CURRICULUM VITAE

David V. Rosowsky, Ph.D., F.ASCE, F.SEI

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BRIEF BIO:

David V. Rosowsky is a Professor of Civil Engineering at the University of Vermont, where he also served as Provost and Senior Vice President for six years (2013-2019). Prior to joining UVM as Provost, Dr. Rosowsky served as the 15th Dean of Engineering at Rensselaer Polytechnic Institute (2009-2013), and before that as Head of the Zachry Department of Civil Engineering at Texas A&M University (2004-2009), where he also held the A.P. and Florence Wiley Chair in Civil Engineering. He also previously held the Richardson Chair in Wood Engineering and Mechanics at Oregon State University (2000-2004).

As UVM Provost, Dr. Rosowsky served as the chief academic officer and chief budget officer and was responsible for enhancing the University's intellectual climate, strengthening instruction and scholarship, advancing diversity, creating an outstanding student experience, promoting student access to success, and identifying investments and efficiencies ensuring a thriving future for the University.

In addition to his research publications, Dr. Rosowsky has published extensively on topics related to higher education and leadership. In the last year, his writing on these topics has been published in *The Chronicle of Higher Education*, *Inside Higher Education*, *Forbes*, *AdWeek*, *University Business*, *Trusteeship*, and several other print and online publications.

Since 1990, Dr. Rosowsky has conducted research in the areas of structural reliability, performance of wood structural systems, design for natural hazards, stochastic modeling of structural and environmental loads, and probability-based codified design. His current research addresses three topics: (1) behavior of the built environment subject to natural hazards, most recently including the effects of climate change and adaptation, (2) modeling and analysis of load effects on buildings and other structures with particular emphasis on complex environmental phenomena, and (3) performance-based engineering for design, post-disaster condition assessment, and loss estimation studies. He currently serves on the Editorial Board of the journal *Structural Safety* and the journal *Sustainable and Resilient Infrastructure*, and is a past editorial board member of the ASCE *Journal of Infrastructure Systems*, the ASCE *Journal of Structural Engineering* and the journal *Natural Hazards Review*.

As a researcher, Dr. Rosowsky has authored or co-authored more than 150 papers in peer-reviewed journals and more than 140 papers appearing in conference proceedings. A recognized expert in the field of structural reliability, he has been invited to present his research work around the world including invited lecturers in France, Italy, Switzerland, Canada, Japan, Australia and New Zealand. He has supervised more than 20 Masters and Doctoral students. He is the recipient of the ASCE Walter L. Huber Research Prize, the T.K. Hseih Award from the Institution of Civil Engineers (UK), and the ASCE Norman Medal.

Dr. Rosowsky maintains an active research program in wind and earthquake engineering and continues to supervise graduate students and post-doctoral researchers. He is a member of numerous editorial boards, national technical committees, is a registered Professional Engineer, and holds the rank of Fellow of the American Society of Civil Engineers and Fellow of the Structural Engineering Institute.

RESEARCH IMPACT:

Professor Rosowsky is recognized as one of the world's leading authorities on reliability-based design of engineered wood structures and systems. For the past 30 years, Dr. Rosowsky has been conducting research in the areas of probability-based design, stochastic modeling of structural and environmental loads, performance-based design, and behavior of wood structural systems subject to wind and seismic loads. The results of his research have formed the basis for many of the code provisions found in the current LRFD standard for engineered wood structures, as well the ASCE 7 and ASCE 37 design load standards.

Professor Rosowsky is one of the pioneers in the field of performance-based seismic design of wood structures, having served as an investigator on the CUREE-Caltech Woodframe Project, the NSF NEESWood Project, and most recently the NSF NEESoft Project. His work has been supported by the National Science Foundation, the United States Department of Agriculture, the National Institutes of Health, the Federal Emergency Management Agency, and various state agencies. He has also received support from a range of industrial sponsors for research on structural system performance and methodologies for establishing element-level design values. Dr. Rosowsky's work on both time-effects in wood (load duration) and repetitive-member (system) factors continues to form the basis for the treatment of these issues in codified design standards around the world.

Dr. Rosowsky's contributions to the development of LRFD standards, stochastic load modeling, performance-based design of wood structures, and most recently hazard analysis and characterization are widely cited throughout North America, Europe, and the Pacific Rim countries. His continuous record of research with his graduate students and post-doctoral researchers over the last 30 years has led to nearly 300 papers, including more than 150 in peer-reviewed journals.

SOCIAL MEDIA:

As Provost, Dr. Rosowsky was ranked (*Campus Sonar*, 2018) among the **top-10 most influential university executive leaders** on Twitter, #7 overall and #1 among provosts. He is active on Twitter and Linkedin. He continues to use Twitter (as he did as Provost) to recognize, celebrate, and promote the accomplishments of students, faculty, staff, and alumni at the University of Vermont. On LinkedIn, his focus is on higher education more broadly including topics relating to leadership, innovation, change, budget and finance, and governance.

Twitter: @DavidRosowsky
Linkedin: David Rosowsky

PART I:
UNIVERSITY OF VERMONT'S "INNOVATION AND ENTREPRENEURSHIP ECOSYSTEM" HIGHLGHTS, ACHIEVEMENTS, AND RECOGNITIONS SINCE 2013

The "Innovation and Entrepreneurship Ecosystem" concept and initiative set was created by UVM Provost Rosowsky in 2013. It was driven by concomitant initiatives and investments in STEM (programs, facilities), interest in creating opportunities (curricular and co-curricular programs as well as business development programs) for students and faculty around innovation and entrepreneurship, and a quickly evolving startup ethos (several tech, software, bioscience, and fintech startups; business incubators; new co-working spaces) in Burlington, VT.

Provost Rosowsky laid out a bold and ambitious vision for creating an innovation culture on the UVM campus, where one had not existed previously, that would respond to growing interest in innovation and entrepreneurship on the campus and leverage nascent activities in and around Burlington, helping to establish Burlington, VT as a viable and compelling location for startups, innovators, tech entrepreneurs, and investors.

Examples of successful initiatives:

Under the leadership of the provost, we have created entirely new **branding, marketing, and communications** strategy at the University to focus on academic initiatives, research, and innovation. Effort commenced with a three-year contract with a marketing and branding firm with considerable experience creating visibility and engagement for major academic institutions, allowing in-house talent, expertise, and capabilities to be developed. Results include more successful student recruitment from expanded and new markets (new revenue), greater national press for academic and research programs (greater visibility), creation and adoption of a university-wide style guide (consistent messaging), and university-wide strategies (print, web, social media) for consistent and effective marketing, branding, and both internal and external communication. This has transformed the way we message (to stakeholders ranging from prospective students to major donors) the value, impact, and potential of the University.

The provost has significantly increased opportunities for faculty and student engagement in the Vermont Center for Emerging Technologies (VCET). **VCET** provides space, services, mentorship, seminars, as well as connections to investors and other financing opportunities. With co- working space downtown (just blocks away from the UVM campus, and now also embedded in the UVM campus, VCET has become an integral part of UVM's innovation and entrepreneurship ecosystem. The provost serves on the board of VCET along with other technology, innovation, and economic development leaders.

Under the provost's leadership, UVM's Office of Technology Transfer was reimagined and rebranded (with expanded staff and responsibility to meet growing needs with the increase in innovation activity across the campus) as **UVM Innovations**. Plans are underway to relocate UVM Innovations to a new space in 2019 that will also include space for SPARK teams, student entrepreneurship activities, embedded industrial researchers, entrepreneurs-in-residence.

Recognizing the early success of the nascent **SPARK-VT** program in the Department of Medicine, the provost provided visionary leadership, resources, and direction in expanding the program first to the broader College of Medicine, and then to the entire University. Scaling this innovative program (based on the SPARK program at Stanford, and now recognized as one of the most successful such SPARK spin-offs) resulted in broader faculty engagement, greater investor engagement, and increased IP, patent, tech transfer, and startup activity at the University. Now part of the University's innovation culture, the success of the SPARK-VT program is helping to attract faculty and researchers to UVM, and has resulted in the launch of a new (and highly successful) brown-bag series for researchers. In 2017, and with support from the Provost and the Vice President for Research, a student entrepreneurship organization on campus launched their own SPARK program specifically for students.

