Curriculum Vitae

LAKSHMI N. REDDI, Ph.D.

Interim Provost
New Mexico State University, Las Cruces, NM

CAREER SUMMARY

Administrative Experience

Dr. Reddi is currently serving as the Interim Provost and Chief Academic Officer at New Mexico State University. In his tenure as Interim Provost, the Offices of Information Technology, Student Success, International Programs and Compliance, and the Offices of Institutional Effectiveness and Analysis, have all undergone changes in leadership and/or organizational structure. These changes have resulted in significant operational efficiencies and brought synergy into all aspects of academic affairs. Due largely to strategic recruitment and retention methods, student enrollments and retention/persistence have increased. Academic operations are now more effective, some processes are in the process of being automated, and the motto, "Communicate, Coordinate, Integrate," is received by the campus community extremely well.

During his eight years as Dean of Engineering, prior to his Interim Provost appointment, he had doubled research funding to its historic high in the college and brought significant visibility to the college profile. Extramural expenditures have exceeded $300k/year/faculty, typical of top engineering colleges among R1 universities. He had taken the alumni engagement and private funding to all-time highs. He had engaged regional industries in New Mexico by focusing on industry-sponsored capstone design courses. He had negotiated for a new building in the college, which was approved with $40 million bond funding. He secured Regents' approvals for differential tuition rates as additional revenue stream for the college. He repurposed and broadened the scope of an existing Aggie Innovation Space with $5 million funding he secured from the State of New Mexico, and additional $2 million from private donors. This space serves the whole campus with experiential learning opportunities and is now one of the largest in the region. The additional revenues generated through state funding and private sources made the college financially sound.

Dr. Reddi had established two student-centric initiatives - Eloy Torrez Family Engineering Learning Communities and Ron Seidel Engineering Leadership Institute, with funding exclusively from private sources. The Torrez Learning Communities offers a wide variety of student services outside the classroom hours. The student-centric initiatives in the college had attracted national attention (PBS Informed Series). The Ron Seidel Engineering Leadership Institute has a unique curricular design, and it prepares cohorts of future engineering leaders, with no financial burden to students. Largely due to these student-centric initiatives, the first-year student retention, which is typically a challenge in STEM disciplines, had risen to 90%.

New undergraduate programs were established with industry support – Geomatics, and

Computer Engineering. Geomatics had received Education Award from the National Council of Examiners for Engineering and Surveying for its unique curricular design. The new graduate program, Masters in Information Technology, has become one of the most popular programs on campus. The undergraduate program in Information and Communication Technology, fully online, is unique in the country. Current educational and research initiatives in the college are interdisciplinary and synergistic, spanning multiple colleges in the areas of manufacturing and systems, bioprocesses, aerospace engineering, data analytics, cybersecurity, and computer engineering.

Prior to joining NMSU, Dr. Reddi served as the Dean of Graduate School for five years at the Florida International University (FIU). As the largest public R1 university in South Florida with a total student enrollment of 55000, FIU was one of the fastest-growing universities in the US with steep ascent in national rankings (*Washington Monthly* rankings of national universities placed FIU 53rd in the country in 2012, 41st in 2013, 24th in 2014, and 17th in 2015). With a staff of 48 including three associate/assistant deans and six academic/admissions/budget directors, Dr. Reddi had oversight and advocacy of university-wide graduate education consisting of 87 masters and 31 doctoral programs, which were housed in 11 colleges with more than 7200 graduate students. With the strategic goal of bringing global visibility to FIU's educational programs, he conceived and established AGILE (Academy of Graduates for Integrative Learning Experiences), which had received National Award for Innovation in Graduate Education in 2013, an award co-sponsored by the Council of Graduate Schools (CGS) and Educational Testing Service (ETS).

In his role as a member of the central leadership team, and as the Dean of Graduate School, Dr. Reddi established collaborative partnerships among eleven (11) colleges/schools on the campus to develop and implement fair academic policies, develop performance-based criteria for allocating resources, and to promote interdisciplinarity and diversity. Among his accomplishments at FIU are: i) Establishment of Dean's Academy, a network of doctoral alumni, ii) Improved retention and recruitment of underrepresented minorities in doctoral programs, iii) Development and implementation of a performance-based model for resource allocation (TAs, Fellowships, Tuition, etc) to departments and colleges, iv) Development and implementation of cost-effective methods for recruiting top-quality international students, v) Modified Carnegie-style assessments of doctoral programs, and vi) Implementation of new communication links with graduate students, faculty, department and school/college-level administrators, and alumni.

Prior to joining FIU, Dr. Reddi provided leadership as department head at two research-intensive departments. While at Kansas State University, he secured congressional funding for its University Transportation Center (UTC), served as the Associate Director of the Great Plains/Rocky Mountains Hazardous Substance Research Center (HSRC), and as Director of Outreach and Technology Transfer for the Midwest Hazardous Substance Research Center located at Purdue University. As Head of Civil Engineering, he doubled enrollments in six years, increased the extramural funding and number of doctoral graduates to their highest levels, made civil engineering the largest distance education provider in the college, and secured the highest levels of private funding in the department including two endowed professorships.

He joined the University of Central Florida (UCF) as Gerry and Ruth Hartman Professor and as the Chair of Civil, Environmental, and Construction Engineering, to make an

impact on its research visibility. Under Dr. Reddi's leadership, research extramural funding rose to its highest levels of $300k/faculty member/year, and two broad themes of research excellence emerged: Civil Infrastructure and Hydro-Environmental Engineering. During his term as Chair, the department added a fully-accredited program in Construction Engineering. He organized Corporate Affiliate Board and secured private funding to initiate new programs including endowed lecture series.

Academic Experience

Dr. Reddi's academic career has been highly interdisciplinary in terms of both teaching and research. He embraced diverse teaching assignments at both undergraduate and graduate levels. He secured extramural funding of about $25 million from sponsors at all levels – federal (NSF, NASA, FHWA, EPA) and state agencies, regional centers, and local industries; and had enjoyed steady stream of NSF funding. His funded research activities include basic and applied research, tech transfer and outreach, integrated research and education, and interdisciplinary research spanning about fifteen disciplines within and outside engineering (including social sciences). The research and outreach centers initiated by him, and the corporate and alumni academies established by him, continue to attract millions of dollars of federal, state, and local funding.

Dr. Reddi received nominations from students for college-level teaching awards (Hollis Award) during every semester he taught undergraduate courses between 1992 and 1999. His teaching methods, employed in Introduction to Civil Engineering in particular, were known to have yielded increased student retention.

Dr. Reddi authored/co-authored/edited 9 books and more than 120 technical articles representing several interdisciplinary themes in engineering. A new book on integrative learning was published in 2021 – *Bricks of Light in Mortar of Love*. Through his research on biomimetic systems of sustainable engineering and energy efficiency, he has established a collaborative network of sciences and engineering researchers from Africa, America, Asia, and Europe, with core group of investigators from South Korea, France, US, India, and UK.

Major Recognitions

While at Kansas State University, Dr. Reddi received the Engineering Research Excellence Award and Presidential Award for the Outstanding Department Head. A two-time recipient of the James Robbins Teaching Award, Dr. Reddi is also a chapter honor member of Chi Epsilon, and Eminent Engineer of Tau Beta Pi. A Fellow of ASCE (American Society of Civil Engineers) and AAAS (American Association for Advancement of Science), Dr. Reddi was designated "Distinguished Alumnus," by the Ohio State University in 2005. Engineering Societies of Central Florida honored him with the Engineering Leadership Excellence Award in 2010. He served on the Board of Directors of Florida Engineering Society, the GRE and TOEFL Boards of Directors at the Educational Testing Service (ETS), NM MESA Board of Directors, and on the National Roundtable for DoD Basic Science Research.

EDUCATION

Doctor of Philosophy
Civil Engineering, The Ohio State University, Columbus, OH

Master of Science
Civil Engineering, The Ohio State University, Columbus, OH

Bachelor of Technology
Civil Engineering, Jawaharlal Nehru Technological University, AP, India

SIGNIFICANT HONORS AND AWARDS

- Elected to the Roundtable for DoD Basic Science Research
- Elected to NM MESA Board of Directors, 2018
- Elected to TOEFL Board of Directors, Educational Testing Service, 2015
- TANA Award of Excellence in Engineering, 2015, Telugu Association of North America
- Elected to GRE Board of Directors, Educational Testing Service, 2014
- Fellow, American Association for the Advancement of Science, 2011
- Fellow, American Society of Civil Engineers, 2011
- Elected to Board of Directors, Florida Engineering Society, 2008-2010
- Engineering Leadership Excellence Award, Engineering Societies of Central Florida, 2010
- Presidential Award for the Outstanding Department Head, Kansas State University, 2007
- Distinguished Alumnus Award, College of Engineering, The Ohio State University, 2005
- Chi Epsilon Chapter Honor Member, 2003
- Eminent Engineer, Tau Beta Pi, 2002
- Engineering Research Excellence Award, Kansas State University, 2002
- Chi Epsilon Advising Excellence Award, 2002
- Chi Epsilon Excellence in Teaching Award, 1993 and 1997
- James M. Robbins Chi Epsilon Excellence in Teaching Award, Central District,1994, 1998
- President, Sigma Xi Scientific Research Society, Kansas State University Chapter, 2005-'06
- National Science Foundation Initiation Award, 1992-1995
- National Merit Scholarship, Government of India, 1975-1982

