

PAUL J. TIKALSKY, Ph.D., P.E., F.ACI, F.ASCE, EAČR
Dean College of Engineering, Architecture and Technology
Don & Cathey Humphreys Endowed Chair of Engineering
Oklahoma State University

EDUCATION

- Ph.D.** University of Texas at Austin
M.S.E. University of Texas at Austin
B.S. University of Wisconsin at Madison, (Civil & Environmental Engineering)

LEADERSHIP & ADMINISTRATIVE ACCOMPLISHMENTS

Oklahoma State University 2012-Present

Dean, College of Engineering, Architecture, and Technology

- Don and Cathey Humphreys Endowed Chair
- Professor of Civil and Environmental Engineering
- Professor of Material Science and Engineering

Oklahoma State University is a land grant R1 research university enrolling more than 25,500 students as part of a multi-campus state system of higher education. It comprises six academic colleges, plus medical and veterinary schools. Its annual budget exceeds \$1.5 Billion.

Paul Tikalsky leads the College of Engineering, Architecture and Technology, at Oklahoma State University. He is an aspirational academic leader that has guided the development of inclusive results-oriented strategic plans to elevate research, extension, and academic success. University leadership and the OSU Board of Regents approved him to undertake organizational, financial, and structural changes that substantially elevated academic standards, retention, and graduation rates, increased research engagement, provide performance-based compensation adjustments every year, and increased its public ranking in every category, including 23 positions in 10 years in college rankings. Below are highlights of his major accomplishment:

1. Growth and Success:

- Hired 120 faculty
- Increased 4-year graduation rates by 44%
- Doubled research expenditures
- Increase first-year retention from 79% to 90%

- Created Undergraduate research and scholar development programs
- Created interdisciplinary pathways for all majors
- Developed global 3+1 programs which have a pipeline of 450 foreign students
- Grew and resourced Scholars program by 5 fold including 4 year scholarships for more than 290 students and the largest study abroad program at OSU
- Restructured academic standards and scholarship incentives
- Doubled engineering degrees/yr earned
- Doubled extension education outreach programs and expenditures
- Mentored 22 students admitted to Cambridge University Grad School
- College has had 6 Goldwater Scholars and a Udall Scholar in past decade

2. **Finance:**

- Led the effort with the Chancellor for State Regents for Higher Education and the Secretary of Commerce to double legislative appropriations to expand critical degree programs and research for public universities. Legislature funded a new \$17.5 MM/yr on-going appropriation to expand engineering programs
- Restructured college financial model with transparency, metrics, and merit incentives for faculty and staff in all units
- Restructured the financial model for academics, research, and extension to optimize resources and focus new revenue in faculty defined areas of strategic growth
- Raised salaries at all ranks and all disciplines to reach APLU R1 averages and addressed all gender equity issues
- Implemented randomized internal and external audit monitoring
- Expanded extension services and on-line courses to grow auxiliary income.

2. **Philanthropic Development:**

- Raised ~\$250 million from external donors, corporations and foundations for college and university priorities.
 - Directing the Vision and operations of \$75 MM cooperative research and education center called DISCOVERY. Creating a partnership in the Oklahoma City's Innovation District with DoD (Air Force and Army) and industry to support students, K-12 STEM.
 - Led the vision and funding for the interdisciplinary "ENDEAVOR" Lab. Creating an interdisciplinary and entrepreneurial nexus. The \$38 MM industrial lab has hands-on clinical faculty, advanced utilization strategy, design laboratories and maker spaces.
- Established ambitious goals for annual philanthropic development.
- Engaged leaders in identifying key areas that would benefit from new resources.
- Lead a development team and dedicated specific time for resource development for the largest identified needs.
- Doubled the donor base and expanded the development team to pursue more impactful gifts and a broader spectrum of resources.

3. **Strategic Listening and Planning:**

- Led three strategic planning efforts (2013, 2018, 2022) to advance aspirational goals for the college and university with multiple strategies. This included academic,

- research, extension, DEI, revenue models, investments, hiring opportunities and metrics for all goals.
- Faculty and staff throughout the organization discuss strategic areas of growth that need resources and accelerating efforts.
 - Student leaders host public forums each semester with me on wide ranging topics.
 - Industrial leaders (CEOs, COOs, and Presidents) serve on a Strategic Advisory Board to guide legislative engagement, define needs, and set benchmarking metrics.
 - Each of the groups contribute to focused Strategic Plans with multiple pathways and metrics to document progress.
 - Serve on the 12-person University Strategic Steering Committee
 - Chair the University's Strategy on Research
4. **Expansion of Diversity and Equity:**
- Developed and expanded diversity and inclusion programs throughout the college with more than \$2 MM in diversity scholarships and program support.
 - Serve on the National Society for Hispanic Professional Engineers Academic Partnership Council
 - College increased the number of degrees to women by 64% in 5 years
 - Rose to #1 in Native American engineering & technology graduates
 - The college DEI programs were recognized with *INSIGHT into Diversity's* 2021 and 2022 Inspiring Programs in STEM Award
 - College programs are part of OSU's 11 consecutive HEED Awards and Diversity Champion designation
 - ASEE exemplary designation to its Diversity Award
 - Executed a salary equity program across the college for all faculty & staff
5. **Leadership:**
- Redefined expectations of leaders for the college and formulated a leadership team to be student and customer centric
 - Chair of the ASEE EDC Public Policy Committee
 - Appointed to the NAE Roundtable linking major research universities with DoD
 - DoD secret level security clearance to provide oversight to secure research
 - Governor appointed to the Oklahoma State's Science & Technology Research Board
 - Implemented Professional Development series to provided monthly executive training to department managers, school heads, and other leaders across the entire OSU campus. In addition to executive training, they also participate programs in Suicide Prevention, CPR, Title IX & VII, and Clery Act reporting.
6. **Expanding Academic Programs and Support**
- Started a new Graduate School of Material Science and Engineering with 5 endowed faculty lines and a \$43 MM research facility funded by a public private partnership
 - Started Graduate program and undergraduate minor in Petroleum Engineering with 5 new endowed faculty lines and partnered with the College of Arts & Sciences
 - Formed a Master Program in Fire Protection and Safety Engineering Technology