At the request of the provost, the University of Vermont Foundation created and hired staff for a new office for **Corporate and Foundation Relations**. The model was built on successful models at other universities, and was accompanied by a strategic plan for engaging deans, chairs, faculty, and researchers in appropriate fields. University leadership was provided by the provost. Corporate engagement was entirely new for the University of Vermont, and this transition required both a compelling case statement and patience. Persistence in messaging

the importance and value of corporate engagements and partnerships has paid off. In addition to several new major corporate partnerships (through gifts, research contracts, or both), in 2018 the University of Vermont announced its first *Center of Excellence*, the MassMutual Center of Excellence in Complex Systems and Data Science. Additional *Center of Excellence* discussions are underway with several other large companies.

The provost has advocated for (and provided support for) new **innovation spaces** for use by students and faculty. These include innovation classrooms, open-access project spaces, and shared-use spaces. The first such space, "Hills 20," has served as a model for other innovation spaces. **Innovation and active learning classrooms** now exist in several buildings in the Larner College of Medicine, the College of Engineering and Mathematical Sciences, and the Grossman School of Business. In the coming year, we expect to establish two new innovation spaces on campus, including one for the new Innovation and Entrepreneurship Residential Learning Community.

UVM Research: growth and highlights

In his first year (2013), the provost re-envisioned the Office of the Vice President for Research and appointed a new VPR, Dr. Richard Galbraith. The new VPR was given the charge to elevate research and scholarship, and serve faculty to accomplish the same, across the University. Resources were made available for strategically investing in the most promising research directions, the most innovative cross-college teams interested in pursuing large center-level grants, support for faculty grant-writing, seed grants, equipment and matching funds. The VPR also works closely with the provost providing leadership, direction, and resources to support the innovation and entrepreneurship ecosystem.

The VPR also was charged with supporting and growing scholarly activity in those parts of the university without doctoral or research programs. While such scholarship generally requires far less financial investment than laboratory-based, engineering, basic science, and clinical research, its impact can be just as significant in advancing the visibility and reputation of the University as a comprehensive public research university, and provides meaningful learning and discovery opportunities for our students.

Each year the University invests millions of dollars in direct faculty research support, matching funds, faculty startup packages, seed grants, and tech transfer. As part of the provost's commitment to transparent communication, the magnitude and targets of these investments are reported to the campus annually.

Among the eight *Academic Excellence Goals* established by the provost in 2013 (to undergird and animate the *President's Strategic Action Plan*) was to grow extramural research across the University. Ambitious goals were established by the provost and VPR in 2013. Despite changes in the federal funding landscape and policies in Washington that presented challenges for all research universities in recent years, UVM's research portfolio has been able to grow in scope (range of units across the campus seeking extramural support for research) and in magnitude (total extramural grant support annually).

One strategy implemented by the provost was aimed at growing the number of large (e.g., center-level) grants obtained by faculty and faculty teams at the University. Beginning in 2014, resources were directed specifically toward achieving this goal within three years. In FY18, 24 grants above $1M were awarded to UVM researchers, more than six times the average number just four years ago.

Outcomes (2013-present):

Annual research expenditures increased more than 30%

Number of grants of $1M or more awarded increased six-fold to 24 in FY18

UVM's first university-wide institute, the Gund Institute for Environment, launched in 2017

UVM's first Center of Excellence, the MassMutual Center of Excellence in Complex Systems and Data Science, established in 2018

Innovation and Entrepreneurship Residential Learning Community launched in fall 2018

The second building (*Innovation*) in UVM's ambitious STEM Complex is opened in summer 2019 (following the opening of the first building, *Discovery*, in summer 2017)

UVM Innovations, previously the Office of Technology Commercialization, launched in 2015

SPARK-VT program expanded to be university-wide in 2015. Now in its fourth year, SPARK-VT has invested in 18 early stage companies and launched 3 startups (with 3 more launches expected in the next 12 months)

Of 185 patents issued, 52 (28%) have been in the last five years; average invention disclosure rate now exceeds 45/year, and patent application rate now exceeds 10/year

12 spinoff companies created based on technologies created at UVM since FY15 (an average rate of three per year, up from an average rate of less than one per year prior to FY15)

31 companies created since 2000, 10 in the last four years

More than a dozen new innovation spaces, maker spaces, and active learning classrooms have been created since FY14

In fall 2018, nearly 40% of UVM undergraduate students indicated they have an interest in innovation and entrepreneurship; nearly 10% of survey respondents indicated they are already involved in a small business or startup

Several innovation and entrepreneurship-themed student organizations have been established in the last three years; and a forum is now organized by the Office of the Vice President for Research to bring students and faculty together to learn about technology commercialization, creating a startup, presenting to potential investors, etc.

UVM is a founding partner and/or is providing ongoing financial support to VCET, BTV Ignite, and Generator, each year engaging more UVM students and faculty

The Office of the Provost, the Office of the Vice President for Research, and UVM Innovations now host an annual event celebrating patents awarded to, and startup companies launched by, UVM faculty

UVM's Innovation and Entrepreneurship Ecosystem is now regularly highlighted in several university publications (e.g., Vermont Quarterly, Across the Green, and reports to both the UVM Board of Trustees and the UVM Foundation Board)

What others are saying:

"Vermont ranked #5 for Startups" (Kaufmann Foundation, 2017)

"Burlington a Top-10 Tech Hub" (Forbes, 2015)

"Burlington is one of the country's most promising tech hubs" (Techie.com, 2017)

"UVM/VCET ranked 11th best university-oriented business incubator globally, and #5 in the US" (University Business Incubator Index, 2015)

"As Provost, Dr. David Rosowsky has been the University of Vermont's biggest champion for public-private partnerships that drive innovation and attract resources to the state of Vermont. He is a tireless advocate for progress, bringing vision and courage to his daily work when others might not be able to imagine the scale of potential outcomes. With his leadership we built the largest corporate partnership in UVM's history, the MassMutual Center of Excellence in Complex Systems and Data Science, a $5M, five-year collaboration likely to be a source of significant funding in the future. He personally championed this partnership, joining meetings and planning sessions where it was critical to have university leadership at the table along with faculty. He is a great partner and leader, allowing others to shine while knowing when to step in and lead – a rare emotional intelligence that goes a long way when establishing strategic, impactful partnerships."
- Alexa Woodward, Director of Corporate and Foundation Relations, UVM Foundation

“As a long-time observer of and participant in the Vermont entrepreneurial system it has been very exciting to see the University of Vermont become an increasingly critical contributor. Provost Rosowsky has been an extraordinary leader and advocate for increasing the engagement of UVM throughout the State. The impact of these efforts on the economy and jobs in our region is immeasurable.”
-John Evans, President, Vermont Technology Council

“The transformation at the University of Vermont around innovation and entrepreneurship has been remarkable. Over the last six years, UVM has built capacity and engagement, created opportunities inside and outside the University, and established UVM as a major contributor to innovation in Vermont. David Rosowsky, UVM’s provost, relentlessly pursued his ‘ecosystem’ vision to transform UVM from a relatively static public university to a vibrant and dynamic, forward looking and engaged research university that embraces its mission to create new technologies, jobs, and businesses. Today, UVM is a valued partner for business and for economic development in the State of Vermont.”
-Mary Powell, President and CEO, Green Mountain Power

"As technology-driven change continues to accelerate, universities must adapt to fulfill their potential as innovation leaders. This includes enabling the right culture, new forms of engagement, and dedicated support needed for successful, continuous innovation. David Rosowsky’s blueprint for innovation includes the university’s partnership with Vermont’s Center for Emerging Technologies (VCET), the creation of UVM Innovations for efficient tech transfer, establishing the SPARK-VT innovation program, and the development of corporate research partnerships. Through David's leadership and vision for an innovation ecosystem, UVM now has new capabilities essential for building tomorrow’s solutions."
-Otto Berkes, Technology Executive and Xbox Co-Founder 5

"An innovation economy doesn't magically appear based upon someone's speech or fundraising plan. It takes strategic direction, sustained commitment, creative collaborations, relevant infrastructure, leadership that "gets it" and entrepreneurial grit. Like never before, and thanks to the leadership and vision of Provost and Senior Vice President Rosowsky, UVM is firing all pistons in supporting the innovation and entrepreneurship ecosystem here in Vermont.”
-David Bradbury, President, Vermont Council on Emerging Technologies

PART II:
ACADEMIC CV (TEACHING, RESEARCH, SERVICE, LEADERSHIP)