ADMINISTRATIVE APPOINTMENTS

Interim Provost
New Mexico State University, Las Cruces, NM
March 2024 - Present

Dean, College of Engineering
New Mexico State University, Las Cruces, NM
July 2016 – March 2024

Dean, University Graduate School
Florida International University, Miami, FL
July 2011 – June 2016

Director, Academy of Graduates for Integrative Learning Experiences (AGILE)
Florida International University, Miami, FL
July 2013 – June 2016

Chair, Department of Civil, Environmental, and Construction Engineering
University of Central Florida, Orlando, FL
June 2007 – June 2011

Head, Department of Civil Engineering
Kansas State University, Manhattan, KS
June 2000 – May 2007

Interim Director, University Transportation Center (UTC)
Kansas State University, Manhattan, KS
June 2005 – May 2007

Director, Civil Infrastructure Systems Laboratory (CISL)
Kansas State University, Manhattan, KS
June 2000 – May 2007

Associate Director, Great Plains/Rocky Mountains Hazardous
Substance Research Center (HSRC)
Kansas State University, Manhattan, KS
June 1998 – May 2007

Graduate Program Director, Department of Civil Engineering
Kansas State University, Manhattan, KS
June 1995 – May 1998

Director of Outreach and Technology Transfer,
Midwest Hazardous Substance Research Center
(Outreach from Kansas State; Center located at Purdue University, Indiana)
June 2003 – May 2006

Founding Director, Geoenvironmental Sciences and Engineering
Interdisciplinary Certificate Program
Kansas State University, Manhattan, KS
September 2004 – May 2007

ACADEMIC APPOINTMENTS

Ed & Harold Foreman Chair (Aug 22 – March 24)
Professor of Civil Engineering
New Mexico State University, Las Cruces, NM
July 2016 – March 2024

Gerry and Ruth Hartman Professor, Department of
Civil, Environmental, and Construction Engineering,

University of Central Florida, Orlando, FL
June 2007 – June 2011

Professor, Department of Civil Engineering
Kansas State University, Manhattan, KS
June 1999 – May 2007

Associate Professor, Department of Civil Engineering
Kansas State University, Manhattan, KS
July 1995 – May 1999

Assistant Professor, Department of Civil Engineering
Kansas State University, Manhattan, KS
June 1992 – June 1995

Assistant Professor, Department of Civil, Environmental, and Coastal Engineering
Stevens Institute of Technology, Hoboken, NJ
July 1989 – May 1992

INDUSTRY APPOINTMENTS

Professional Engineer (PE), 1993 - 2023
Kansas License No. 12950

Project Engineer and Hydrogeologist,
Ardaman & Associates, Inc. Orlando, FL
June 1988 – June 1989

Engineering consultant on several projects; major projects were with:

Tampa Bay Water (Florida)
BPC Group, Inc (Florida)
Sunflower Electric Power Corporation (Kansas)
Kansas Livestock Association (Kansas)
S&S Environmental Sciences, Inc. (New Jersey)

MEDIA COVERAGE, SELECTED ARTICLES AND LECTURES (ON LEADERSHIP, SUSTAINABILITY, BIOMIMETICS OF ENERGY AND ENVIRONMENT, DIVERSITY AND INCLUSIVENESS)

Las Cruces Sun News, "Celebrate the campus, a land of cultural enchantment," June 9, 2019.

The Wall Street Journal, "Foreign Grad-School Applications Rise, Driven by Indian Candidates," quoted by Ms. Melissa Korn, June 30, 2015.

"So You Call It Dirt?!" *Geo-Strata,* American Society of Civil Engineers, January/February 2015.

"From Love of Technological Beauty to Love as Beauty," Keynote Address, 35th Annual Humanities and Technology Association Conference, St. Thomas University, Florida, November 7-9, 2013.

Science, "Opportunity Knocks: But Which Door Should You Open?" quoted by Alaina G. Levine, March 8, 2013.

"Beauty - What a Concept!" Last Word in *Prism,* American Society for Engineering Education (ASEE), March/April 2013.

"Truth: A Relationship Between Perceiver and Perceived," Lecture Series, Program in the Study of Spirituality, School of International and Public Affairs, Florida International University, Miami, FL, February 2013.

"If Termites Can Do It, Why Can't Humans?" Opening lecture for the Biomimetic session at the AAAS National Meeting, Washington, DC, 17-21 February 2011.

"Our Attitudes Toward Natural Resources: Control Them, Be Controlled by Them, or Cooperate with Them?" Luncheon presentation at ASCE-EWRI Conference, Chennai, India, January 2010.

"Every Small Wish Has a Life of Its Own," *This I Believe*, May 2009.

"Competency Triangle for Engineering Leadership," (with A. Bhandari) Florida Engineering Society Journal, May 2009, pp. 26-28.

"So You Want To Be A Leader!" Central Florida Engineers Without Borders Chapter, November 2009.

"Hallmark of Engineering Leaders," Florida Engineering Society, Orlando, FL, April 2009.

"Humanities Dimension to Engineering Materials Education: Example of Soils," ASCE Geotechnical Chapter, Fall Lecture, Orlando, FL, 2008.

"Shared Goals Can Dissolve Our Differences," Manhattan Mercury (local newspaper in Manhattan, KS), September 8, 2006.

"Non-violence Must Be More Than A Slogan," Manhattan Mercury (local newspaper in Manhattan, KS), January 16, 2006.

Featured in *WIBW-TV, Topeka,* Clean-Up of Contaminated Sites, 1993.

ADMINISTRATIVE EXPERIENCE

1. Strategic Academic Planning

- *(NMSU[1])* The Offices of Information Technology, Student Success, International Programs and Compliance, and the Offices of Institutional Effectiveness and Analysis, have all undergone changes in leadership and/or organizational structure. These changes have resulted in significant operational efficiencies and brought synergy into all aspects of academic affairs. Due largely to strategic recruitment and retention methods, our enrollments and our student retention/persistence have increased.

[1] University of administrative appointment (NMSU: New Mexico State University; FIU: Florida International University; UCF: University of Central Florida; K-State: Kansas State University)

- *(NMSU)* Student-centric initiatives in the college of engineering resulted in improved student retention. Fall to Spring retention rate (91.4%) and Fall to Fall rate (81.1%) were the highest on campus in 2019. This was primarily due to the use of Curricular Analytics data to remove bottlenecks in program flow charts and targeting learning communities mentoring/tutoring help to the areas most needed by students in foundational courses.

- *(NMSU)* A new online Geomatics program was created with industry support to substitute Surveying program, which was eliminated during 2016 budget cuts; this new program received Education Award from the National Council of Examiners for Engineering and Surveying (NCEES), and it now enjoys steady enrollment gains largely due to support from regional industries and modernized curriculum. Other programs newly created, Information Technology (MS) and Computer Engineering (BS) receive high visibility on campus.

- *(NMSU)* With international collaborations targeted mainly in Mexico, India, and China, new pipelines were created to attract Masters/PhD students, Post-Docs and Research Scholars in the College of Engineering.

- *(FIU)* Developed SMART strategic objectives related to: i) Recruitment and retention, ii) Operational efficiencies, iii) Structured professional development training to ensure URM success, iv) Engagement of and communication with all stakeholders, and v) Financial base expansion.

- *(FIU)* Developed and implemented a performance-based model of resource allocation. In collaboration with all doctoral degree-granting units on campus, a new rubric-based program performance assessment was implemented to serve as a basis for allocating funds to individual programs.

- *(FIU)* A cost-effective method of recruiting top-quality international students was developed and implemented using Adobe Connect. This program, implemented to recruit students from China and India, was planned to be expanded to other countries, and was credited for our increases in international applications (30% in some programs) and dramatic improvement in yield from India (see press coverage by the Wall Street Journal, June 30, 2015: "Foreign Grad-School Applications Rise, Driven by Indian Candidates").

- *(FIU)* Significant operational efficiencies were achieved in less than three years in collaboration with all colleges on campus; the number of forms used by students and faculty was minimized greatly; the goal of implementing online processing of all forms was fulfilled.

- *(UCF)* Organized faculty into two thrust areas: i) civil infrastructure, and ii) hydro-environmental engineering, to enhance extramural funding levels, seek congressional funding, and bring national reputation and stature to our research programs. Annual extramural expenditures reached $300k/faculty, highest in the college.

- *(UCF)* Construction Engineering became the newly accredited BS program in the department (the only accredited program in Florida, and it was one of only seven in the country), and the name of the department was changed to "Civil, Environmental, and Construction Engineering," from "Civil and Environmental Engineering." Total enrollment in the department rose 25%, from 785 to 979, in four years.

- *(K-State)* Targeted and promoted specific research thrust areas in the Department – established the University Transportation Center (UTC) in '05 with congressional funding. Extramural funding increased three-fold between FY '00 and FY '06.

- *(K-State)* Several outreach efforts were initiated in 2000 to recruit and retain undergraduates; enrollment increased by 100% between Spring '00 and Fall '06.

- *(K-State)* Major reforms in curricula led to efficient use of faculty time (in teaching), primarily due to streamlining course offerings with Architectural Engineering & Construction Science, Biological & Agricultural Engineering, and Mechanical Engineering; total number of credit hours in Civil Engineering curriculum was reduced from 134 to 128.

- *(K-State)* Promoted distance education graduate program – every Civil Engineering graduate course was offered both off-campus and on-campus via internet and/or video recording; number of degree-seeking graduates from off-campus increased ten-fold between 2000 and 2005; Civil Engineering department had become the largest distance-education provider in the college.