- Started 10-year Joint Undergraduate Degree program in Fire Protection Engineering and Technology, with Southwest Jiaotong University with \$1MM/yr revenue.
- Started 5-year Joint Undergraduate Degree program in Environmental Engineering with Southwest Jiaotong University and \$1 MM/yr in revenue/yr.
- Created Student Excellence Center to provide students with advising and free tutoring; writing center, computer tech support, career services, and 24/7 secure study area.
- Developed a College Bridge Program to support educationally disadvantaged freshmen and accelerate their preparation in Math, Physics and English.
- Restructured and expanded college scholars' programs (quadrupled in size) to include a 10-day global trip with the Dean to experience the grand challenges, meet counterparts, and understand different society values/policies/drivers
- Developed Global Engineering Initiative to provide 25% of all graduates with global experience in engineering or architecture outside of North America.
- Collaborated with College of Art & Science & supported overhaul of math, and chemistry programs. Failure rate has dropped by 40%+ in 4 years.
- Created a new program for students to intern with US congressional committees. Raised funding to support 5 congressional interns per year
- Collaborated to form a NAE Grand Challenge Scholars Program

7. **Organizational Changes and Implementation:**

- Empowered Directors and unit Heads to develop servant leadership styles and shared governance for college staff and faculty.
- Implemented greater transparency, aspirational goals, cost neutral business models for all outreach units, and improved proposal and grant management,
- Facilitated faculty driven workload models, promotion expectations, hybrid teaching pedagogy, on-line delivery, and work/life balance.
- Launched wireless platform for all engineering, architecture, and technology students. (Result was \$250k/yr. savings & higher student satisfaction)
- Increase faculty lines by fifty full-time faculty. Tripling female faculty in engineering and engineering technology.

University of Utah (2006-2012)

Chair, Civil and Environmental (Nuclear) Engineering, 2006-2012

The University of Utah is a flagship R1 research university enrolling more than 33,000 students as part of a state system of higher education. It comprises 18 colleges, including a medical and law school. Annual external research funding exceeds \$600 million.

1. **Initiated scholarly faculty workload model**

- define expectations based on faculty research, scholarly, service, and pedagogical activities.
- Research expenditures for tenured and tenure track faculty rose from ~\$1 million/yr in 2005 to ~\$4 million/yr in 2012.
- Increase in research activity from 70% of faculty in 2005 to 100% in 2012
- Refereed publications per faculty/yr rose from 0.57 in 2005 to 3.54 in 2012.

- Increased funded graduate assistantship from 17 in 2005 to >50 in 2012.
2. **Led 5-year strategic planning process** for the 2008-2012 period. Some of the outcomes of this process are as follows:
 - Faculty has increased in size by 50 percent with female faculty rising from 7% (1) to 25% (5) in 4 years and minority faculty rising from 7% (1) to 15% (3) through open searches.
 - Graduate enrollment grew 300% in 4 years.
 - Minimum standards for graduate admissions increased.
 - Undergraduate academic admissions quotient rose 10%
 - \$5.7 million new facilities were constructed for CvEEN Department
 - Student satisfaction has risen as measured by exit interviews
 - Nuclear Engineering minor was approved.
 3. **Raised \$5 million** in donor funds for building expansion and scholarships
 4. **Oversaw the restructuring and renewal of nuclear engineering** program.
 - Assisted Dean in raising \$1.5 million in Endowed Chair in Nuclear Engineering
 - Restructured financial base model of Nuclear Engineering
 - Provided oversight of relicensed Triga Nuclear Reactor (Jevremovic: Lead)
 5. **Initiated Industrial Advisory Board** for CvEEN to assist in guiding strategic initiatives in department
 6. **Restructured financial model** of Larsen Transportation Institute, taking it from a severe deficit to a balanced financial that increased research infrastructure, funded faculty engagement and increased faculty support for proposals and post award support.
 7. **Oversight of major curricular revisions** of undergraduate and graduate programs in CvEEN. This resulted in more technical electives and less total credits for undergraduates and the acceptance of interdisciplinary M.S. and Ph.D. degrees. This included a ABET General Review and the resulting 6-year approval
 8. **Oversight of the formation of a Civil Engineering Alumni Society.** The society helps to develop funds for scholarships, recognizes alumni accomplishments and coordinates industry activities with student organizations, as well as provides a liaison between industry, alumni and student leaders

Pennsylvania State University (1995-2006)

Director, Infrastructure and Materials Laboratory (CITEL), 2001-2006

Deputy Director, Larsen Transportation Institute, 2005-2006

Penn State University is a land grant R1 research university enrolling more than 98,700 students as part of a multi-campus state system of higher education. It comprises 18 colleges, including a medical and law school. Annual external research funding exceeds \$1 billion.