RESPONSIBILITIES AS PROVOST AND SENIOR VICE PRESIDENT, 2013-2019

The Provost/Senior VP is both the Chief Academic Officer and the Chief Budget Officer for the university. The University of Vermont (UVM) is a comprehensive public land-grant university with a total enrollment of 13,000 students (10,000 undergraduate, 75% out-of-state), 3700 faculty and staff, more than 130,000 living alumni, and an array of academic programs (undergraduate, graduate, and professional) across eight colleges/schools (College of Arts & Sciences, College of Engineering and Mathematical Sciences, College of Education and Social Services, College of Agriculture and Life Science, College of Nursing and Health Sciences, College of Medicine, the Rubenstein School of Environment and Natural Resources, and the Honors College), with a general fund budget of $330M and a total operating budget of more than $650M annually. The University of Vermont has long held a reputation for outstanding academic programs and faculty, is regarded as a "Public Ivy," and consistently ranks among the nation's top universities of its size. UVM is a major research university that attracts about $130M in extramural support for research annually. The university's annual economic impact on the state of Vermont exceeds $1.33B. Reporting to the Provost/Senior VP are the eight academic deans, the Dean of the Graduate College, the Dean of Continuing and Distance Education, the Dean of Extension, the Director of the Fleming Museum, the Director for the Office of Institutional Research, the Director for Global Educational Initiatives, the Associate Provost for Teaching and Learning, the Associate Provost for Faculty Affairs, the Assistant Provost/Chief of Staff, the Vice Provost for Student Life, the Vice President for Enrollment Management, the Vice President for Research, and the Vice President for Finance and Treasurer. The Provost and Senior Vice President reports directly to the President and the Board of Trustees, and is the responsible official for the University in the President's absence.

The University of Vermont has a robust shared governance culture that includes the Faculty Senate, Staff Council, Student Government Association, and Graduate Student Senate. The Provost/Senior VP works closely with all campus governance groups to promote this important culture and ensure their effective engagement. The Faculty Senate at UVM has responsibility for all curricular matters and therefore works closely with the Provost's Office.

The Provost/Senior VP works directly with leadership of the University of Vermont Foundation on all academic fundraising initiatives; sets priorities and strategies as well as annual goals (number of donor engagements, number of new gifts, and fundraising totals) for the deans; travels frequently with Foundation staff for alumni visits and functions; works closely with the President and other senior university officials on capital projects fundraising; and takes a leadership role in cultivation and stewardship of donors for gifts related to university-wide academic priorities including the STEM Complex, the Institute for Environment, new endowed chairs and professorships, and support for students (scholarships and fellowships).

Beyond the daily responsibilities as Chief Academic Officer (e.g., quality, integrity, rigor, and robustness of all academic programs; faculty hiring, promotion, and tenure; leading the council of deans; facilitating new academic partnerships) and Chief Budget Officer (e.g., developing a structurally balanced annual operating budget, managing processes to accommodate budget reductions and reallocations), the Provost and Senior Vice President is responsible for the following:

- Leading the university-wide effort to create and implement a new **incentive-based budget** (IBB) model. This ambitious two-year effort engaged constituents from across the campus and represents the first total overhaul of the budget model in the university's history. New levels of engagement, transparency, and inclusiveness are the hallmarks of this initiative that has resulted in a budget model that (a) more directly links strategy and resources at the level of the colleges; (b) empowers the deans to be innovative and entrepreneurial, and to generate new revenues for the colleges; and (c) holds deans accountable for enrollment management and tuition revenue targets, student retention and four-year graduate rates as well as other success metrics, scholarly productivity and impact metrics, instructional and operating costs and efficiencies, and overall sustainable financial health of their colleges. All together, more than 250 faculty and staff participated in the development and implementation of the new budget model. The Provost chaired the 22-person university-wide Steering Committee, a committee that continues to meet regularly to assess

the model's operation/effectiveness and recommend changes as needed. The new budget model went into effect on July 1, 2015.

- Developed a list of eight **Academic Excellence Goals**, in consultation with faculty, staff, and students, to animate the President's Strategic Action Plan. The *Academic Excellence Goals* were developed to galvanize the University community around a common set of well-defined objectives, and to "plant a stake in the ground" committing UVM to achieving the highest standards of academic excellence. In defining these eight *Academic Excellence Goals*, we carefully considered our mission as a land-grant university and our role as Vermont's flagship public research university, our commitment to the principles and content of a liberal education, and our nearly 225-year history as a distinctive and important institution of higher learning. We also considered the challenges facing higher education today and the changes being made by universities to ensure relevancy, sustainability, and a vibrant future. By achieving against these clearly articulated *Academic Excellence Goals*, we expect to positively influence nearly all of our indicators of success: student quality, student access and student success, diversity, visibility and rankings, scholarly productivity and impact, alumni engagement, global reach and global impact, faculty recruitment, institutional innovation, capital project construction, and financial security.

- Following a year of active listening, learning, and engaging with university constituents both on and off-campus, a set of **priority academic initiatives** was established to address (1) academic advising, (2) evaluation of teaching performance, and (3) scholarly productivity and impact. These areas emerged as shared priorities for the Faculty Senate, the deans, and the students (through their governance groups). A specific charge memo (with background, basis, goals, specific information about timeline for deliverables and constituent engagement, follow-up and anticipated outcomes) was provided to the deans for each of these three initiatives:

  Academic Advising
  Evaluation of Teaching Performance
  Scholarly Productivity and Impact

- Leading the effort to construct a new **STEM teaching and laboratory complex** for the university. This $104M capital project is the largest in the university's history and includes a new building as well as the renovation of two existing buildings. Worked closely with the UVM Foundation to develop the case statement for philanthropic support of a significant portion of the project, and with the Board of Trustees to garner support for the debt service (bond issue) for the remaining portion. Created the STEM Leadership Council, a high-level group of alumni and other supporters, to assist in project visioning and resource development. This group meets every 4-6 months and is chaired by the Provost. Working closely with UVM Foundation leadership on high-level donor cultivation for major capital gifts.

- Built support (intellectual and financial) for, and led the creation of, a new university-wide **Institute for Environment**. This Institute has elements of teaching, research, service, and outreach in its mission. It seeks to engage students at all levels and in every college, and bring together natural and physical scientists, engineers, social scientists, natural resources experts, as well as management, education, health and policy experts from across the university. A task committee, charged with developing a mission, vision, and operational guidelines for the Institute completed its work in 2014. In 2015, a second task committee examined resourcing strategies and recommended a combination of new and existing internal funds and substantial new extramural support (private gifts, corporate philanthropy, and industrial partnerships) to support this ambitious university-wide initiative. Following the commitment of a major gift, and the establishment of a governance structure and clear milestones for success, the Gund Institute for Environment was launched in early 2017.

- Visioning and planning for an *innovation campus* that spans and connects the University of Vermont campus and the City of Burlington. Built around joint ventures including a successful business incubator and recently established maker spaces, a new fab lab, and a business accelerator, an **innovation and entrepreneurship ecosystem** now exists at UVM. Also supporting this initiative have been recent faculty hires in technology commercialization and entrepreneurship, increased support for the Office of Technology Commercialization to accommodate increased technology transfer activity, and the new SPARK-VT program to facilitate the discovery-to-innovation-to-commercialization process. SPARK-VT is a new initiative at UVM aimed at bridging the divide between research and the marketplace by bringing promising researchers together with business innovators and biotechnology leaders.

- Works closely with the President, the leadership of the University of Vermont Foundation, and the Campus Master Planner on all **capital projects**. This includes major capital projects (at various stages of planning, financing, and construction) for the UVM Alumni House, Billings Library, the STEM Complex (Discovery and Innovation), Multipurpose Events Center, and Central Campus Residence Hall.

- Leads annual **budget review process** during which all deans and vice presidents present their plans for the coming fiscal year, monitors spending of reserve funds, evaluates fundraising progress and plans, and approves plans for managing through reductions in general fund allocations and/or state appropriations; conducts annual **performance reviews** of all direct reports, including deans, associate and vice provosts, vice presidents, and directors; conducts third-year and fifth-year performance reviews for all deans.

- **Leadership hires**: responsibility for hiring of vice presidents, deans, executive directors and directors across academic, research, enrollment management, and student success domains. Of the 24 senior leadership hires I made as provost, 12 of 24 (50%) have been women and 6 of 24 (25%) have been underrepresented minorities.