2. Team-Building and Interdisciplinary/Collaborative Partnerships

- *(NMSU)* Added new focus on interdisciplinary program administration in the Graduate School.

- *(NMSU)* Established interdepartmental and inter-college teams to explore creation of new academic and research programs with the Colleges of ACES (Agricultural, Consumer, and Environmental Sciences), and Arts & Sciences. These resulted in interdisciplinary programs in water, bioprocesses, computer engineering, cybersecurity, and data analytics.

- *(FIU)* Facilitated collaborative partnerships among eleven (11) colleges on the campus to develop and implement fair graduate policies, develop equitable means for allocating resources, and to promote interdisciplinarity and diversity.

- *(FIU)* Implemented a modified version of Carnegie-style assessments for all thirty-one (31) doctoral programs. Developed a sustainable scheme of program evaluations involving input from external consultants, students, faculty, and program administrators.

- *(FIU)* Collaborated with Honors College to design and implement *H2G* program (Honors to Graduate), which provides incentives to students and faculty mentors in an effort to recruit top-quality students to graduate programs.

- *(K-State)* Built a team of faculty experts from multiple units and colleges to establish teaching and research programs in geoenvironmental sciences and engineering.

- *(K-State, UCF, and FIU)* Collaborated on research projects with faculty from Colleges of Engineering, Agriculture, Architecture and Arts, Arts and Sciences, Education, and Medicine; specific units include: Agricultural Engineering, Agronomy, Architecture, Biology, Biomedical Sciences and Engineering, Chemical Engineering, Computer Engineering and Information Sciences, English, Higher Education Leadership, Entomology, Mechanical Engineering, Physics, and Sociology.

3. Fundraising
(Career total: Approx. $100 million)

- *(NMSU)* Negotiated $30 million general obligation bond funding, and an additional $10 million supplement, from the State of New Mexico for a new building on campus -Thomas and Brown. Raised $7 million for the Aggie Innovation Space, a makerspace for use by all colleges on campus, with support from both state agencies and private donors.

- *(NMSU)* Proposed differential tuition rates for the college of engineering and got them approved by the Board of Regents in 2021. This provided an additional revenue stream of about $1 million per year.

- *(NMSU)* New programs and initiatives (Eloy Torrez Family Engineering Learning Communities, Ron Seidel Engineering Leadership Institute, Expanded Aggie Innovation Space) were established with private funding to improve student retention and enrollments.

- *(NMSU)* New faculty incentives and seed grants had resulted in a reversal of downward trend in extramural research funding. Current funding levels in the college of engineering are at all-time high. Extramural funding now exceeds $300k/year/faculty.

- *(FIU) Dean's Academy* was created to cultivate alumni relations and to develop a network of alumni for fundraising. Private funds were used to sustain AGILE (Academy of Graduates for Integrative Learning Experiences) activities, and a new endowment to support student travel was established.

- *(UCF)* Organized Corporate Affiliate Board (CAB) to improve fundraising and enhance alumni/industry/faculty/student relationships. Endowed lecture series was initiated; private funds secured were the highest in the history of the department.

- *(UCF)* Repositioned departmental teaching and research activities, which led to approval of six (6) new faculty positions by the central administration despite a 15% budget cut across campus.

- *(K-State)* Secured initial congressional funding ($1.5 mil) for the establishment of the University Transportation Center (UTC), and remained as its Interim Director until a permanent Director was hired in 2007; the UTC subsequently received millions of dollars supporting transportation-related research.

- *(K-State)* Civil Engineering Professional Academy was launched to develop partnerships with alumni and industries; acquired private funding to support faculty travel and benefits, student activities, annual banquet, annual faculty/staff/student awards, and graduate student stipend supplements. Private funding was the highest in the history of the department and was the highest in the college; the Academy was used as a model by other departments.

- *(K-State)* The Accelerated Pavement Testing Laboratory was reorganized as "Civil Infrastructure Systems Laboratory" (CISL) to broaden its scope to large-scale testing and to facilitate additional funding from private and government enterprises. Under my supervision, the laboratory had become more inclusive of faculty research efforts. The funding for this laboratory was pooled by four Midwestern states – Kansas, Missouri, Iowa, and Nebraska, with total funding of $500k/year. Funding continued throughout my tenure at Kansas State.

- *(K-State)* Secured Endowed Professorship (Martin K Eby Professorship) for a civil engineering professor; and efforts I initiated to establish Munger Professorship paid off subsequently.

- *(K-State)* Partnered with Purdue University to sustain funding for the Hazardous Substance Research Center (HSRC) at Kansas State University and to highlight the Outreach and Technology Transfer activities at HSRC.

4. Community Engagement - Local

- *(NMSU)* Engaged alumni and community leaders in program development (Geomatics), fundraising for the college, and in developing a new strategic vision for the college. Engaged congressional representatives and campaigned for resources to modernize laboratory infrastructure. During Dean Reddi's tenure, the college received about $7 million in funding for Aggie Innovation Space, and about $40 million for a new building for the Department of Electrical and Computer Engineering, both from negotiations with the Board of Regents and state legislators.

- *(K-State)* Guided Kansas Senate and House Committees on the sustainability of farming waste containment practices, and on the impact of farming practices on groundwater quality; presented research findings at Kansas Senate and House Committee Hearings held in Spring '98.

- *(K-State)* Engaged engineering companies and regulatory agencies in the development of a relevant curriculum to train future geoenvironmental scientists and engineers, as part of an NSF-funded CRCD project (Combined Research Curriculum Development).

- *(K-State)* Supervised TOSC (Technical Outreach Services for Communities) and Brownfields efforts within EPA Region VII in close coordination and collaboration with local and regional community leaders. Some of the outreach efforts were

coordinated in association with the Midwest Hazardous Substance Research Center located at Purdue University.

- *(K-State)* Engaged representatives of Departments of Transportation from four states – Kansas, Missouri, Iowa, and Nebraska, to sustain pooled funding for research, as Director of the Civil Infrastructure Systems Laboratory.

- *(UCF)* Engaged students and communities in discussions on building new drinking water facilities in Haiti, as faculty advisor for the Engineers Without Borders Chapter.

- *(UCF)* Brought focus to engineering education in Florida by chairing the Florida Engineering Education Committee of the Florida Engineering Society.

- *(K-State and FIU)* Participated in shared governance of universities as faculty senator at Kansas State University and as a member of the collective bargaining committee at Florida International University.

- *(K-State)* Engaged local community in discussions about solid waste management practices, as a member of the Solid Waste Management Committee, Riley County, Kansas.

- *(UCF)* Engaged CEOs and executives of engineering companies in Central Florida in practical applications of a simple framework for engineering leadership based on a tripartite system of competencies.

- *(FIU)* Engaged leadership of the Educational Testing Service (ETS) in discussions on testing and assessment issues affecting minorities, as a member of the GRE Board Diversity Committee.

- *(K-State)* Engaged alumni and business organizations in mentoring programs for undergraduate and graduate students, and in securing financial and non-financial support for course offerings.

5. Global Engagement

- *(NMSU, FIU, and K-State)* Negotiated student exchange agreements with universities from Mexico, India and China.

- *(K-State)* Consultant for the establishment of Geoenvironmental Engineering Center, an interdisciplinary sciences and engineering research center, JNT University, India.

- *(K-State and UCF)* Consultant for environmental remediation strategies and goals for rural South India (Indian Research Team Leader: Prof. Saibaba Reddy, current Vice-Chancellor of Veer Surendra Sai University of Technology, Odisha, India).

- *(UCF)* Organized international workshops on sustainable earthen materials and cost-effective methods for dwellings in developing countries (Dar es Salaam,

Tanzania) and biomimetics of energy-efficiency in built environment (Reading, UK).

- *(UCF and FIU)* Established a global network of experts to study bio-inspired use of earthen materials for energy-efficient and sustainable human-built environments; core group of active investigators are from South Korea, France, US, India, and UK. NSF provided funding for this venture.

- *(K-State)* Conducted joint studies with South Korean consultants and university professors, with support from National Science Foundation (NSF), Korea Science and Engineering Foundation (KOSEF), and local industries, on civil infrastructure (tunnel liner) stability and hazard mitigation.

- *(UCF and FIU)* Monitored earthen buildings in rural South India for extended periods of time, with support from National Science Foundation, to plan for major research efforts on thermoregulatory efficiencies of earthen dwellings.

- *(UCF)* Conducted seminars and workshops on Engineering Leadership at two Indian Universities (JNT University, Hyderabad; Andhra University, Visakhapatnam), and one university in South Korea (Korea University).

- *(UCF)* Conducted joint studies with Australian research group (led by Prof. Buddhima Indraratna, Wollongong University) on subsurface remediation, with funding from Australian Research Council.

- *(K-State, UCF, and FIU)* Organized, and/or contributed to, international conferences in about twenty countries, with invited lectures and short courses presented in seven countries – Australia, India, Japan, South Korea, Switzerland, Tanzania, and UK.

6. Communication

- *(NMSU)* Created "We are NMSU" with the purpose of keeping the campus posted on a weekly basis; this has now become a new branding for internal constituencies. Our motto, "Communicate, Coordinate, Integrate," is received by the campus community extremely well.

- *(NMSU)* Staff resources were reoriented in the College of Engineering to focus on internal and external communications, and student/faculty/staff/alumni engagement. New and revised modes of communication were: i) *Goddard Broadcast*, a quarterly release targeted to keep the peers informed of new developments in NMSU Engineering; and ii) *Aggie Ingeneiro,* a monthly release targeted to engage our alumni and local/regional industries.