Implemented a new fiscal model that allowed the Larson Transportation Institute to do the following:

- bring the institute from fiscal deficits to positive cash position,
- invest in new research opportunities and equipment,
- facilitate improved number and quality of proposal submissions,
- incentivize faculty and staff to travel professionally to present research findings, recruit graduate students and engage in technical committees.

Created a shared funding model for laboratory technicians and support

Founding Director of the CATO Structural and Materials Engineering Laboratory.

PROFESSIONAL & ADMINISTRATIVE EXPERIENCE

Oklahoma State University, Stillwater, OK 2012- Present

Dean (2012-Present)

Deans Council (2012 – Present)

Director of WW Allen Scholars program with Cambridge University

Director of College Scholars Programs, 2012-Present

Director, OSU Grand Challenges Scholars Program, 2016-Present

Chair, University Strategy for Research and Scholarship, 2021-2022

University Athletic Council, 2015-2018

Vice-Chair, 2016-2018

Financial Integrity Committee, (Chair 2017-2018) 2015-2018

Chair, College Executive Committee, 2012-Present

Task Group on University Tuition and Fees, 2014-2015

Chair, Deans Task group to revise Intellectual Property policy, 2016-2018

Chair, VP for Research and Technology Search Committee, 2013-2014

Chair, Spears Business School Dean Search, 2022-2023

Chair, OSU Academic Leadership Training, 2012-2013

University of Utah, Salt Lake City, UT 2006-2012

Chair, Civil and Environmental (Nuclear) Engineering, 2006-2012

- Professor, Civil and Environmental (Nuclear) Engineering, 2006-2012
- Director of Utah Infrastructure Laboratory, 2007-2012
- Chair, Department Executive Committee, 06-12
- University Nuclear Reactor Safety Committee, 2008-2012
- Interim Program Director Nuclear Engineering, 2009-2010
- College of Engineering Executive Committee, 2006-2012
- Utah Engineering National Advisory Committee, 2006-2012
- University Athletic Commission, 2008-2011
- Chair, Search for Energy Solution Endowed Professor of Nuclear Engineering
- Faculty Advisor, ACI Student Chapter, 2006-2008

Czech National Academy of Sciences; Prague, Czech Republic

- Senior Research Fellow, Institute of Theoretical and Applied Mechanics, 2002-2003 (sabbatical)

Pennsylvania State University, State College, PA 1995-2006

- Professor, Civil and Environmental Engineering, 2001-2006
- Associate Professor, Civil and Environmental Engineering, 1995-2001
- Director, Infrastructure and Materials Laboratory (CITEL), 2001-2006
- University Athletic Committee, member 2003-2006, Chair 2005-2006
- Deputy Director, Larsen Transportation Institute, 2005-2006
 - Acting Deputy Director, 2003-2005
 - Acting Program Director, Materials, Pavements and Geotechnical Division, Pennsylvania Transportation Institute, 1998-1999
- Faculty Senate, Elected Member, 2002-2006
- Faculty Advisor, Tau Beta Pi Engineering Honor Society, 2003 to 2006
- Faculty Advisor, ACI Student Chapter, 2002-2004
- Director, Infrastructure and Materials Research Center, 2001-2006
- Departmental Facilities and Space Committee, 1999-2002
- Departmental Curriculum Committee, 1998-2003
- Departmental Surcharge Committee, Chairman, 1997-2002
- CE Women's Forum Committee, 1996-2000
- Departmental Climate Committee, 1996-2000

Santa Clara University, Santa Clara, CA 1989-1995

Associate Professor, Civil Engineering, 1995

Assistant Professor, Civil Engineering, 1989-1995

- Faculty Senate, Elected Member, 1992-1995
- Faculty Senate Budget Process Committee, 1993
- University Academic Integrity Committee, 1990-1992
- University Student Affairs Committee, 1992-1994
- University Academic Advising Committee, 1993-1994
- College Graduate Committee, 1990-1991
- College of Engineering Honor Code Committee, 1990-1995
- Director, Structures Laboratory, 1989-1995
- Faculty Advisor, Student Chapter - AGC, 1989-1994
- Faculty Advisor, Student Chapter of Habitat for Humanity, 1992-1995
- Irvine Foundation Workshop for Minorities, Committee/Panelist, 1991
- Department Graduate Committee, Chairman 1990-1992

Other Professional Experience

Tikalsky Engineering Services, LLC

Principal, Professional engineering consulting, (periodic) 1992-Present

Professional Engineering Institute, Oakland, CA

PE and EIT course Instructor – evening courses, 1993-1995

U.S. Army Corp of Engineers – Waterways Experimental Station

Visiting Research Scientist, (partnership with SCU) Summer 1992 – 1994

Testing Engineers, Inc., Santa Clara, CA

Consulting, part-time, (Partnership w/ SCU - Loma Prieta EQ response) 1989-1992

San Jose State University

Adjunct Professor, (partnership with SCU) 1992

University of Texas at Austin - Center for Transportation Research

Research Assistant, 1984-1989

Carrasquillo and Associates, LLC, Austin, TX

Consulting Engineer, part-time, 1987-1989

Discovery Hall, Austin, TX

3rd-5th Grade Science Teacher, part-time, 1987-1989

University of Wisconsin-Madison

Teaching Assistant, Spring 1984

Robert E. Lee & Assoc., Green Bay, WI

Intern and Staff Engineer 1983, 1984

University of Wisconsin-Madison – Division of Housing

Housefellow, 1981-1984

ELECTED SOCIETIES:

Phi Beta Delta Honor Society (2013)

Fellow of the American Society of Civil Engineers, (F.ASCE) Elected (2011)

Elected Member of the Engineering Academy of the Czech Republic, (EACR) (2009)

Fellow of the American Concrete Institute, (F.ACI) Elected (1996)

Order of the Engineer (1990)

Chi Epsilon Honor Society (1982)

Tau Beta Pi Honor Society (1982)

Phi Eta Sigma Honor Society (1980)

HONORS AND CERTIFICATION

DoD Security Clearance: Secret Level, active

Certified in IRB Social, Behavioral and Educational Human Subjects Research

QPR Suicide Prevention Gatekeeper Program Certificate, Payne County, 2019

Insider Threat Awareness Certificate of Achievement, US Defense Security Service, 3/2019

Certificate Training in Title IX and VII, as well as Clery Act Trained

Federal Highway Administration Certificate of Appreciation for ETG Service, 2017

Game Changer Award, College of Engineering, Architecture & Technology, OSU 2015

Joseph Kelly Award, American Concrete Institute, 2013

State of Utah Engineering Educator of the Year 2012, Utah Engineering Council

ENR Award of Merit: Design of Higher Education Buildings, Mountain States, 2011

Best Paper Award, 12th Intl Conf.-Durability Building Materials, Porto, Portugal, 2011

Accreditation Board for Engineering & Technology - Program Evaluator, 2009-Present.

State of Utah, Division of Homeland Security, Certification in Post-Earthquake Evaluation of Buildings, ATC 20, 2009

State of Utah Engineering Educator of the Year 2008, Utah Engineering Council

Engineering Educator of the Year 2007, Structural Engineering Association of Utah

Engineering Educator of the Year 2007, ASCE Utah Section

Outstanding Service Award, Penn State University – CEE, 2006

Citation of Merit, University of Mexico, Mexico City, 2006
Czech National Academy of Sciences – Letter of Commendation, 2003
NRC Certified for Radiation Safety in Research, 2001
CPR – AED Trained, American Heart Association (Adult, Child, Infant) 2001-2016
Best Paper Award: American Foundrymen’s Society Transactions-2000
Outstanding Practical Paper Award from the Transportation Research Board: Tikalsky, P.J., Tepke, David G.; Washington, D.C., Paper No. 01-2939
Outstanding Practical Paper Award from the Transportation Research Board: Tepke, David G.; Tikalsky, Paul J.; and Scheetz, Barry E.; 2004, Washington, D.C.
Named to International Who’s Who of Professionals, 1997-Present
Educational Activities Person of the Year, American Concrete Institute, 1996
Named to Who’s Who Among American Teachers, 1996-Present
FEMA - Certificate of Achievement for Emergency Response, 1993
U.S. Army Corps of Engineers - Letter of Commendation, 1993
U.S. Army Corps of Engineers - Certificate of Appreciation, 1992
Registered Professional Civil Engineer, California, (P.E.) C 47918 (1991-Present)
Registered Disaster Service Safety Assessment Engineer, Office of Emergency Services; State of California (1989-Present)
GE Foundation Fellow (1987)
Ford Foundation Fellow (1986)
Ray and Theo Owen Award (1982)
Bergenthal Award (1980)
Steenbock Award (1979)
Univ. of Wisconsin Freshmen Merit Award (1979)

EXTERNAL PROFESSIONAL BOARDS AND DIRECTORSHIPS

VSU – Technical University of Ostrava, Editorial Board of the civil engineering journal Transactions (2021-present)
Society of Hispanic Professional Engineers Academic Partnership Council (2020-Present)
Stillwater Chamber of Commerce, Board of Directors, 2021-2024
Oklahoma Science & Technology Research and Development Board of Directors Designee, OK Senate confirmed. 2020-2021
NAE-NAS and DoD Roundtable Linking Defense Basic Research to Leading Academic Research and Engineering Communities, 2019-2022
Higher Learning Commission, Nominating Committee, 2019-2021
State of Oklahoma, legislative and executive branch’s joint committee on “Autonomous Vehicles - Infrastructure & Highway Investments.” 2018-Present
Federal Highway Administration, Executive Task Group for Long-Term Plan for Concrete Pavement Research and Technology, 2014-2018
Foundation for Engineering, Inc., Stillwater, OK, Ex-officio member Board of Directors, (\$110 MM Foundation for scholarships and educational support). 2014-Present
Stillwater Middle School Engineering Advisory Board – Stillwater, OK 2014-2018
National Energy Solutions Institute (NESI) Advisory Board, Stillwater, OK 2013-2018
State of Oklahoma Transportation Council, (2012-present) (Chair 2013-2015)
State of Oklahoma, Department of Commerce, Quality Investment Committee (fiscal oversight) (2012-Present)