SUMMARY OF ACCOMPLISHMENTS AS DEAN OF ENGINEERING AT RENSSELAER POLYTECHNIC INSTITUTE, 2009-2013 (four years)

RESPONSIBILITIES

Dean of the School of Engineering (160 faculty and more than 100 staff, 3000 undergraduate students and nearly 700 graduate students, annual budget exceeding $28M, annual research expenditures exceeding $50M); oversight, leadership, and strategic direction of all academic, research, and operations of the School of Engineering (SoE), the largest School at RPI with seven academic departments and eleven degree programs; directly reporting to the Provost on all academic matters and to the President on all strategic matters; preparation of annual SoE Performance Plan with input from all directly reporting departments, centers, and units; oversight of SoE external communications, alumni relations, governmental and industry relations, and diversity initiatives; work directly with the Office of Institute Advancement on all development and stewardship activities related to the SoE.

UNIVERSITY-WIDE LEADERSHIP

- Member of the Institute President's senior leadership team comprised of ten vice presidents and five academic deans
- Senior academic dean; Dean for the largest and oldest of five schools on campus, with the largest percentage of faculty (40%), the largest percentage of undergraduate students (60%), the largest percentage of graduate students (50%), and the largest percentage of extramural research funding (50%)
- Member of University-level committee for hiring Constellation Chair professors (e.g., Tissue Engineering and Regenerative Medicine, Biocatalysis, Computational Science and Engineering, Tetherless World, Future Chips)
- Focal point for university-wide discussions on Energy Institute, Immersive Simulation, Energy and Environment, Cyber-Security, Water, and Resilient Infrastructure Systems
- As Dean of Engineering, launched two new high-profile, university-wide research centers: the Center for Modeling, Simulation, and Imaging in Medicine (2010), and the Center for Flow Physics and Control (2011), both with significant initial funding from industry (e.g., Boeing, Pratt Whitney, GE) and large federal grants (e.g., NIH, NSF, AFOSR)

DEVELOPMENT

- Proposed, gained approvals, and implemented first School-based (decentralized) development model in history of the Institute; worked closely with Vice President of Institute Advancement (IA) and IA senior staff, President's Office, and the Board of Trustees to effectively decentralize a tightly controlled development model during "quiet phase" between two major campaigns; benchmarked against peer and aspirant institutions, developed financial and strategic plans for the School of Engineering, transitioned effectively to a unit-based model in which the dean and department heads are fully engaged in cultivating major gifts, and hired the School's first Senior Advancement Officer (July 2011)
- Met with individual donors and prospective donors, on-campus and off-campus
- Met with groups of alumni in Boston, New York City, New Jersey, Dallas, Houston, Austin, Chicago, Washington DC, Phoenix, Seattle, Los Angeles, San Francisco, London, Jerusalem, Tel Aviv
- Stewarded the highest rated prospect to the Institute ($100M+), with regular contact and personal meetings (US and Europe), toward a very large naming gift for the School of Engineering
- Met with CEO, VP-level, and other corporate senior management to develop industry partnerships with the School of Engineering, the Multidisciplinary Design Lab, the Archer Leadership Center, the Technology Commercialization and Entrepreneurship Program, the Systems Engineering and Technology Management Program, and other high profile facilities/programs

DIVERSITY

- Created the first "Compact for Diversity" for the School of Enginering. The Compact is a three-part plan and commitment to increase the diversity within the School of Engineering community of scholars at Rensselaer – Part A: Faculty, Part B: Undergraduate Students, Part C: Graduate Students.
- Appointed the School's first underrepresented minority faculty member to hold an endowed chair.
- Appointed the School's first female faculty member to hold an endowed chair.
- Leading effort to develop, resource, and implement the *Bridge2 Success Pogram* (curriciular and co-curricular college prepatory and skills program) for entering science and engineering students from underrepresented groups (first offering of Bridge2 program will be Summer 2012)
- Appointed first woman Associate Dean and first woman faculty member to School Leadership Team
- Expanded responsibilities of Director for Diversity and Outreach to include both undergraduate and graduate students/programs/organizations
- Expanded responsibilities for Faculty Coach position (previously focused on female assistant professors) to include advocacy of *all* junior faculty during the pre-tenure probationary period
- Championed the construction of a new Child Care Center adjacent to the Rensselaer campus
- Met regularly with underrepresented student organizations (e.g., SWE, NSBE, SHPE) and participate in recruiting and information events organized by these student groups
- Met (once a semester) with women and underrepresented minority faculty
- Personally oversight of all SoE faculty search and hiring efforts to broaden gender and ethnic diversity to meet SoE and Institute diversity objectives

SELECTED INITIATIVES

- As part of a series of initiatives aimed at creating a transparent leadership and management structure in the School, developed an annual Faculty Workload Analysis system. This annual report and dashboard is shared with School leadership (Department Heads, Associate Deans) and is used to inform strategy discussions (e.g., annual leadership retreat, regularly scheduled leadership team meetings, annual budgeting and capital request cyles) and has enabled the emergence of new School-wide strategies for faculty hiring prioritization, assignment and development of professional staff, enrollment management, academic advising, financial management, and ensuring laboratory safety.
- Developed multi-level strategy for managing ballooning SoE enrollments (resulting from strong student interest, admissions policies, and financial considerations) through (1) establishing and enforcing prerequisites in key "gatekeeper" course in each of the four years, (2) promoting undersubscribed majors within SoE and other technologically-focused majors in other Schools, (3) proposing new certificates and minors for students in non-engineering majors, and (4) working closely with Office of Admissions/Enrollment to manage first-year student admissions and transfers into SoE
- Created, with School of Engineering leadership input, a new document entitled *Expectations for Faculty in the School of Engineering*. This guide document makes clear the expectations for faculty at all ranks and effectively demystifies the promotion and tenure processes with clear language, realistic milestones, and expectations for teaching, research, and service.
- Envisioned and implemented a new website, *Better World//Engineering*, which serves as a portal (for current and prospective students, faculty, researchers, alumni, K-12 educators, and the media) into the teaching, research, outreach, and service activities within the School of Engineering that address critical problems with focus on sustainable solutions. (website launched Spring 2011)
- Participated in development of a new "final year registration" policy for doctoral students who have completed all coursework requirements and candidacy exams, with the objective of (1) making our faculty more competitive in extramural grants, and (2) incentivizing faculty to keep their PhD students on-track toward degree completion; Also proposing a new graduate tuition model that allows for higher graduate student stipends (with associated indirect cost recovery) and lower graduate tuition for federal research

projects. While the "cost to contract" is unaffected, the new model will result in (1) more competitive graduate assistantship packages, and (2) more indirect returned to the university.

- Outsourced the development of promotional (print and web) pieces aimed at multiple audiences and began establishing a visual identity/print image for the School. Key audiences have included Engineering Deans and Department Heads at major US universities, SoE alumni (more than 14,000 living), prospective students and faculty, program managers at statewide and federal funding agencies, and prospective donors. Examples:
  - School of Engineering 2009/10 Brochure, *"No university has transformed itself more in the past ten years*." (October 2009)
  - New Leadership for a New Era of Engineering, *"Rensselaer is uniquely positioned to address the most pressing challenges our planet faces*." (December 2009)
  - 2009-10 NSF CAREER Award Winners, *Celebrating our Achievements - Building Our Future*, postcards mailed February-June 2010
  - 2010 Rensselaer Engineering Magazine, *Meeting the Grand Challenges*, mailed out August 2010
  - 2011 Rensselaer Engineering Magazine, *Engineering for a Better World*, mailed out July 2011
  - *Scholarship. Impact. Discovery*. - School of Engineering Research Report (2009-2011), mailed out January 2012
  - 2012 Rensselaer Engineering Magazine, *Transformational Materials and Manuacturing*, mailed out August 2012.
- Facilitated multi-faculty effort, with initial funding/vision provided by a Rensselaer alumnus, to develop a sustainable water desalination system (using renewable energy sources) for agricultural and other uses. Pilot project built in Israel in fall 2010 with collaborative teaching and research programs to be built around the project in future years. Personally engaging potential scientific and financial partners in US and Israel. This activity has both scientific/pedagogical aspects as well as donor/stewardship aspects, all of which may be significant for the Institute and the SoE.
- Led effort to launch Rensselaer's *Mobile Studio* project nationally through a non-profit organization. *Mobile Studio* is a small, low-cost hardware platform (developed at Rensselaer and already in use in more than a dozen universities) for hands-on learning in electrical and computer engineering, sensors and instrumentation, physics, and other technology-related courses. Revenue stream will be used to fund graduate students and faculty to develop new modules and hardware, to promote *Mobile Studio* nationally and expand into emerging overseas markets, and to extend Rensselaer's reputation and impact in innovative technology-driven pedagogy.
- Increased awareness of the needs for service-related projects throughout the engineering curriculum. Working with faculty to create service learning opportunities in key design classes (including capstone design experiences). Promoting and supporting student engagement through curricular and co-curricular experiences that reflect the need for and value of responsible service learning and social entrepreneurship activities. Developing new financial resources and industrial partnerships with key corporate partners (e.g., GE, IBM, Exxon/Mobil, Boeing) in support of social entrepreneurship programs.
- Facilitated engagement between SoE faculty and scientific and creative leadership of the *Experimental Media and Performing Arts Center* (EMPAC) to explore opportunities for research, instruction, and remote education via immersive and other virtual environment technology platforms.
- Led the effort to change an academic department name from *Decision Sciences and Engineering Systems* to the *Industrial and Systems Engineering*. This involved garnering stakeholder support as well as moving the request through appropriate university channels in a timely manner. The change was made to (1) better reflect the degree programs and research activities of the departmental faculty, (2) provide a more recognizable department name to potential undergraduate and graduate students as well as potential employers, (3) better align with our peer and aspirant peer institutions with strengths in industrial engineering, supply chain management, and decision-theoretic systems analysis, and (4) improve the department's rankings among industrial engineering departments.
- Provided campus-wide leadership in large, cross-cutting education and research initiatives in (1) energy and the environment (Institute strategic thrust identified in the *Rensselaer Plan*), (2) water, (3) cyber-security, and (4) resilient infrastructure. Facilitating multi-School discussions, planning, and scoping for new programs (teaching, research, and outreach) in the critical "grand challenge" areas in which Rensselaer is