- *(FIU)* New modes of communication were initiated to serve all stakeholders of graduate education: i) Faculty e-newsletter, ii) student news on social media – facebook and twitter, iii) faculty advisory board, which was created to seek advice and support on new initiatives, iv) Annual Program Summaries (APS), which were created to summarize vital statistics for each of the Masters and Doctoral programs, v) Annual report, which is prepared every summer to keep peers and alumni informed of progress toward strategic goals, vi) Bi-weekly Newsletter with application/admission/enrollment statistics, to keep faculty and administrators up-

to-date on their recruitment progress, and vii) Annual meetings with administrators of all doctoral programs on campus.

- *(K-State) Civil Matters*, an annual Civil Engineering Newsletter, was created along with bi-weekly e-mail version.

7. Student, Faculty, and Program Success

- *(NMSU)* New Faculty Fellow positions are created in the Office of Academic Affairs to bring focus on faculty success.

- *(NMSU)* New positions – retention and recruitment specialist positions are created in every college to increase focus on enrollments.

- *(NMSU)* New awards were created to honor outstanding accomplishments of faculty and staff, all with private support, in the College of Engineering.

- *(NMSU)* With the establishment of Learning Communities, the Leadership Institute, and the Aggie Innovation Space, the college of engineering is known to be a student success-oriented unit with one of the highest retention and graduation rates on campus.

- *(FIU)* Annual numbers of doctoral graduates increased by 28% in three years due largely to strategic deployment of financial resources in the form of dissertation year fellowships.

- *(FIU)* Implemented Annual Doctoral Student Evaluations throughout the campus with the purpose of improving time to degree and ensuring smooth academic progress of all doctoral students.

- *(FIU)* Implemented a modified version of Carnegie-style assessments for all doctoral programs on campus. Developed a sustainable scheme of program evaluations involving input from external consultants, students, faculty, and program administrators. Results from Carnegie-style assessments are used in program performance assessment rubric to close the loop with resource allocation.

- *(FIU)* The Survey of Earned Doctorates (SED) consistently placed FIU ten to fifteen points above the national average of percentage of doctoral graduates placed in academia by doctoral degree granting institutions in the US.

- *(UCF)* Led the Department of Civil, Environmental, and Construction Engineering through a successful accreditation visit in Fall '08. All three degree programs – civil, environmental, and construction, received full and unconditional accreditation; construction engineering received accreditation for the first time in the history of the department (as the only accredited program in Florida, and one of only seven in the country).

- *(K-State)* Led the Department of Civil Engineering through a successful ABET visit in 2005; with 100% of graduates passing FE during the evaluation year, the program was ranked among the best in North Central Accreditation (NCA).

- *(K-State and UCF)* Annual faculty evaluations were realigned with strategic priorities and customized so that faculty can excel in their areas of interest.

- *(K-State and UCF)* Faculty retention in the departments was the highest among all units at college-level.

8. Research Center Administration (as Director of UTC and CISL, and as Associate Director of HSRC)

- *(K-State)* Secured congressional funding for the University Transportation Center (UTC), and remained as its Interim Director until a permanent Director was hired in 2007.

- *(K-State)* The Accelerated Pavement Testing Laboratory was reorganized as "Civil Infrastructure Systems Laboratory" (CISL) to broaden its scope to large-scale testing and to facilitate research in additional disciplines. Under my supervision, the laboratory had become more inclusive of faculty research efforts. The funding for this laboratory was pooled by four Midwestern states – Kansas, Missouri, Iowa, and Nebraska, with total funding of $500k/year.

- *(K-State)* Partnered with Purdue University to sustain funding for the Hazardous Substance Research Center (HSRC) at Kansas State University and to highlight the Outreach and Technology Transfer activities at HSRC.

- *(K-State)* Supervised TOSC (Technical Outreach Services for Communities) and Brownfields efforts within EPA Region VII in close coordination and collaboration with local and regional community leaders. Some of the outreach efforts were coordinated in association with the Midwest Hazardous Substance Research Center located at Purdue University.

- *(K-State)* Organized workshops and sessions at EPA Center's annual conferences, and served on the editorial board of the Center's electronic journal.

SELECTED COMMUNITY SERVICES

- Board of Directors, NM MESA
- Board of Directors, TOEFL
- Board of Directors, GRE
- Member, Collective Bargaining Committee, Florida International University
- Board of Directors, Florida Engineering Society
- Chair, Florida Engineering Education Committee, Florida Engineering Society
- Member, Solid Waste Management Committee, Riley County, Kansas
- Presented research findings at Kansas Senate and House Committee Hearings on containment of farming waste and on the impact of farming practices on groundwater quality (Spring '98)
- Lectured on integrative learning and engineering leadership at engineering organizations in Central Florida, Nodarse Associates (Orlando, FL), Engineers

Without Borders local chapter (Orlando, FL), Korea University (South Korea), and Andhra University (India).

PROFESSIONAL SOCIETY SERVICES

Conference Organization

- Member, Scientific Committee of the Third International Symposium on Energy Challenges and Mechanics, Aberdeen, Scotland, UK, July 2015.
- Chair, "If Termites Can Do It, Why Can't Humans," session at the AAAS National Meeting, Washington DC, 17-21 February 2011.
- Member, International Advisory Committee, GeoShanghai International Conference, Shanghai, China, June 2006.
- Chair, Symposium on Filtration and Drainage in Geotechnical/Geoenvironmental Engineering, Sessions of Geo-Congress '98, held in Boston, Massachusetts, October 1998.
- Member, International Organizing Committee of the Fourth International Symposium on Environmental Geotechnology and Global Sustainable Development, Boston, Massachusetts, August 1998.
- Chair, ASCE Specialty Conference (sponsored by the Environmental Engineering Division), Non-Aqueous Phase Liquids (NAPLs) in Subsurface Environment: Assessment and Remediation, Washington, D.C., November 1996.
- Co-Chair, ASCE Specialty Conference, In Situ Remediation of the Geoenvironment, sponsored jointly by the Geotechnical and Environmental Divisions, Minneapolis, October 1997.
- Member, Organizing Committee of the ASCE Specialty Conference, Geoenvironment 2000, February 1995.
- Organized Reactive Barriers workshop at the 1999 Conference on Hazardous Waste Research, St. Louis, Missouri, May 1999.
- Member, Organizing Committee, Advanced Manufacturing Institute Conference, 1993.
- Chaired/moderated numerous technical sessions at both national and international conferences (primarily those of the ASCE) and state and regional conferences (eg. GP/RM Hazardous Substance Research Center).

Editorial Board Memberships

- Editorial Board Member, Journal of Hazardous Materials, Elsevier Science, The Netherlands, '97 – ''02
- Editorial Board Member (EBM), Journal of Geotechnical and Geoenvironmental Engineering, American Society of Civil Engineers, USA, '98-'02
- Associate Editor, Practice Periodical of Hazardous, Toxic, and Radioactive Waste Management, American Society of Civil Engineers, USA, ('98 – '00)

Professional Society and Committee Memberships (Past and Present)

- Member, American Association for Advancement of Science (AAAS)
- Member, American Society for Engineering Education (ASEE)
- Member, American Society of Civil Engineers (ASCE), Geo-Institute (GI), and the International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE)

- Member, American Geophysical Union (AGU)
- Member, American Society for Testing and Materials (ASTM)
- Member, Committee A2K06, Transportation Research Board
- Member, Geotechnical Safety and Reliability Committee, Geo-Institute (formerly Geotechnical Engineering Division), ASCE
- Member, Environmental Geotechnics Committee, Geo-Institute (formerly Geotechnical Engineering Division), ASCE
- Chair, Task Committee on Animal Waste Containment in Lagoons, EWRI (formerly Environmental Engineering Division), ASCE
- Ex-Chair and Control Group Member, Groundwater Quality Committee, EWRI (formerly Environmental Engineering Division), ASCE
- Member, ASCE Task Committee on Contaminated Groundwater Modeling

Project, Proposal, and Manuscript Reviews (Selected)

- Proposal Reviewer and Panel Member, National Science Foundation, Department of Defense, Environmental Protection Agency, and Department of Energy
- Project Reviewer, Institute for Regulatory Science and US Department of Energy
- Member, Technical Advisory Committee (TAC) of the EPA EPSCoR program for the State of Kansas, '96-'97
- Member, Advisory Committee, Nonlethal Environmental Evaluation and Remediation (NEER) Center at Kansas State University – a Center supported by funding from the Office of Naval Research, Department of Defense
- Periodically reviewed technical papers for at least fifteen journals and books for three professional societies and several publishers.