Board of Directors, American Concrete Institute, Farmington Hills, MI (2004-2007)
Board of Directors, Stand Together, Low Income Childcare Assistance to Students, San Francisco, (1998-2006)
Board of Directors, Habitat for Humanity, Low Income Home Construction (1990-1996)
San Francisco Bay and Valley Chapter (1994-1995)
Board of Directors, Christmas in April, Santa Clara Valley Chapter; (1991-1993)

SCHOLARLY PUBLICATIONS (H-Index 18; I10-Index 34; 1670+ Citations)

1. Tahersima, Mohammad; Tikalsky, Paul; “Experimental and numerical study of heating performance of the Mass and Thin Concrete Radiant Floors with Ground Source Systems,” *Journal of Construction and Building Materials*, Elsevier, Vol 178, pp 360-371, July, 2018.
2. Tahersima, Mohammad; Tikalsky, Paul; and Revankar, Roshan “An Experimental Study on Using a Mass Radiant Floor with Geothermal System as Thermal Battery of the Building,” *Journal of Building and Environment*, Elsevier, Vol. 133, April, 2018.
3. Tahersima, Mohammad; Ley, Tyler; Tikalsky, Paul; “Finite Element Modeling of Hydration Heat in a Concrete Slab-on-grade Floor with Limestone Blended Cement Construction & Building Materials,” *Construction and Building Materials Journal*, Elsevier, Volume 154, pp 44-50, July, 2017.
4. Tahersima, Mohammad; Ley, Tyler; and Tikalsky, Paul; “Hydration Heat in a Mass Concrete and a Thin Slab with Limestone Blended Cement,” *International Journal of Materials Science and Engineering*, Vol. 5, No. 2, pp. 79-86, June 2017.
5. Ramasamy, Uma; Bordelon, Amanda; and Tikalsky, Paul; “Properties of Different Pumice Grades Blended with Cement,” *Journal of Materials in Civil Engineering*, American Society of Civil Engineering, Vol. 29 Issue 7. July 2017.
6. Ghosh, Pratanu; Konecny, Petr; Lehner, Petr; and Tikalsky, Paul; “Probabilistic time-dependent sensitivity analysis of HPC Bridge Decks Exposed to Chlorides,” *Journal of Computers and Concrete*, 19(3):305-313, March 2017.
7. Bogutyn, Shannon; Arboleda, Catalina; Bordelon, Amanda; Tikalsky, Paul; “Rejuvenation Techniques for Mortar Containing Photocatalytic TiO₂ Material,” *Journal of Construction and Building Materials*, Elsevier, Vol 96, pp 96-101, Oct. 2015.
8. Ghosh, Pratanu; Woll, Stephan; and Tikalsky, Paul; “Investigation of Fresh State Properties of Ternary-Based High-Performance Concrete Mixtures,” *Compendium Papers 14-1343*, Transportation Research Board, National Academy of Sciences, Washington, DC, January 2014.
9. Wang, Kelvin; Li, Lin; Li, Qiang; Schofield, Larry; Tikalsky, Paul J.; “Automated Groove Identification and Measurement for Next-Generation Concrete Surface Using Three-Dimensional Pavement Data at 1-mm Resolution,” *Compendium Papers 14-4441*, Transportation Research Board, National Academy of Sciences, Washington, DC, January 2014.
10. Ghosh, Pratanu; Hammond, Alex; and Tikalsky, Paul J.; “Correlation between two Experimental Techniques: Resistivity and RCPT,” *International Journal of Science & Management*, Vol. III, pp. 6-14, July 2013.
11. Hanson, Shannon; Tikalsky, Paul; “Influence of Ultraviolet Light on Photocatalytic TiO₂ Materials” *Journal of Materials in Civil Engineering*, Vol. 25, No. 7, pp. 893-898, July 2013.