well positioned to contribute and assume national leadership. Outcomes expected include new courses and degree options, high-profile faculty cluster hiring, and several large center-level grants involving multiple Schools at Rensselaer.

- Created "Global Opportunities" options for undergraduate engineering students. These are overseas opportunities intended to broaden the cultural horizons of our students without impeding on their academic progress. Beyond existing study abroad opportunities (which often are not possible for our students due to financial or other constraints), these include faculty-led programs during the summer or winter intersession break, internships with companies overseas, participation in existing programs led by others (e.g., Semester-at-Sea summer engineering program), or internships at international organizations with US-based headquarters (e.g., World Bank, USAID).
- Aggressively promoted *social entrepreneurship* and *service learning* opportunities for all School of Engineering students through design projects, invited lectures, community-based volunteer activities, overseas opportunities, and more than 25 student organizations in the School of Engineering. This is closely linked to our School-wide focus on *sustainable design*. Results have included: two new student chapters, two new undergraduate courses, and a series of new multidisplinary design projects each semester as part of the highly successful Multidisciplinary Design Lab at Rensselaer.
- Provided intellectual leadership for new Introduction to Engineering course (Fall 2011, 2 sections) built around the NAE Grand Challenges, rather than traditional engineering disciplines, intended to expose undergraduate students to the breadth and scope of engineering applications, emerging trends, social and technological contexts, and societal implications. Offering pilot versions (Fall 2011) is a first step to possible adoption as a required course for all incoming engineering students.
- Developed an initiative aimed at placing more PhD graduates in academia. The "pre-faculty fellow" program prepares PhD students to be competitive for post-doctoral appointments and tenure-track faculty appointments and is coordinated across all departments in the School of Engineering.

ENGINEERING RESEARCH CENTER (ERC) LEADERSHIP

- Chair of Engineering Dean's Council, Smart Lighting Engineering Research Center, a National Science Foundation Engineering Research Center (ERC), Rensselaer Polytechnic Insitute (with Boston University and University of New Mexico)
- Member, Board of Directors, Center for Subsurface Sensing and Imaging Systems (CenSSIS), a National Science Foundation Engineering Research Center (ERC), Northeastern University (with Rensselaer, Boston University, and University of Puerto Rico Mayaguez)
- Member, Board of Directors, Center for Ultra-wide-area Resilient Electric Energy Transmission Network (CURENT), a National Science Foundation Engineering Research Center (ERC), University of Tennessee (with Rensselaer, Northeastern, and Tuskegee)

SUMMARY OF ACCOMPLISHMENTS AS DEPARTMENT HEAD OF CIVIL ENGINEERING AT TEXAS A&M UNIVERSITY, 2004-2009 (five years)

DEPARTMENT LEADERSHIP

- Leadership of the largest civil engineering department in the country, with more than 70 full-time tenure/tenure-track faculty, 1100 undergraduate and 400 graduate students. Oversaw largest growth period in the department's history, hiring 25 new faculty, creating new degree programs and research synergy groups. Defined department priorities, engaged constituents, developed resources, changed selected department policies and procedures to streamline operations, ensure equity, position resources, and facilitate new programs.
- Developed concurrent department themes, *Culture of Excellence* and *Community of Scholars*. Created a vibrant, dynamic, positive environment in the Department. Energized faculty and staff.
- Active promotion the activities in the department as well as the achievements of our faculty and students (various web and print publications, presentations) to various constituent groups.
- Efficient use of leadership team (Associate Department Heads, Division Heads) to manage academic programs, faculty groups, and staff.
- Balanced internal leadership activities (administration, vision, decision-making) with external leadership activities (development, alumni relations, departmental promotion).

ADMINISTRATION AND MANAGEMENT

- Responsible for operation of a large academic department with annual academic budget of $8M and an annual research budget in excess of $12M; recognized as an efficient, effective manager with the ability to multi-task, prioritize work, set an agenda, and steer toward a goal, who has a broad view of civil engineering and a wide knowledge of peer institutions, and who has a vision for the future of the department.
- Approached all aspects of department administration with energy and enthusiasm. Created and maintained an open-door style of management and an informal (yet effective) main office atmosphere.
- Regular faculty meetings (about 3 per semester), staff meetings (1-2 per semester), and meetings with student leaders (2 per semester); meet with CE Council (leadership team) weekly.
- Prioritization and timely attention to all matters related to department operations. Provided timely information, as requested, to the Dean's Office, Provost, Vice President for Research, and upper administration.

EXTERNAL DEVELOPMENT

- Worked closely with Director of Development and the Texas A&M Foundation on strategic planning, gift solicitations, creation of endowments, fostering long-term relationships with potential donors, and stewardship.
- Regular visits (8-10 per year) with groups of former students in Houston, Austin, Dallas/Fort Worth, and San Antonio. These included arranged luncheons, meetings at corporate offices, and meeting with selected former students at their homes. Many of these visits involved making presentations to groups about department activities and plans. Hosted numerous visits to the department by former students and other potential donors.
- Quarterly updates of document describing fundraising priorities and gift opportunities.
- Actively promoted accomplishments and achievements of our faculty and students through various electronic and print media pieces. Part of a broader effort to present a professional image for the Department, these promotional pieces were frequently used in development activities.
- More than $26M in new gifts to the Department in five year period (2004-2009)

SELECTED INITIATIVES

- Created policy and positioned resources to reduce teaching loads for untenured faculty and selected research-active faculty. Developed strategy to ensure equitable teaching loads/expectations across ranks and divisions within the department.
- Developed biannual Research Report, with full faculty support and participation, for dissemination to a broad constituency.
- Created and implemented Faculty Mentoring Program with both internal and external mentors as well as industry liaison(s) for all new assistant professors.
- Created and charged two task forces, one on the undergraduate experience and the other on the graduate experience. Reports published Summer 2006.
- Negotiated new indirect return policy with Texas Transportation Institute, one of the department's largest research sponsors, resulting in improved ability to reinvest in major research areas/labs and better support of individual faculty PI's.
- Oversaw development of a slate of new one-year Master of Engineering (MEng) programs in Civil Engineering.
- Created Pre-Faculty Fellows program, including development of financial resources in support of this program, to prepare doctoral students to be competitive for university faculty positions.
- Created new development mechanisms including cluster gifts to allow groups of former students to pool their gifts in support of a larger initiative (i.e., endowed fellowship or professorship) and bridge scholarships which can be carried forward by undergraduate students into graduate study.
- Increased department's permanent endowment for graduate fellowships from less than $500K to more than $3.5M.
- Increased the number of endowed faculty positions (professorships and chairs having endowments ranging from $500K to $1.5M) in the department from 14 to 24.
- Led efforts to create new certificate and degree programs in Engineering and Public Policy