UNIVERSITY SERVICES

New Mexico State University

- Chair, Search Committee for the Dean of the Graduate School
- Chair, Search Committee for the Dean of the College of Business
- Member, Search Committee for the Chancellor/President
- Member, IT Governance Council
- Member, Strategic Planning (Team 6)

Florida International University

- Member, Collective Bargaining Committee, 2013-14

University of Central Florida

- Advisor, Engineers Without Borders (EWB)
- Advisor, Florida Engineering Society (FES) Student Chapter
- Chair, Search Committee for the Department Chair position, Mechanical, Materials, and Aerospace Engineering ('08-'09)

Kansas State University

- Founding Director, Geoenvironmental Sciences and Engineering Certificate Program ('04-'07)
- Chair, Search Committee for the Department Head position, Electrical and Computer Engineering ('05-'06)
- Chair, Dean's New Student Experience Task Force (2004)
- Faculty Senator (2000 – 2003)
- Dean's Five-Year Evaluation Committee (2002)
- Faculty Grievance Board (1997 - 1999)
- Chair, College of Engineering Graduate Committee (1997 - 2002)
- Chair, Engineering Research Excellence Award Committee (1998 – 1999), Member (1996-1998)
- Member, College of Engineering International Programs Committee (1994-1995)
- Graduate Program Director, Department of Civil Engineering (1995 - 1998)
- Chair, Department Publicity Committee (1994-1995)
- Chair, Faculty Annual Evaluation Form Assessment Committee (1994-1995)
- Member, Equipment Needs Committee (1994-1995)
- Chair/member, Faculty Search Committees, four in the Department of Civil Engineering, and one in the Department of Geology

Stevens Institute of Technology

- Undergraduate Curriculum Committee (1990 - 1992)
- Graduate Study Committee (1990 - 1992)
- Coordinator of ECOES program (Exploring Career Options in Engineering and Science) for women in civil engineering, sponsored by the National Science Foundation, 1990,1991

RESEARCH EXPERIENCE

Major Themes of Funded Research and Outreach

1. Biomimetics of energy-efficient and sustainable human-built environments

This is an interdisciplinary theme involving the physiology expertise of biologists, image analysis expertise of computer scientists, heat transfer and transport expertise of mechanical engineers, and geotechnical expertise of civil engineers. Our objective is to learn from the natural evolution of thermoregulatory behavior of human skin and plant leaves and apply that knowledge to design Geodermis, a system of natural and sustainable materials including soils and plants, for use in human-built environment to minimize energy needed for heating and cooling. With help from two NSF travel and CNIC grants, a global network of researchers has been assembled to initiate major long-term studies on this theme.

2. Integrated research and education: Innovative Methods for URM (Underrepresented Minorities) success in STEM education

   Partnerships with researchers from education and learning science led to NSF-funded ventures on design of geoenvironmental engineering as an interdisciplinary curriculum. Subsequent efforts were funded by NSF, CGS, ETS, and FIU Dean's Academy, which include professional training and development opportunities for underrepresented minorities to succeed in STEM education.

3. Particle Transport in Porous Media: From environmentalal sustainability to hazard mitigation

   An interdisciplinary theme involving chemical engineers and biologists, this area of research focused on colloid particle transport, deposition, and re-entrainment mechanisms in porous media. Initiated as a theoretical study with funding from NSF, the research was later extended to the applied themes of environmental sustainability and hazard mitigation with funding from state agencies and local industries. Specific themes were: i) "Facilitated transport" of contaminants in soils, ii) Piping and self-healing of cracks in levees, earthen dams, and embankments, iii) Liner behavior in waste lagoons.

4. Multiphase flow: From environmental applications to growing plants in space

   Started out as a theoretical study, funded by NSF, dealing with clean-up of contaminated soils, this research theme evolved into a highly interdisciplinary study over a period of fifteen years involving collaborations with physicists, mechanical engineers, mathematicians, and computer scientists. In its latter phase, funded by NASA, this research identified the basic mechanisms of immiscible fluid (air) dynamics under micro- and zero-gravity conditions.

5. New Regional Centers for Research and/or Outreach: i) University Transportation Center (UTC), and ii) Midwest Hazardous Substance Research Center

   Regional needs in rural transportation were articulated to seek congressional help in establishing the University Transportation Center at Kansas State University, with initial funding of $1.5 mil. As the founding Director of the UTC, Dr. Reddi gave structure and organization to the center. As Technology Transfer and Outreach Director of the newly-created Midwest Hazardous Substance Research Center, Dr. Reddi led regional community engagement efforts on environmental sustainability.

EXTERNAL FUNDING RECORD

Career Total: Approx. $25 million

Selected Research Projects (Excluding travel grants and campus-wide grants with administrative role)

CNIC (Catalyzing New International Collaborations): A New Collaborative Effort for Biomimetic-Based Research on Thermoregulatory Behavior of Stabilized Soils. 2014-17. Principal Investigator. National Science Foundation. $38,533.

CGS/ETS Award for Innovation in Promoting Success in Graduate Education: From Admission Through Completion. 2013-15. Council of Graduate Schools and Educational Testing Service. $20,000.

Doctoral Initiative on Minority Attrition and Completion. 2012-14. Council of Graduate Schools and National Science Foundation. $30,000.

Investigation of chemical clogging in a permeable reactive barrier (PRB) installed for remediating groundwater from acid sulphate soils. 2010-14. Co-Principal Investigator (with Buddhima Indraratna of Wollongong University, Australia). Australian Research Council. $300,000.

Planning Visit to Korea: A Catalyst for Collaborations on Civil Infrastructure Research Involving Monitored Data. 2010-11. Co-Principal Investigator (with Hae-Bum Yun). National Science Foundation. $14,300.

International Workshop: Thermoregulatory Sensing Analogies Between Skin, Plants, and Soils- Research Challenges and Opportunities. 2010. Principal Investigator (with Hae-Bum Yun). National Science Foundation. $47,300.

US-Tanzania Workshop: Uses of earth-based bricks in developing countries. 2009. Co-Principal Investigator (with Obonyo Esther and Tate D). National Science Foundation. $50,000.

Flow and Distribution of Fluid Phases Through Porous Plant Growth Media in Microgravity. 1999-2006. Co-Principal Investigator (with Susan Steinberg, Dani Or, Alexander Iwan, and Gerard Kluitenberg). NASA Johnson Space Center. Total funding: $5 million.

Combined Research-Curriculum Development (CRCD) in Geoenvironmental Engineering. 2003-2006. Principal Investigator (with Steward, Bhandari, Erickson, and Hutchinson as collaborators). National Science Foundation. $407,986.

Center for Integrated Remediation Using Managed Natural Systems. 2003-2006. (with Blasé Leven as Co-PI). Midwest Hazardous Substance Research Center, EPA and Purdue University. $2 million.

Training and Technical Assistance to Brownfields. 2003-2006. (with Blasé Leven as Co-PI). Midwest Hazardous Substance Research Center, EPA and Purdue University. $893,151.

Pore Fluid Dynamics in Fine-Grained Soils. Principal Investigator. 2000-2007. A seven-year project with Agricultural Experiment Station at Kansas State University. Total funding was $200,000.

Engineering Applications of Compost Materials. Principal Investigator. 2003-2006. A three-year project with Kansas Livestock Association and Kansas Department of Health and Environment. Total funding was $250,000.

Containment barriers for agricultural waste. Principal Investigator. 1997-2003. Agricultural Experiment Station, Kansas State University. $180,000.

Holcomb Landfill Revegetation, Liner Design, Construction, and Leachate Study.

Principal Investigator. 1999. Sunflower Electric Power Corporation. $65,000.

Acquisition of Low-Vacuum Scanning Electron Microscope for Biological, Physical, Chemical, and Engineering Research and Training. Co-Principal Investigator (with S. Ramaswamy, George Clark, and Rob Denell). National Science Foundation (MRI Program). $176,190.

Evaluation of lagoons for containment of waste in Western Kansas. Co-Investigator (with J. Ham and C.W. Rice). 1999-2000. Kansas Water Office. $70,000.

Modeling animal waste transport through compacted clay liners. 1998-1999. Kansas Center for Agricultural Resources and Environment (KCARE). $43,000.

Technical Outreach Services for Communities (TOSC), and Technical Outreach Services to Native American Communities (TOSNAC), and Technical Assistance to Brownfields (TAB) programs, Co-Principal Investigator (with L. Erickson and B. Leven as Co-PIs). 1998 – 2008. Environmental Protection Agency. Annual funding varied from $318,000 to $460,000. Total funding was approximately $ 4 million.

U.S.-Korea Cooperative Research: Impact of particle transport in soils on filter performance. Principal Investigator. 1998-2003. National Science Foundation. $30,057.

Development of soil filter design nomograms incorporating physicochemical and biological mechanisms. Principal Investigator (with L.A. Glasgow and G. Marchin as Co-Is). 1997-2000. National Science Foundation. $350,000.

A physicochemical and biological approach to soil filter clogging prevention in infrastructure systems. Principal Investigator (with L.A. Glasgow and G. Marchin as Co-Is). 1997-1998. Kansas Science and Technology Advanced Research (K-STAR) and National Science Foundation. $21,848.

Impact of colloid-associated transport of pesticides on groundwater quality. Principal Investigator. 1993-1997. Agricultural Experiment Station, Kansas State University. $100,000.

Evaluation of lagoons for containment of waste in Western Kansas. Co-Investigator (with J. Ham and C.W. Rice). 1998-1999. Kansas Water Office. $100,000.

Evaluation of lagoons for containment of waste in Western Kansas. Co-Investigator (with A.P. Schwab, J. Ham, and M.K. Banks). 1997-1998. Kansas Department of Health and Environment. $100,000.

Virtual Library: Transferring HSRC Research Results Through the Internet. Co-Investigator (with L. Erickson). 1996-1997. EPA Great Plains/Rocky Mountain Hazardous Substance Research Center. $37,200.

Boeing Cooperative Environmental Technology Transfer. Principal Investigator (with S. Grant). 1996-1997. EPA Great Plains/Rocky Mountain Hazardous Substance Research Center. $29,430.

Bioremediation of hazardous organic contaminants at textural interfaces in the subsoil. Co-Investigator (with M.K. Banks, C. Rice, and G. Kluitenberg). 1995-1997. Environmental Protection Agency (EPSCoR). $200,000.