12. Hanson, Shannon; Tikalsky, Paul; "Fabrication Techniques for Concrete Containing TiO₂ Photocatalytic Particles," International Concrete Sustainability Conference, San Francisco, CA; May 6-8, 2013, 14 pp.
13. Ghosh, P., Konečný, P., and Tikalsky, P.J., "Development of new Service life Model of I-99 HPC Bridge Decks in Pennsylvania" *Proceedings at the 92nd Annual Meeting of the Transportation Research Board, Washington D.C., January 2013.*
14. Wang, Xuhao; Behtas, Fatih; Taylor, Peter C.; Wang, Kejin; and Tikalsky, Paul J.; "Drying Shrinkage Behavior of Mortars Made with Ternary Blends," Vol. 2290; 52-59; Transportation Research Record Journal of the Transportation Research Board, National Academy of Science, Washington, D.C., Dec 2012.
15. Ghosh, Pratanu; Konecny, Petr; Tikalsky, PJ; "Stochastic Estimation of Concrete Cover Cracking Time for High Performance Concrete Mixtures," Twelfth International Conference on Recent Advances in Concrete Technology and Sustainability Issues, Prague, Czech Republic, Oct. 31-Nov. 2, 2012.
16. Konečný, P, Ghosh, P., and Tikalsky, P.J. (2012) "Probabilistic Corrosion Propagation Model of HPC Mixtures", *Proceedings at Twelfth International Conference on Recent Advances in Concrete Technology and Sustainability Issues, Czech Republic, Oct. 31-Nov. 2, 2012.*
17. Ramasamy, Uma and Tikalsky, PJ; "Enhanced Precast Concrete with Pumice Blended Cements," PCI National Bridge Conference, Nashville, TN, Precast/Prestressed Concrete Institute, Sept. 29-Oct. 3, 2012.
18. Ghosh, Pratanu; Hanson, Shannon; Tepke, David, Thomas, David, Tikalsky, P.J.; "Influence of HPC Mixtures on Diffusion Coefficients, Resistivity, and Chloride Concentrations," International Congress of Durability of Concrete, Trondheim, Norway, June 18-22, 2012, pp 13.
19. Konecny, Petr; Ghosh, Pratanu; Brozovsky, Jiri; and Tikalsky, Paul J.; "Korozeeneck: New Service Life Modeling Software for Bridge Decks," Proceedings of the Transportation Research Board, 12-0826, 16 pp., National Academy of Science, Washington, D.C., Jan. 2012.
20. ACI Subcommittee, "Report on the Use of Raw or Processed Natural Pozzolans in Concrete, American Concrete Institute, Report ACI232.1R-12, 33 pages, 2012.
21. Ghosh, Pratanu; Hammond, Alex; and Tikalsky, Paul J.; "Correlation between CIPT and Resistivity Data of HPC Mixtures in Different Curing Condition," 9th International Symposium on High Performance Concrete, Design, Verification & Utilization, Rotorua, New Zealand, New Zealand Concrete Society Paper IS 155, August 8-12, 2011.
22. Hanson*, Shannon, and Tikalsky, Paul J.; "Mitigating Alkali-Silica Reaction using Ternary Blended Cements," 9th International Symposium on High Performance Concrete, Design, Verification & Utilization, Rotorua, New Zealand, New Zealand Concrete Society Paper IS 173, August 8-12, 2011.
23. Ghosh*, Pratanu, Konecny*, Petr, and Tikalsky, Paul J.; "Comparison of Corrosion Propagation Models of HPC Mixtures," 9th International Symposium on High Performance Concrete, Design, Verification & Utilization, Rotorua, New Zealand, New Zealand Concrete Society Paper IS 154, August 8-12, 2011.
24. Tikalsky, Paul J.; "Reducing the CO₂ Footprint of Long-Lasting Concrete for Exposed Environments," fib Symposium on concrete Engineering for Excellence and Efficiency, Prague, June 8-10, 2011, pp. 1-5.

25. Rupnow* Tyson; Wang, Kejin; Schaefer, Vernon; and Tikalsky, Paul; "A Simple Method for Characterizing and Predicting Temperature Behavior of Ternary Cementitious Systems," *Journal of Construction and Building Materials*, Elsevier Press, Vol. 25, Issue 5, pp 2290-2297, May 2011.
26. Ghosh*, Pratanu; and Tikalsky, Paul J.; "Effect of Ternary Cementitious Systems on Conductivity and Diffusion Coefficients," 12th International Conference on Durability of Building Materials and Components," ASTM-CIB-RILEM, Porto, Portugal, pp. 1609-1616, April 12-15, 2011.
27. Ghosh*, Pratanu; Hammond*, Alex; and Tikalsky, Paul J.; "Prediction of Equivalent Steady State Chloride Diffusion Coefficients," *American Concrete Institute Materials Journal*, Vol. 108, No. 1, Jan/Feb 2011, pp 88-94.
28. Ghosh*, Pratanu; and Tikalsky, Paul J.; "Determination of Diffusion Coefficients and Corrosion Initiation Time for Ternary Cementitious Mixtures," *Proceedings of the Transportation Research Board*, 11-2790, 15 pp., National Academy of Science, Washington, D.C., Jan. 2011.
29. Taylor, P., Tikalsky, P.J., Fick, G. and Wang X.; "Development of Performance Properties of Ternary Mixtures, Field Applications or Ternary Mixtures – Construction of a Bridge Deck in Pennsylvania, National Concrete Pavement Technology Center, Institute of Transportation, Iowa State University, Ames, July 2010, 29pp.
30. Tikalsky, P., Taylor, P., Hanson, S., & Ghosh, P.; Development of performance properties of ternary mixtures: laboratory study on concrete. National Concrete Pavement Technology Center, Institute of Transportation, Iowa State University, Ames, 2011.
31. Ghosh, P., P. Konečný, P.J. Tikalsky. SBRA Model for Corrosion Initiation of Concrete Structures. In Andrade, C. Manciny, G. *Modelling of Corroding Concrete Structures*. Dordrecht: Springer, 2011, s. 85-100.
32. Konecny*, Petr, Ghosh*, Pratanu, and Tikalsky, Paul; The Effect of the Reinforcement Protection on the Onset of Corrosion of the RC Bridge Deck Exposed to Chlorides," *Modelování v mechanice Conference*, Ostrava, Czech Republic, May, 2010, pp 11.
33. Tikalsky, Paul J.; "The Role of Chemical Admixtures in Enhancing Durability of Reinforced Concrete," *Proceedings of the 3rd International Symposium on Chemical Admixtures for Structures*, Ankara, Turkey, April 2, 2009, pp. 73-78.
34. Deng*, An and Tikalsky, Paul; "Geotechnical and leaching properties of flowable fill incorporating waste foundry sand," *Journal of Waste Management*, Elsevier, Vol. 28, No. 11, pp 2161-2170, Nov. 2008.
35. Konecny*, Petr and Tikalsky, Paul; "Reliability of Reinforced Concrete Bridges Decks with Respect to Ingress of Chlorides," 4th International ASRANet Colloquium on Integrating Structural Analysis, Risk and Reliability, Athens, Greece, June, 2008, pp 10.
36. Hanson*, Shannon, Marquez*, Stephanie, and Tikalsky, Paul; "Environmental Advantages for Ternary Cementitious Materials," *Second International Symposium on Ultra-High Performance Concrete*, Kassel, Germany, March 5-7, 2008, *Schriftenreihe Baustoffe und Massivbau Heft #10*, pp 135-143.
37. Konecny*, Petr; Tikalsky, Paul; Tepke*, David; "Performance Evaluation of a Concrete Bridge Deck affected by Chloride Ingress: Simulation-Based Reliability Assessment and Finite Element Modeling," *Journal of the Transportation Research Board*, No. 2028, pp. 3-8, 2007.