EXAMPLES OF LEADERSHIP DEMONSTRATING COMMITMENT TO DIVERSITY

- Added four new women faculty in Civil Engineering, one each in 2005 and 2006, and two in 2007.
- Supported the creation (and annual budget) of a Women's Faculty Network, dedicated to mentoring women graduate students in Civil Engineering. (Our department has 9 women faculty members and more than 80 women graduate students.)
- Hired an African American woman faculty member in 2007 and hired an African American to fill a key senior staff position
- Regularly released women faculty members from all teaching duties for one semester after having a baby.
- Made use of teleconferencing technologies to interview a faculty candidate (located on the west coast) in the second trimester of her pregnancy, who was advised against travel.
- Appointed a senior woman faculty member to key leadership position and worked closely with her on diversity initiatives aimed at recruiting both students and faculty.
- Initiated informal programs with Prairie View A&M University (HBCU institution and member of the Texas A&M System) and Texas A&M University at Kingsville (minority serving institution with a large Hispanic student population) to facilitate faculty interaction, research collaboration, student group interaction, and recruiting of minority graduate students.
- Worked closely with Dean's Office to develop a 3-2 pre-engineering transfer program from Texas A&M International (a minority serving institution located in Laredo, TX and having a large Hispanic student population) to Texas A&M University.

PROFESSIONAL BACKGROUND, RESEARCH AND SCHOLARSHIP

FELLOW STATUS:

Fellow, American Society of Civil Engineers, elected 2007

Fellow, Structural Engineering Institute (of ASCE), elected 2014

Fellow, *Institute of Science, Technology, and Public Policy*, Bush School of Government and Public Service, Texas A&M University, elected 2008

Fellow, *Institite for Leadership and Governance in Higher Education*, Association of Governing Boards of Universities and Colleges, selected 2019

EDUCATION:

PhD	Civil Engineering	Johns Hopkins University, Baltimore, Maryland	1990
MS	Civil Engineering	Tufts University, Medford, Massachusetts	1987
BS	Civil Engineering	Tufts University, Medford, Massachusetts	1985

PROFESSIONAL REGISTRATION: Professional Engineer (Texas) License No. 95382, inactive

RESEARCH INTERESTS: structural reliability, performance-based design, natural hazards, infrastructure risk assessment

PROFESSIONAL EXPERIENCE:

The University of Vermont	Provost and Senior Vice President, Professor of Engineering	2013-2019 2013-present
Rensselaer Polytechnic Institute	Dean of Engineering, Professor of Civil and Environmental Engineering, Professor of Industrial and Systems Engineering	2009-2013
Texas A&M University	Department Head, A.P. and Florence Wiley Chair Zachry Department of Civil Engineering	2004-2009
Oregon State University	Professor and Richardson Chair, Department of Civil Engineering, Department of Wood Science & Engineering	2000-2004
Clemson University	Associate Professor, Department of Civil Engineering Assistant Professor, Department of Civil Engineering	1997-2000 1994-1997
Johns Hopkins University	Visiting Scholar, Department of Civil Engineering	1993-1994
Purdue University	Assistant Professor, School of Civil Engineering	1990-1993

GRADUATE AND POST-DOCTORAL ADVISING:

Graduate Students Supervised

1. Timothy A. Philpot, Ph.D., "The Effect of Creep on the Performance and Reliability of Wood Structures," Purdue University, 1992. [Currently on faculty at University of Missouri-Rolla]
2. Ashraf M. El-Shahhat, Ph.D., "Safety of Reinforced Concrete High-Rise Buildings During Construction," Purdue University (co-advised with W.F. Chen), 1993. [Currently on faculty at Mansoura University, Egypt]

3. Jui-Lin Peng, Ph.D., "Analysis Models and Design Guidelines for High-Clearance Scaffold Systems," Purdue University (co-advised with W.F. Chen), 1994. [Currently on faculty at Chaoyang University of Technology, Taiwan]
4. Thomas D. Reed, M.S., "Wind Resistance of Roof Systems in Light-Frame Construction," Clemson University, 1996.
5. Aditya V. Kothekar, M.S., "Analysis of Vertical Loads on Shoring During Concrete Construction," Clemson University, 1996.
6. Kenneth G. Tyner, M.S., "Uplift Capacity of Rafter-to-Wall Connections in Light-Frame Construction," Clemson University, 1996.
7. Vicki L. Willis, M.S., "Development of Structural Evaluation and Retrofit Methodologies for Historic Charleston Homes" (co-advised with S. Schiff), Clemson University, 1997.
8. Darian Trevor Jones, M.S., "Retrofit Techniques Using Adhesives to Resist Uplift in Wood Roof Systems," Clemson University, 1998.
9. Ninqiang Cheng, M.S., "Reliability of Light-Frame Roof Systems Subject to Wind Uplift," Clemson University, 1998.
10. Eng Hui Khor, M.S., Ph.D., "Early-Age Effects on the Serviceability Reliability of Reinforced Concrete Flexural Members," Clemson University, 1999. [Currently working in Probabilistic Methods group at ANSYS Corporation, Pittsburgh, PA]
11. Zhigang Huang, Ph.D., "Stochastic Models for Hurricane Hazard Assessment," Clemson University, 1999. [Currently chief risk officer, CIG Reinsurance, Bermuda]
12. Melissa D. Sherman, M.S., "Effect of Loading Rate on Capacities of Nailed Connections and Fasteners in Wood," Clemson University, 2000.
13. Qingxin Jing, M.S., Project: Topics in Reliability of Residential Wood-Frame Construction, Clemson University, 2000.
14. Jahangeer Basha Shaik, M.S. Project: Hurricane hazard analysis, co-advised with P. Sparks, Clemson University 2001.
15. Dana Lebeda, M.S., "The Effect of Hold-down Misplacement on the Strength and Stiffness of Wood Shear Walls," co-advised with R. Gupta, Oregon State University, 2002.
16. Guangren Yu, Ph.D., "Load Sharing and System Factors for Light-Frame Walls," Oregon State University, 2003. [Currently design engineer with Martin & Chock, Inc., Honolulu, HI]
17. Jun Hee Kim, Ph.D., "Performance-Based Seismic Design of Light-Frame Shearwalls," Oregon State University, 2003. [Currently design engineer with Lochsa Engineering, Inc., Las Vegas, NV]
18. Kyung Ho Lee, Ph.D., "Site-Specific Load Models and Hazards for Probability-Based Design," Oregon State University, 2004. [Currently senior research engineer with Energo Corp., Houston, TX]
19. Scott Kent, Ph.D. (co-advised with R. Leichti), "The Effect of Biological Deterioration on the Performance of Nailed Oriented Strand Board Sheathing to Douglas-fir Framing Member Connections," Oregon State University, 2004. [Currently consulting engineer in Oregon]
20. Theresa K. Daniels, M.S., "Reliability Based Bridge Assessment Using Modified Compression Field Theory and Oregon Specific Truck Loading," Oregon State University, 2004.
21. Erin Anderson, M.S. (co-advised with R. Leichti), topic: shearwall performance considering biodeterioration, Oregon State University, 2005.
22. Cameron Carroll, M.S. (co-advised with R. Leichti), topic: performance of aged walls extracted from woodframe structures, Oregon State University, 2005.
23. Donna Choe, Ph.D. (co-advised with P. Gardoni), "Seismic Fragility Estimates and Sensitivity Analyses for Corroding Reinforced Concrete Bridges," Texas A&M University, 2007. [Currently Assistant Professor, Department of Civil Engineering, Prarie View A&M University]
24. Jinquan Zhong, Ph.D. (co-advised with P. Gardoni), "Seismic Fragility Estimates for Corroded Reinforced Concrete Bridge Structures with Two-Column Bents," Texas A&M University, 2008. [Currently a post-doctoral researcher at San Diego State University]
25. Wang Yue, Ph.D., "Studies on Hazard Characterization for Performance-Based Structural Design," Texas A&M University, 2009. [Currently working as an engineer in the Seattle area]