The use of Poplar trees in remediating heavy metal contaminated sites. Co-Investigator (with Gary Pierzynski, Larry Erickson, and Larry Davis). 1992-1995. Great Plains/Rocky Mountain Hazardous Substance Research Center. $150,000.

Utilization and potential commercialization of waste generated in manufacturing industries of Kansas. Principal Investigator (with L.T. Fan and S.T. Chou). 1994-1996. Advanced Manufacturing Institute, Kansas State University. $32,906.

Modification of medical syringe as a permeability-measurement device. Principal Investigator. 1995-1996. Advanced Manufacturing Institute, Kansas State University. $35,000.

Vibratory phase separation of immiscible contaminants (NAPLs) in soils. Principal Investigator. 1992-1995. Research Initiation Award. National Science Foundation. $88,183.

Engineering Research Equipment Grant: Full-Scale facility for the experimental investigation of attenuation characteristics of Soils. Principal Investigator. 1992-1993. National Science Foundation. $33,000.

Development of a prototype accident mapping computer program for Kansas. Co-Investigator (with R.W. Stokes). 1992-1993. Kansas Department of Transportation. $63,578.

Feasibility of ultrasonic enhancement of in-situ remediation techniques. Principal Investigator (with A. Hadim as Co-I). 1992-1994. NSF Hazardous Substance Management Research Center, New Jersey Institute of Technology. $102,020.

A study of the efficiency of vibroflotation in in-situ phase separation of immiscible contaminants (NAPLs). Co-Investigator (with G.P. Korfiatis). 1990-1991. EPA Northeast Hazardous Substance Research Center. $57,640.

Establishment of University Transportation Center at Kansas State University. Administrative role. Federal Highway Administration. Initial funding is $1.5 mil; renewed multiple years with additional funding.

Technical Outreach Services for Communities (TOSC) Program, FY 2000. Administrative role with L. Erickson as the Co-PI. Environmental Protection Agency. $325,000.

Special Group Incentive Research Awards Program: Environmental Air Quality. Administrative role with L. Erickson and M. Hosni as the Co-PIs; 1999-2001. Kansas State University Foundation. $261,439.

Beneficial effects of vegetation in pollution prevention and remediation of contaminated soil and water. Cooperator (with M.K. Banks, L.C. Davis, R.S. Govindaraju, G. M. Pierzynski, A.P. Schwab, and A.L. Youngman). 1995-1997.

Environmental Protection Agency (EPSCoR). $200,000.

Engineering Overview of a Road Recycling Machine for Portland Cement Concrete Pavement. Principal Investigator. Kansas Department of Transportation. $32,600.

Preliminary Life Cycle Environmental Assessment (LCEA) for Anti-Traction Material (ATM). $2 million. Office of Naval Research, Department of Defense (PI: Larry Erickson, with other collaborators). Project administered through NEER (Nonlethal Environmental Evaluation Remediation) Center.

PUBLICATION RECORD

Books, Edited Volumes, and Book Chapters

Bricks of Light in Mortar of Love: Building Harmony in the Information Age, 2021 (Sole Author), 179 pages, https://www.amazon.com/BRICKS-LIGHT-MORTAR-LOVE-Information/dp/1735314919.

Seepage in Soils: Principles and Applications, John Wiley & Sons, Inc., 2003 (Sole Author), 448 pages, ISBN: 0-471-35616-6.

Geoenvironmental Engineering: Principles and Applications, Marcel Dekker, Inc., 2000 (Principal author, with Hilary Inyang as co-author), 506 pages, ISBN: 0-8247-0045-7.

Soil Materials for Earth Construction: Properties, Classification and Sustainability Testing, Chapter 6 (Principal author, with Jain and Yun as co-authors) in Modern Earth Buildings: Materials, Engineering, Construction and Applications, edited by Hall, M. R., Lindsay, R., and Krayenhoff, M., Woodhead Publishing Series in Energy: Number 33, pp. 155-171, 2012.

Co-Editor, Advances in Unsaturated Soil, Seepage, and Environmental Geotechnics, (with Ning Lu and Laureano Hoyos), ASCE Geotechnical Special Publication, American Society of Civil Engineers, 2006.

Chapter 4: Classification Criteria, in Quality of Ground Water: Guidelines for Selection and Application of Frequently Used Models, ASCE Manuals and Reports on Engineering Practice No. 85, American Society of Civil Engineers (sponsored by the Environmental Engineering Division), 1996.

Editor, Non-Aqueous Phase Liquids (NAPLs) in the Subsurface Environment: Assessment and Remediation, Proceedings containing refereed papers presented at the ASCE National Convention (sponsored by the Environmental Engineering Division), Washington D.C., November 12-14, 1996, 855 pages.

Co-editor, Engineered Contaminated Soils and Interaction of Soil Geomembranes, ASCE Geotechnical Special Publication No. 59, American Society of Civil Engineers, 1996, (other editors: J.N. Meegoda and L.E. Vallejo), 133 pages.

Theme Editor, Reactive Barriers, Journal of Hazardous Materials, Vol. 68/1-2, 1999, 153 pages.

Co-editor, Filtration and Drainage in Geotechnical/Geoenvironmental Engineering, ASCE Geotechnical Special Publication No. 78, American Society of Civil Engineers, 1998, (with Bonala, M.V.S.), 207 pages.

Editor, Animal Waste Containment in Lagoons, ASCE Manuals and Reports on Engineering Practice No. 105, American Society of Civil Engineers. Authored/Co-authored Chapters 3 and 4 in this manual:

Chapter 3: "Seepage and Transport through Anaerobic Lagoon Liners," by Lakshmi N. Reddi, H. Davalos, and M.V.S. Bonala

Chapter 4: "Clogging of Animal Waste Lagoon Liners – An Overview," by Mohan V.S. Bonala, and Lakshmi N. Reddi

Papers in Journals and Periodicals

Anthony Khoury, Eduardo Divo, Alain Kassab, Sai Kakuturu and Lakshmi Reddi. "Meshless Modeling of Flow Dispersion and Progressive Piping in Poroelastic Levees," Fluids, 2019, 4(3), 120.
doi:10.3390/fluids4030120

Yun, H.-B., Park, S.-H., Mehdawi, N., Mokhtari, S., Chopra, M., Reddi, L. N., and Park, K.-T. "Monitoring for Close Proximity Tunneling Effects on an Existing Tunnel Using Principal Component Analysis Technique with Limited Sensor Data," Tunnelling and Underground Space Technology. Vol. 43, July 2014, Pp. 398-412.

Jain, A.K., Reddi, L.N., Discussion and Closure on "Finite-Depth Seepage below Flat Aprons with Equal End Cutoffs," ASCE Journal of Hydraulic Engineering, 139(1):95-96, 2013.

Reddi, S., Jain, A.K., Yun, H-B., Reddi, L.N. "Biomimetics of Stabilized Earth Construction: Challenges and Opportunities," Energy and Buildings, 55:452-458, 2012.

Jain, A.K., Reddi, L.N. "Closed-form Theoretical Solution for Finite Depth Seepage Below Flat Apron with Equal End Cutoffs and a Downstream Step," ASCE Journal of Hydrologic Engineering, 17(12):1358-1367, 2012.

Jain, A.K., Reddi, L.N. "Finite-Depth Seepage below Flat Aprons with Equal End Cutoffs," ASCE Journal of Hydraulic Engineering, 137(12): 1659-1667, 2011.

Yun, H-B, and Reddi, L.N. "Nonparametric Monitoring for Geotechnical Structures Subject to Long-Term Environmental Change," Advances in Civil Engineering, Hindawi Publishing Corporation, 3:1-17, 2011.

Xiao, M., Reddi, L.N., and Steinberg, S. "Variation of Soil Water Characteristics Due to Particle Rearrangement," ASCE International Journal of Geomechanics, 9(4): 179-186, 2009.

Xiao, M., Reddi, L.N. "Pore Structure Variation of Porous Media Under Vibrations," ASCE Geotechnical Special Publication 181, Geotechnical Earthquake Engineering and Soil Dynamics IV, 2008.

Kakuturu, S., Reddi, L.N. "Evaluation of the Parameters Influencing Self-Healing in Earth Dams," ASCE Journal of the Geotechnical and Geoenvironmental Engineering, 132(7):879-889, 2006.

Kakuturu, S., Reddi, L.N. "Mechanistic Model for Self-Healing of Core Cracks in Earth Dams," ASCE Journal of the Geotechnical and Geoenvironmental Engineering, 132(7):890-901, 2006.

Sung S-G, I.M. Lee, G-C Cho, and L.N. Reddi, "Estimation of Soil-Water Characteristics Using Liquid Limit State," Geotechnique 55, No. 7, 569-573, 2006.

Xiao, M., Reddi, L.N., Howard, J., Devine, A., Stott, R. "Rainfall erosion control on roadside embankment using compost soils," ASCE Geotechnical Special Publication 148, Advances in Unsaturated Soil, Seepage, and Environmental Geotechnics, ASCE Geo-Institute, 2006.

Steichen, E.M., Bhandari, A., Hutchinson, S.L.L., Reddi, L.N., Steward, D.R., and Erickson, L.E. "Improving Interdisciplinary Geoenvironmental Engineering Education Through Empowerment Evaluation," International Journal of Engineering Education, 22(1):171-182, 2006.

Xiao, M., Reddi, L.N., Steinberg, S.L. "Fluid distribution in porous media under microgravity," ASCE Geotechnical Special Publication 148, Advances in Unsaturated Soil, Seepage, and Environmental Geotechnics, ASCE Geo-Institute, 2006.

