analysis Procedures for Evaluating Superheavy Load Movement on Flexible Pavements, Volume V: Appendix D, Estimation of Subgrade Shear Strength Parameters Using Falling Weight

Deflectometer” (FHWA-HRT-18-053 ed., vol. V, pp. 47), Washington, D.C., U.S. Department of Transportation; Federal Highway Administration, 2019.