26. Lauren Mudd, Ph.D. (co-advised with C. Letchford), "A Multi-Hazard Assessment of Climatological Impacts on Hurricanes Affecting the Northeast US: Wind and Rain," Rensselaer Polytechnic Institute, 2014. [Currently Senior Scientist, Applied Risk Associates, Raleigh, NC]
27. Milad Roohi, Ph.D. (co-advised with E. Hernandez), "Performance-based Seismic Monitoring of Minimally Instrumented Buildings," University of Vermont, 2019. [Currently Post-Doctoral Research Associate, NIST Center on Resilience, Colorado State University, Fort Collins, CO]
28. Reza Filizadeh, Ph.D. student (co-advised with E. Hernandez," University of Vermont (expected graduation 2023)

Service on Graduate Committees (thesis-Masters and Doctoral students)

1. Yun Lu, M.S., "A Methodology for Updating Deterioration Models in Infrastructure Management," Purdue University, 1993.
2. Pyoyoon Hong, Ph.D. "Service Load Behavior and Reliability of Viscoelastic Parallel-Member Structural Systems," University of Oklahoma, 1994.
3. Dana P. Mizzell, M.S., "Wind Resistance of Sheathing for Residential Roofs," Clemson University, 1994.
4. Sterling J. Pye, M.S., "Effect of In-Service Conditions on the Uplift Resistance of Roof Sheathing," Clemson University, 1995.
5. Bradley E. Means, M.S., "Wind Pressure Variations Over Escarpments," Clemson University, 1995.
6. Xuesong Bai, Ph.D., "Experimental and Numerical Evaluations of Structural Bamboo-Based Composite Materials," Clemson University, Department of Forestry, 1996.
7. Steven C. Dover, M.S., "Uplift Capacity of Sheathing to Light-Metal Framing," Clemson University, 1996.
8. Edward G. Sutt, M.S., "Retrofit of Residential Structures to Resist High Wind Events," Clemson University, 1996.
9. David L. Stricklin, M.S., "Uplift Capacity of Light-Frame Walls With and Without Openings," Clemson University, 1996.
10. Zhiyong Cai, Ph.D., "Damage Assessment in Timber Using Non-Destructive Testing," Purdue University, Wood Research Laboratory, 1997.
11. Sundarrajan Mani, M.S., "Influence Functions for Evaluating Roof-Truss to Wall Connections in Low-Rise Buildings," Clemson University, 1997.
12. Muralidhar R. Kallem, M.S., "Roof Sheathing Attachment for High Wind Regions: Comparison of Screws and Nails," Clemson University, 1997.
13. Roland Diaz, M.S., "Modeling the Three Dimensional Behavior of Light-Frame Gable-End Wood Roof Assemblies," Clemson University, 1998.
14. Ali Qizilbash, M.S., "Performance of a Tubular Steel Wall System for Use in Light-Frame Construction," Clemson University, 1999.
15. Jinxia Chen, Ph.D., "Risk-Based Liquefaction Potential Evaluation Using Cone Penetration Tests and Shear Wave Velocity Measurements," Clemson University, 1999.
16. Mihail Chiru-Danzer, Ph.D., "Estimation of Liquefaction-Induced Vertical and Horizontal Displacements Using Artificial Neural Networks and Regression Analysis," Clemson University, 1999.
17. Yan Sun, Ph.D., "Wind Loads on Hurricane Straps: the Role of Structural Influence Functions in Developing Net Loads on Roof Connections," Clemson University, 2000.
18. Edward G. Sutt, Ph.D., "Combined Shear and Uplift Resistance of Roof Sheathing," Clemson University, 2000.
19. David B. Poss, M.S., "Design and Evaluation of Mobile Wind Instrumentation Tower for Hurricane Wind Measurement," Clemson University, 2000.
20. Brian K. Pietras, M.S., "Determination of Design Loads for an Indoor Fabric Shutter System," Clemson University, 2000.
21. Yi Wu, M.S., Project: FE modeling of concrete bridge slabs, Oregon State University, 2002.

22. Jeff Langlois, M.S. (dual-major), "Effect of Reference Displacement and Damage Accumulation on Wood Shear Walls Subjected to the CUREE Protocol," Oregon State University, 2002.
23. Ryan McCormick, M.S., "Seismic Behavior and Analysis of Tension-Only Yielding Dampers," Oregon State University, 2003.
24. Randy Scott, M.S. (dual-major), "Lateral Force Resisting Pathways in Log Structures," Oregon State University, 2003.
25. James Newell, M.S., "Steel Confined Yielding Damper for Earthquake Resistant Design," Oregon State University, 2003.
26. Claudia Eiden, M.S. (dual-major), "Nonlinear Dynamic Analysis of Heavy Timber Frame Structures Including Passive Damping Devices," Oregon State University, 2003.
27. Han, Seung Ryong, Ph.D., "Estimating Hurricane Outage and Damage Risk in Power Distribution Systems," Texas A&M University, 2008.
28. Huang, Qindan, Ph.D., "Adaptive Reliability Analysis of Reinforced Concrete Bridges Using Nondesdtructive Testing," Texas A&M University, 2010.
29. Attary, Navid, Ph.D., "Development and Application of Negative Stiffness Device for Seismic Responses Control of Highway Bridge Structures," Rensselaer Polytechnic Institute, 2013.
30. Tian, Jingjing, Ph.D., "Seismic Retrofit of Soft-Story Woodframe Buildings via Damping and Stiffness Modification," Rensselaer Polytechnic Institute, 2014.

Post-Baccalaureate Trainees:

1. Rainer Stahl, Diplome Student (Structural Engineering), University of Karlsruhe, co-advised with R. Leichti, OSU, 2001.

Doctoral Examiner:

1. Mohammad R. Moarefzadeh, Ph.D., "Time-Dependent Reliability Analysis of Offshore Structures," Department of Civil Engineering and Surveying, University of Newcastle, NSW, Australia, 1995.
2. Nasser Bin Hossain, Ph.D., "Time-Dependent Deflections, Serviceability Reliability and Expected Costs of Unserviceability for Reinforced Concrete Flexural Beams," Department of Civil Engineering and Surveying, University of Newcastle, NSW, Australia, 2000.

Post-Doctoral Researcher and Visiting Scholar Sponsorship:

1. Dr. Mark G. Stewart (University of Newcastle, Australia), Visiting Research Associate, Clemson University, August 1996 - February 1997.
2. Dr. Zhigang Huang, Post-Doctoral Researcher, Clemson University, June 1999 - September 1999. [Currently chief risk officer, CIG Reinsurance, Bermuda]
3. Dr. Mark G. Stewart (University of Newcastle, Australia), Visiting Research Scientist, Oregon State University, July 2000 - December 2000.
4. Dr. Kyung Ho Lee, Post-Doctoral Researcher, Texas A&M University, November 2004 - December 2005. [Currently senior research engineer with Energo Corp., Houston, TX]
5. Dr. Weichiang Pang, Post-Doctoral Researcher, Texas A&M University, Feburary 2005 - August 2008. [Currently Assistant Professor of Civil Engineering, Clemson University]
6. Dr. Mauricio Sanchez-Silva, Post-Doctoral Researcher (Visiting Professor), Texas A&M University, January 2006 - December 2008. [Currently Associate Professor of Civil Engineering, Universidad de Los Andes, Bogota, Columbia]
7. Dr. Wang Yue, Post-Doctoral Researcher, Rensselaer Polytechnic Institute, February 2010 - December 2013; The University of Vermont, January 2014 - present.
8. Dr. Frank Lombardo, Post-Doctoral Researcher/Visiting Assistant Professor (jointly supervised with Chris Letchford), Rensselaer Polytechnic Institute, 2012-2015. [Currently Assistant Professor of Civil Engineering, University of Illinois at Urbana-Champaign]

FUNDED RESEARCH (selected examples, of more than $9.65M in total contracts since 1990):

A28: Disaster Preparedness and Response, **Federal Aviation Administration**, ASSURE Program, *Co-Principal Investigator*, 2020; $289,000 [+ $400K in matching funds] (2 years)

NEESsoft: Seismic Risk Reduction of Soft-Story Woodframe Buildings, **National Science Foundation**, *Co-Principal Investigator (RPI)*, 2010; $1.4M (total): $300K to Rensselaer (3 years).

CONNECTS 2: Scholarships to Support Success in Engineering, **National Science Foundation**, *Co-Principal Investigator*, 2008; $600,000 (scholarships to support 80 academically talented and financially needy first-year engineering students from under-represented groups, 4 years).

Wood Frame Fragilities in the Memphis Test Bed - Year 9 (Project EE-1), **Mid-America Earthquake Center/National Science Foundation**, *Co-Principal Investigator*, 2006;$60,000 (12 mos.)