38. Rupnow*, T. D., Schaefer, V. R., Wang, K., and Tikalsky, P. J.; “Effects of Different Air Entraining Agents (AEA), Supplementary Cementitious Materials (SCM), and Water Reducing Agent (WR) on the Air Void Structure of Fresh Mortar,” International Conference on Optimizing Paving Concrete Mixtures and Accelerated Concrete Pavement Construction and Rehabilitation, FHWA/ACI/ACPA, Nov. 6-9, 2007.
39. Tikalsky, Paul; and Konecny*, Petr; “Effect of Binary and Ternary Cementitious Systems on the Performance of Concrete Bridges,” Ninth CANMET/ACI International Conference on fly ash, silica fume, slag and natural pozzolans in concrete, Warsaw, Poland, May 20 – 25, 2007, pp. 12.
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Construction Conference, American Steel Construction Institute, Las Vegas, NV, June 1992.

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Selected Professional Presentations and Speeches

Tikalsky, Paul; Osage Principal Chief Standing Bear; Oxley, Sheryl; Maguire, Crystal; and Stoddard, Ryan; "Oklahoma Aerospace Forum on the Future of Workforce," Oklahoma City, OK, October 26th, 2022.

Tikalsky, Paul; Keynote address Johnson Controls International Tech Challenge, Ted Talk on Innovation. June 21st, 2022.

Tikalsky, Paul; "Who are you? Who will you become?" address to ISSE Southern Regional Conference, February 2022

Tikalsky, Paul; "Autonomous Truck Corridors," ACPA Pavement Conference, Oklahoma City, OK, Plenary Speaker, March 26th, 2019.

Tikalsky, Paul and Williams, Amanda; "Engaging Celebrity Alumni into the Grand Challenges of Engineering," National Academy of Engineering Grand Challenge Scholars Meeting, Washington DC, October, 2018.

Tikalsky, Paul; "The Future Directions of Sustainable Energy Research," Keynote, National Energy Council, Oklahoma City, OK, September, 2018.

Tikalsky, Paul; "ENDEAVOR: Interdisciplinary Undergraduate Core Change", Cool Ideas, Engineering Dean's Institute, American Society for Engineering Education, New Orleans, April, 2018.

Tikalsky, Paul; and Ropp, Tylerr; "Corporate Fundraising with Institutional Leadership," Council for Advancement and Support of Education Region IV, March 2018.

Tahersima, Mohammad; Ley, Tyler, and Tikalsky, Paul; "Finite Element Modeling of Hydration Heat in a Concrete Slab-on-grade Floor with Limestone Blended Cement" 3rd