Xiao, M., Reddi, L.N., and Steinberg, S. "Effect of vibrations on pore fluid distribution in porous media." Transport in Porous Media, 62(2):187-204, 2006.

Reddi, L.N., M. Xiao, M.G. Hajra, and I.M. Lee, "Physical Clogging of Soil Filters Under Constant Flow Rate vs. Constant Head," Canadian Geotechnical Journal, 42:804-811, 2005.

Steinberg, S.L., Kluitenberg, G., Jones, S., Daidzic, N., Reddi, L.N., Xiao, M., Tuller. M., Newman, R., Or, D., Alexander, J.I.D. "Physical and hydraulic properties of baked ceramic aggregates used for plant growth medium," Journal of the American Society for Horticultural Science, 130(5): 767-774, 2005.

Reddi, L.N., Xiao, M., and Steinberg, S.L. "Discontinuous Pore Fluid Distribution under Microgravity—KC-135 Flight Investigations," Soil Science Society of America Journal, Vol. 69, No. 3, pp. 593-598, 2005.

I.M. Lee, H.J. Lee, J.Y. Cheon, and Lakshmi N. Reddi, "Evaporation Theory for Deformable Soils," ASCE Journal of Geotechnical and Geoenvironmental Engineering, Vol. 129, No. 11, 2003, pp. 1020-1027.

Steinberg, S. L., J. I. D. Alexander, N. Daidzic, S. Jones, G. Kluitenberg, D. Or, L. N. Reddi, M. Tuller, M. Xiao "Fluid Flow and Distribution through Porous Plant Growth Media in Microgravity—Status Update," Habitation Abstract Issue 9:105-106, 2003.

Hajra, M.G., L.N. Reddi, L.A. Glasgow, X. Ming, and I.M. Lee, "Effects of Ionic Strength on Fine Particle Clogging of Soil Filters," ASCE Journal of Geotechnical and Geoenvironmental Engineering, 128(8):631-639, 2002.

Lee, I.M., J.H. Kim, and L.N. Reddi, "Clogging Phenomena of the Residual Soil-Geotextile Filter System," ASTM Geotechnical Testing Journal, 25(4):379-390, 2002.

Lee, I.M., Y.J. Park, and L.N. Reddi, "Particle Transport Characteristics and Filtration of Granitic Residual Soils from Korean Peninsula," Canadian Geotechnical Journal, 39:472-482, 2002.

Lakshmi N. Reddi, and S.P. Kakuturu, "Self-healing of Concentrated Leaks at Core-Filter Interfaces in Earth Dams," ASTM Geotechnical Testing Journal, 27(1):89-98.

Lee, I.M., K.J. Hyun, and L.N. Reddi, "Experimental Study of Permeability Reduction in Soil-Geotextile Filter System: Anisotropic Characteristics," Journal of the Korean Society of Civil Engineers, 20(3C):229-242, 2001.

Lee, I.M., S.S. Choi, and L.N. Reddi, "Permeability Reduction of Soil Filters due to Physical Clogging," Journal of the Korean Society of Geotechnical Engineers, 17(1):15-24, February 2001.

Starrett, S.K., O. Itani, H. Davalos, Y. Najjar, and L.N. Reddi, "Locating Waste Management System Sites Using GIS Technology," Elec. J. of Geotech. Engrg., http://geotech.civen.okstate.edu/ejge/Ppr0114/, 2001.

Bonala, M.V.S., and L.N. Reddi, "Ammonium Transport Through Lagoon Liners – Modeling Studies," ASCE Geotechnical Special Publication No. 105, Environmental Geotechnics, pp. 105 – 120, 2000.

Lakshmi N. Reddi, and H. Davalos, "Animal Waste Containment in Anaerobic Lagoos Lined with Compacted Clays," ASCE Journal of Geotechnical and Geoenvironmental Engineering, Vol. 126, No. 3, 2000, pp. 257-264.

Bonala, M.V.S., L.N. Reddi, and H. Davalos, "Scrape-and-Replace Lagoon Liner Technique to Minimize Ammonium Transport from Animal Waste Lagoons," ASCE Practice Periodical of Hazardous, Toxic, and Radioactive Waste Management, Vol. 4, No. 2, 2000, pp. 60-64.

Lee, I.M., J.H. Kim, and L.N. Reddi, "Permeability Reduction Model of Soil-Geotextile System Induced by Clogging," Journal of the Korean Society of Geotechnical Engineers, 16(4):107-116, August 2000.

Ming, X., and L.N. Reddi, "Comparison of Fine Particle Clogging in Soil and Geotextile Filters," ASCE Geotechnical Special Publication No. 103, Advances in Transportation and Geoenvironmental Systems Using Geosynthetics, pp. 176-185, 2000.

Hajra, M.G., L.N. Reddi, G.L. Marchin, and J. Mutyala, "Biological Clogging in Porous Media," ASCE Geotechnical Special Publication No. 105, Environmental Geotechnics, pp. 151-165, 2000.

Lakshmi N. Reddi, X. Ming, M.G. Hajra, and I.M. Lee, "Permeability Reduction of Soil Filters due to Physical Clogging," ASCE Journal of Geotechnical and Geoenvironmental Engineering, Vol. 126, No. 3, 2000, pp. 236-246.

Lakshmi N. Reddi, Lee, I.M., and Bonala, M.V.S., "Comparison of Internal and Surface Erosion using Flow Pump Tests on a Sand-Kaolinite Mixture," ASTM Geotechnical Testing Journal, Vol. 23, No. 1, March 2000, pp. 116-122.

Lakshmi N. Reddi, and Bonala, M.V.S., "Fractal Representation of Soil Cohesion," a technical note in ASCE Journal of Geotechnical and Geoenvironmental Engineering, 125(10):901-904, 1999.

Kyle G., Banks M.K., and L.N. Reddi, "Transport and Biodegradation of Petroleum Hydrocarbons at Subsurface Sand/Clay Interfaces," Journal of Environmental Science and Health, A34(1):1-29, 1999.

Bonala, M.V.S., and L.N. Reddi, "Physicochemical and Biological Mechanisms of Soil Clogging: An Overview," ASCE Geotechnical Special Publication No. 78, pp. 43-68, 1998.

Lakshmi N. Reddi, Discussion of "Analytical Model of Particle Migration Within Base Soil-Filter System," ASCE Journal of Geotechnical and Geoenvironmental Engineering, 124(10), 1998, pp. 1045-1046.

Lakshmi N. Reddi, Menon S., and Pant A., "Pore-Scale Investigations on Vibratory Mobilization of LNAPL Ganglia," Journal of Hazardous Materials, Vol. 62, No. 3, pp. 211-230, 1998.

Lakshmi N. Reddi, Han W., and M.K. Banks, "Mass Loss from LNAPL Pools Under Fluctuating Water Table Conditions," ASCE Journal of Environmental Engineering, Vol. 124, No. 12, 1998.

Lakshmi N. Reddi, and J. Nichols, "Bench-Scale Investigation on Vibrorecovery of NAPL Ganglia from Sands," a technical note in the ASCE Journal of Environmental Engineering, 124(9), 1998, pp. 897-901.

Lakshmi N. Reddi, and M.V.S. Bonala, "Analytical Solution for Fine Particle Accumulation in Soil Filters," ASCE Journal of Geotechnical and Geoenvironmental Engineering, 123(12):1143-1152, 1997.

Lakshmi N. Reddi, and M.V.S. Bonala, "Impact of Pore Fluid Composition Changes on Soil Filter Clogging," ASCE Geotechnical Special Publication, No. 71, pp. 433-448, 1997.

Lakshmi N. Reddi, "Particle Transport in Soils: A Review of Significant Processes in Infrastructure Systems," ASCE Journal of Infrastructure Systems, 3(2):78-86, 1997.

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KEYNOTE AND INVITED LECTURES (SELECTED)

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"From Love of Technological Beauty to Love as Beauty," Keynote Address, 35th Annual Humanities and Technology Association Conference, St. Thomas University, Miami, FL, November 7-9, 2013.

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Lakshmi N. Reddi, and H. Wu, "Performance Evaluation of Vibrorecovery as Remediation Technology at Hazardous Waste Sites," presented at the 9th Annual Conference on Hazardous Waste Remediation, Bozeman, Montana, June 8-10, 1994.

Prabhushankar, R.N., Reddi, L.N., and Schwab, P.A., "Clay Colloid-Associated Transport of Contaminants into the Subsurface," presented at the 9th Annual Conference on Hazardous Waste Remediation, Bozeman, Montana, June 8-10, 1994.

Rieck, G., and Reddi, L.N., "Stabilization of Foundry Waste with Clay Binders and Its Utilization," presented at the 9th Annual Conference on Hazardous Waste Remediation, Bozeman, Montana, June 8-10, 1994.

Lakshmi N. Reddi, "Feasibility and Efficiency of Vibrorecovery Technology to Remediate LNAPL-Contaminated Sites," presented at the ACS Special Symposium - Emerging Technologies in Hazardous Waste Management VI, September 19-21, 1994.

Thangavadivelu, S., and Reddi, L.N., "Generalized Prediction of Permeability of Compacted Clays," presented at the 1994 ASAE summer meeting, June 19-22, Kansas City, Missouri.