NEESWood: Development of a Seismic Design Philosophy for Mid-rise Woodframe Construction, **National Science Foundation**, *Co-Principal Investigator*, 2005; $1.24M (total); $160,000 to TAMU (4 years).

Reliability-Based Shearwall Design for Multiple Performance Objectives, **USDA National Research Initiative Competitive Grants Program**, *Co-Principal Investigator*, 2004; $381,000 (3 years).

Storm Preparedness and Recovery for the Electric Power System, **National Science Foundation**, *Co-Principal Investigator*, with R.A. Davidson (Cornell University), 2004; $400,000 (3 years).

Full list of funded research grants available upon request.

Conference Scientific Committees and Organizing Committees

Scientific Committee, 11th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability, Notre Dame, IN, June 2012.

International Advisory and Scientific Committees, 11th World Conference on Timber Engineering (WCTE 2012), Auckland, New Zealand, August 2012

International Scientific Committee,11th International Conference on Application of Statistics and Probability in Civil Engineering (ICASP11), Zurich, Switzerland, August 1-4, 2011.

International Scientific Committee, 10th International Conference on Structural Safety and Reliability (ICOSSAR '09), Osaka, Japan, September 13-17, 2009.

International Advisory Committee, 10th World Conference on Timber Engineering (WCTE 2008), Miyazaki, Japan, June 2-5, 2008.

Scientific Committee, 10th International Conference on Application of Statistics and Probability in Civil Engineering (ICASP10), Tokyo, Japan, July 31-August 3, 2007.

International Conference Chair, 9th World Conference on Timber Engineering (WCTE 2006), Portland, OR, August 6-10, 2006.

International Technical Committee, 9th International Conference on Structural Safety and Reliability (ICOSSAR '05), Rome, Italy, June 19-23, 2005.

Scientific and International Advisory Committee, 8th World Conference on Timber Engineering (WCTE 2004), Lahti, Finland, June 14-17, 2004.

Scientific Committee, 9th International Conference on Application of Statistics and Probability in Civil Engineering (ICASP9), San Francisco, CA, July 2003.

Conference Organizing Committee, Americas Conference on Wind Engineering (ACWE 2001), June 2001, Clemson, SC; *Co-Editor*, proceedings and journal special issues.

Scientific Committee, 8th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability, Notre Dame, IN, July 2000.

Steering Committee, 1999 ASCE Structures Congress, New Orleans, LA.

Scientific Committee, 8th International Conference on Application of Statistics and Probability in Civil Engineering (ICASP8), Sydney, Australia, 1999.

Professional Committee Activity

ASCE Technical Council on Life-Cycle Performance, Safety, Reliability, and Risk of Structural Systems, Task Group 3 (Risk Assessment of Structural Infrastructure Facilities and Risk-Based Decision Making), (2009-13)
Advisory council member, International Forum on Engineering Decision Making (IFEDM), (2003-present)
Member, U.S. Technical Acitivities Group for ISO/TC 98/SC 2 Reliability of Structures (2002-10)
Chair, ASCE/NAHB Joint Task Committee on Residential Design Loads (2001-2004)
Building Seismic Safety Council, Committee TS-7, Wood Structures (2001-2004)
ASCE Committee on Safety of Buildings (1991-96)
Control group member (1993-94)
ASCE Committee on Wood (1992-2007)
Subcommittee on Reliability and Wood Design (1992-94, 1995-99), Chair (1996-99)
Committee on Reliability-Based Design of Wood Structures (1999-), Chair (1999-2003)
Technical Sessions Coordinator (1995-96)
ASCE Committee on Load and Resistance Factor Design (1997-2003)
Research Coordination Group, *Housing Affordability Through Design Efficiency* (HADTE) Program, NAHB Research Center (1997-2003)
Committee 9A - Structural Safety and Quality Assurance, Council on Tall Buildings and Urban Habitat (1996-2004)
ASCE Committee on Performance of Structures (1993-2000)
Control group member (1994-2000)
ASCE Standards Committee "Design Loads on Structures During Construction," (1992-98)
Chair, Subcommittee on Loads and Load Combinations (1992-98)
Code Applications Committee, ASCE Architectural Engineering Division (1994-95)

Grant Reviewer/Panelist

National Science Foundation (NSF), various panels including CAREER and POWER programs
United States Department of Agriculture (USDA), NRI Competitive Grants Program
Australian Research Council (ARC), Expert Advisory Committee
Natural Sciences and Engineering Research Council of Canada (NSERC), External Reviewer

Editorship

Editorial Board, *Sustainable and Resilient Infrastructure* (Taylor & Francis), 2015-present
Editorial Board, *Structural Safety* (Elsevier), 2008-present
Associate Editor, ASCE *Journal of Infrastructure Systems*, 2004-2008
Associate Editor, *Natural Hazards Review* (ASCE), 2001-2005
Associate Editor (Committee on Wood), ASCE *Journal of Structural Engineering*, 2000-2004
Associate Editor (Performance of Structures), ASCE *Journal of Structural Engineering*, 1995-2000
Editorial Board, *Structural Engineering Review*, Elsevier Science (1995-97)
News Correspondent, Technical Activities Div., ASCE Structural Engineering Institute (1996-99)
Co-Editor, Proceedings of the *Americas' Conference on Wind Engineering 2001* (ACWE), June 2001, Clemson, SC.

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3. *Residential Building Loads: Review and Roadmap for the Future* (J.H. Crandell, T.M. Kenney, and D. V Rosowsky, Editors), 2006, prepared by ASCE Structural Engineering Institute (SEI) with support from the National Association of Home Builders and the U.S. Department of Housing and Urban Development, American Society of Civil Engineers, Reston, VA, 50 pp.

Plus more than 150 conference proceedings papers (100+ refereed) since 1990.
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BOARD SERVICE:

Board of Directors, Vermont Center for Emerging Technologies, 2017-present
Board of Directors, Vermont Youth Orchestra Association, invitation to join 2019
Board of Advisors, Tufts University, School of Engineering, 2008-present

HONORS, AND AWARDS:

Elected to the grade of Fellow, Structural Engineering Institute (SEI), October 2014.
Elected to grade of Fellow, American Society of Civil Engineers (ASCE), October 2007.
Outstanding Career Achievement Award, Tufts University Graduate School, 2007.
Outstanding Alumni Achievement Award, Department of Civil and Environmental Engineering, Tufts University, 2005.
Holder of the A.P. and Florence Wiley Chair in Civil Engineering, Texas A&M University, 2004-2009.
Erksine Fellow, University of Canterbury, Christchurch, New Zealand, April-May, 2004.
2001 ASCE **Walter L. Huber Civil Engineering Research Prize**, "*for his research on stochastic modeling of behavior of engineered wood construction subject to natural and man-made hazards, and development of practical risk-consistent criteria for design of wood structures*."
2001 Institution of Civil Engineers **T.K. Hsieh Award** (with C.H. Juang and W.K. Tang) for "*the best paper published by the Institution in the field of structural and soil vibrations caused by seismic effects*." Title of papers: "CPT-based Liquefaction Analysis, I: Determination of Limit State Function, and II: Reliability and Design"
Inaugural holder of Richardson Chair in Wood Engineering, Oregon State University, appointed July 2000.
Clemson University Board of Trustees Award for Faculty Excellence, May 1999.
Nominated for Forest Products Society (FPS) Young Engineer Award, 1999.
1998 ASCE **Norman Medal** (with B.R. Ellingwood) to "*the authors of a paper that is judged worthy of special commendation for its merit as a contribution to engineering science*." Title of paper: *Combining Snow and Earthquake Loads for Limit States Design*, Journal of Structural Engineering, November 1996.
Clemson University Board of Trustees Award for Faculty Excellence, May 1998.
DOW Outstanding New Faculty Award, American Society for Engineering Education (ASEE), Southeast Section, June 1997.
Nominated for Quattlebaum Faculty Achievement Award, College of Engineering, Clemson University, 1995, 1996, 1997 (finalist)
Chi Epsilon Outstanding Teacher Award in Civil Engineering, 1995-96.
Invited Keynote Address, European Workshop on Application of Statistics and Probability in Wood Mechanics, Bordeaux, France, February 1996.
Meyerhoff Fellow, Johns Hopkins University, 1987.

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REFERENCES AVAILABLE UPON REQUEST