Rieck, G., Lakshmi N. Reddi, Chou, S-T., and Fan, L.T., "Utilization and Potential Commercialization of Waste Generated in Kansas Manufacturing Industries," presented at the AMI Progress in Manufacturing Conference & Exhibit, January 7, 1994, Kansas State University.

Lakshmi N. Reddi, and S. Challa, "Mobilization of Organic Contaminants from Soils due to Cyclic Pore Pressures," presented at the Hazardous Waste Research Conference, Kansas State University, May 25-26, 1993.

Prabhushankar, R.N., and Reddi, L.N., "Physical Extraction of Clay Colloids and the Associated Contaminants from Saturated Subsurface," presented at the Hazardous Waste Research Conference, Kansas State University, May 25-26, 1993.

Govindaraju, R.S., and Reddi, L.N., "A Physically Based Model for Transport of Colloidal Clay Particles Under Hydraulic Gradients," presented at the 1993 Fall Meeting of the American Geophysical Union, San Francisco, December 7, 1993.

Bhargava, S.K., Govindaraju, R.S., and Reddi, L.N., "Pore Evolution During Colloidal Clay Particle Removal Under Hydraulic Gradients," presented at the 1993 Fall Meeting of the American Geophysical Union, San Francisco, December 7, 1993.

Lakshmi N. Reddi, "Enhancement of Drainage in and Stability of Highway Embankment Slopes," 75th Annual Kansas Transportation Engineering Conference, Kansas State University, March 31 - April 1, 1993.

Hadim, A., Shah, F., Reddi, L.N., and Prabhushankar, R.N., "Feasibility of Ultrasonic Enhancement of In-Situ Remediation Techniques," poster presentation at New Jersey Institute of Technology, October 15, 1993.

Lakshmi N. Reddi and G.P. Korfiatis, "A Vibratory Method for In-situ Remediation of Soils Contaminated with Non-Aqueous Phase Liquids" presented at the Conference on Hazardous Waste Research, University of Colorado at Boulder, June 1-2, 1992.

Lakshmi N. Reddi, "Development of Geo-mechanical techniques for Remediation of NAPL-contaminated Sites" presented at the Environmental Geotech Symposium of the 1992 ASCE International Convention & Exposition, September 14-17, New York, 1992.

Lakshmi N. Reddi, "Simple Conceptualizations of Flow in the Unsaturated Zone", AGWSE Conference of Ground Water Flow Systems and Land Use: Relation to Quality of Shallow Ground Water, September 25-26, 1990, Anaheim, CA.

TEACHING EXPERIENCE

Courses taught range from freshmen-level "Introduction to Engineering" to advanced graduate-level courses in the interdisciplinary themes of Geoenvironmental Sciences and Engineering.

Teaching Recognitions

Between Fall '92 and Fall '99, every undergraduate course taught resulted in student recognitions, nominations, and/or awards:

Fall '92	Nominated for James L. Hollis Award for Excellence in Teaching
Fall '93	Chi Epsilon Excellence in Teaching Award
Fall '93	Nominated for James L. Hollis Award for Excellence in Teaching
Spring '94	Chi Epsilon Excellence in Teaching - Central District Award
Spring '94	Nominated for the James M. Robbins Excellence in Teaching Award (National Award of Chi Epsilon)
Fall '94	Nominated for James L. Hollis Award for Excellence in Teaching
Fall '95	Nominated for James L. Hollis Award for Excellence in Teaching
Fall '97	Chi Epsilon Excellence in Teaching Award
Fall '97	Nominated for James L. Hollis Award for Excellence in Teaching
Spring '98	Chi Epsilon Excellence in Teaching - Central District Award
Spring '98	Nominated for the James M. Robbins Excellence in Teaching Award (National Award of Chi Epsilon)
Spring '99	Nominated for Myers-Alford Memorial Teaching Award, Kansas State University, 1999

Graduate Student Supervision
(MS with research theses only; Students mentored on research reports and undergraduate research experiences are not listed)

Aguilar, E.M., Efficiency of Vibroflotation as an In-situ Decontamination Technique for NAPL-Contaminated Soils, Fall 1990, Stevens Institute of Technology.

Kasimsetty, V.R., Statistical Characterization of Clay Liners, Spring 1991, Stevens Institute of Technology.

Mareddy, B., Sensitivity of Groundwater Mounds to Surface Fluxes, Spring 1991, Stevens Institute of Technology.

Nagalingam, N., An Appraisal of Physically-based Models for Predicting Recharge due to Rainfall, Spring 1991, Stevens Institute of Technology.

Vishnu V.R. Seri, Critical Shear Stress Evaluation of Kaolinite-Sand Mixtures, Summer 1994, Kansas State University.

Sreedhar R. Challa, Vibratory Mobilization of Immiscible Liquid Ganglia in Sands, Summer 1994, Kansas State University.

Kasavaraju, S.K., Mobilization of Kaolinite Particles under Hydraulic Gradients, 1994, Kansas State University.

Hui Wu, Stability of Immiscible Liquid Ganglia in Saturated Sands, 1995, Kansas State University.

Menon, S., Pore-Scale Processes Involved in NAPL Ganglia Entrapment and Mobilization, 1996, Kansas State University.

Pant, A.K., Fate and Transport of LNAPL Ganglia in Porous Media: Experimental and Theoretical Investigations, 1996, Kansas State University.

Poduri, R., Generalized Characterization of Water Retention Properties of Fine-Grained Soils, 1996, Kansas State University.

Rieck, G.P., Stabilization of Phenolics in Foundry Waste Using Cementitious Materials, 1996, Kansas State University.

Thangavadivelu, S., Hydraulic Characteristics of Compacted Clays in Waste Isolation Barriers, 1995, Kansas State University.

Lucas, K.M., Review of Permeability Measurement Methods and a Proposed Syringe Injection Method, 1996, Kansas State University.

Nichols, J., Benchscale Investigations on Vibrorecovery of Immiscible Liquid Ganglia from Sands, 1997, Kansas State University.

Davalos, H., Use of Compacted Clay Liners for Animal Waste Management, Spring 1999, Kansas State University.

Sailaja, T., Pore Occlusion in Fine-Grained Soils, Spring 2005, Kansas State University.

Howard, J., Erosion Applications of Animal Waste Compost Materials, Spring 2006, Kansas State University.

Kamath, A., Appraisal of Methods to Estimate Permeability, Fall 2006, Kansas State University.

Ganesh, Stabilization of Metal-Contaminated Mine Tailings, Fall 2006, Kansas State University.

Doctoral Supervision
(As sole Major Professor only; committee services, and students served as co-major professor, are not listed)

Lee, K-Y., Predictions of Hydraulic Conductivity of Compacted Clays based on Micro- and Macroscopic Parameters, Spring 1992, Stevens Institute of Technology. (Current academic position: Professor of Civil Engineering, Dongseo University, South Korea)

Bonala, M.V.S., Role of Critical Shear Stress in Erosion, Drainage, and Mechanical Behavior of Soils, 1997, Kansas State University.

Han, W., Fate and Transport of Nonaqueous Phase Liquid Under Fluctuating Water Table Conditions, 1998, Kansas State University.

Prabhushankar, R.N., Colloid-Associated Transport of Contaminants into the Subsurface, Summer 1999, Kansas State University.

Hajra, M.G., Physicochemical and Biological Clogging of Sand Filters, 2001, Kansas State University.
(Current academic position: Assistant Professor, Department of Civil and Environmental Engineering, The University of New Orleans)

Ming, X., Modeling the Impact of Physical Clogging on Filtration and Drainage Characteristics of Sands, 2001, Kansas State University.
(Current academic position: Associate Professor, Department of Civil and Environmental Engineering, The Pennsylvania State University)

Barnes, P.L., The Role of Application Timing and Vegetative Filters on Reducing Atrazine Runoff, 2001, Kansas State University
(Current academic position: Associate Professor in Biological and Agricultural Engineering at Kansas State University)

Kakuturu, S., Predictive Modeling of Piping and Self-Healing in Earth Dams, 2003, Kansas State University.
(Current academic position: Assistant Professor of Civil Engineering, The Pennsylvania State University, Harrisburg)

Jain, A.,Finite Depth Seepage Below Flat Apron with End Cutoffs and Downstream Step, 2011, University of Central Florida.
(Deceased; formerly Professor of Civil Engineering, Jodhpur National University, India)

Post-Doctoral Supervision

Prof. Carole Boyce Davies, Cornell University: International focus to graduate education, 2014-15

Prof. G.V. Narasimha Reddy, JNT University, India: Mathematical modeling of moisture and heat transfer through stabilized soils, 2014-15

Prof. K-Y. Lee, Pusan National University, South Korea: Geoenvironmental challenges and opportunities in Korean Peninsula, 2010

Prof. Sai Kakuturu, currently at Pennsylvania State University: Biomimetics related to energy-efficient buildings; Modeling hydraulic behavior of earth dams; Stormwater management, 2007-11

Prof. Ming Xiao, currently at Pennsylvania State University: Modeling pore structure changes in zero-gravity, 2002-05

Prof. In-Mo Lee, currently at Korea University: Filter clogging in underground tunnels;

evaporation theories, 2001-02

Prof. Saibaba Reddy, JNT University (current position: Vice Chancellor, Veer Surendra Sai University of Technology, Odisha, India): Soil remediation and waste containment technologies relevant to India, 2001

Dr. Mohan Bonala, currently at California Department of Transportation: Environmental challenges associated with farming and waste management practices, 1998-01

Prof. T.S. Nagaraj, Indian Institute of Science, Bangalore, India: Generalized behavior of remolded clays, 1994