- International Conference on Mechanical, Materials, and Manufacturing, Savannah, GA USA, Oct. 28, 2016.
- Johnson, Glenn W., Joann S. Lighty and Paul J. Tikalsky: "Degradation of Waterborne Contaminants by Ozone and Hydrogen Peroxide." (2012).
- Tikalsky, Paul; "Ternary Mixtures with Limestone Blended Cement," 48th Annual American Concrete Paving Association meeting, Indian Wells, CA, Invited Talk, 12/02/2011.
- Tikalsky, P.J.; "Global Developments in Construction Chemicals," Construction Chemical Conclave, India Dept. of Chemicals and Petrochemicals, Bangalore India. Invited Talk, 03/17/2011.
- Tikalsky, P.J.; "Grand Challenges in Construction for Developing Economies," Construction Chemicals Conclave, India Department of Chemicals and Petrochemicals and FICCI, Bangalore, India, Special Keynote Address, 3/17/2011.
- Tikalsky, Paul; "The True Carbon Footprint of Fly Ash in Concrete," Keynote Address to the Annual Meeting of the American Coal Ash Association, Las Vegas, NV, 2/2/2011.
- Tepke, David; Tikalsky, Paul; "Sustainable Highway Bridges on the I-99 Corridor in Central Pennsylvania: Update on the Long-Term Bridge Deck Durability Study," Design of Sustainable Concrete Bridges, ACI Meeting, Pittsburgh, PA; 10/24/2010.
- Tikalsky, P.J.; "Better Concrete through Technology That Helps Polar Bears," Construction Standards Institute Annual Meeting, 4/2010, Salt Lake City, UT
- Tikalsky, Paul J. and Moore, David; "Roman Cements," American Concrete Institute Annual Meeting, Chicago 3/22/2010.
- Tikalsky, Paul J.; "The Effect of Potassium Acetate De-icing Chemicals on Concrete", Federal Highway Administration HPC Implementation Task Force Meeting, 2/23/2010, Phoenix, AZ.
- Tikalsky, Paul; "Ternary Blended Cement on a Real Project," 9th Annual ACPA Concrete Pavement Workshop, Salt Lake City. Invited Talk/Keynote, 01/20/2010.
- Tikalsky, Paul; "Performance Based Specifications for Highway Concrete from Pennsylvania to Utah," Workshop on Performance-Based Specifications in Current Concrete Practice, Transportation Research Board, NAS, January 10, 2010, Washington, D.C.
- Tikalsky, P.J.; "Counting the Carbon Footprint of Concrete Construction" 2009 Colorado ACI Concrete Conference, ACI, Investco Field, Denver, CO, Nov. 2009.
- Tikalsky, P.J. and Hammond*, Alex; "Performance of Blended Cement in Hot and Cold Weather," ACI Conference, New Orleans, November 10, 2009
- Tikalsky, Paul J.; "Avoiding Surface Defects and Distress," 1st Annual Intermountain Concrete Symposium, Salt Lake City, UT, Oct. 2009.
- Tikalsky, Paul J.; "Learning to Lead Smart People," American Society of Civil Engineering Chapter Meeting, Madison, Wisconsin, Sept. 2009.
- Tikalsky, P.J.; "Building a Sustainable World for the 21st Century," Keynote Address to the TMMOB (Turkish Chamber of Civil Engineering) Congress, Ankara, Turkey, April 3, 2009.
- Tikalsky, Paul J.; "Performance Based Concrete Mixture Design," Presented at the 8th Annual Concrete Pavement Workshop: Permanent Solutions for Perpetual Problems, Salt Lake City, UT, Jan, 2009.
- Tikalsky, Paul J. and Reaveley, Larry; "Building a Sustainable World for the 21st Century," Utah Alumni Association meeting, St. George, UT Nov. 2008.

Tikalsky, P.J.; "Transportation Research Partnerships," Invited Keynote Address, Utah Transportation Research Award Conference (UTRAC), Utah Department of Transportation, Salt Lake City, Utah, March 6, 2007.

Tikalsky, P.J.; "Curing & Protecting Cold Weather Concrete," Intermountain ACI Chapter meeting, Lehi, Utah, October 9, 2007.

Tikalsky, P.J.; "Using Blended and Ternary Cements to Resist Marine Exposures," American Concrete Institute Conference, Fajardo, Puerto Rico, October 24, 2007.

Tikalsky, Paul; "Good Concrete Is Hard, But We Are Stubborn," International Conference on Optimizing Paving Concrete Mixtures and Accelerated Concrete Pavement Construction and Rehabilitation, Invited Plenary Speaker, Nov. 6, 2007, Atlanta, Georgia.

Tikalsky, Paul; "Durability Assessment of Concrete Structures Using Monte Carlo Simulation," Invited Speaker to University of Mexico, 50th Anniversary of the Instituto de Ingenieria Celebration, June, 2006.

Tikalsky, Paul J., "Non-Destructive Testing (NDT) and Evaluation (NDE)," Structural Engineers Association of Utah, November 17, 2006.

Tikalsky, Paul J.; "Testing Concrete – after the fact – Developing Technologies," Engineers Society of Puerto Rico, San Juan, PR, December 8, 2006.

Tikalsky, Paul J.; "Increasing the Life Expectancy of Bridges Using Binary and Ternary HPC Systems" American Concrete Institute Meeting, Charlotte, NC, March 28, 2006.

Tepke, David and Tikalsky, Paul J.; "The Influence of Cast Sequence on Early-Age Bridge Deck Cracking of Multi-Span Steel Girder Bridges," Transportation Research Board Meeting, Committee AFF30, January 23, 2006.

Tikalsky, Paul J.; Specifications for High Performance Concrete," American Railroad Engineers and Maintenance of Way Association Meeting, Albuquerque, NM, January 9, 2006.

Tikalsky, Paul J. and Scheetz, Barry E.; "Characterization of Foundry Sands for Beneficial Use," US-EPA Summit, Philadelphia, PA, December 1, 2005.

Tikalsky, Paul J.; "Aggregates in Concrete," ACI Annual Meeting, Kansas City, MO, November 6, 2005.

Tikalsky, Paul J.; "High Performance Concrete Specifications for Bridge Decks," ACI Annual Meeting, Kansas City, MO, November 10, 2005.

Tikalsky, Paul J.; "Match Curing of Cylinders," 6th Annual Pennsylvania Concrete Conference, Grantville, PA, January 18-20, 2005.

Tikalsky, Paul J.; "Organizational Changes at the Pennsylvania Transportation Institute," PTI Advisory Board Meeting, August 12, 2004.

Workshop on the American Land-Grant University, Czech Technical University at Ostrava; Fakulta Stavebni; Invited Speaker, 3/12/03.

Workshop on the American Land-Grant University, Slovak Technical University at Kosice; Fakulta Stavebni; Invited Speaker, 3/20/03.

Tikalsky, Paul J., Pospisil, James and MacDonald, William; "Freeze-Thaw Resistance of Cellular Concrete," Transportation Research Board, January 2000.

Tikalsky, Paul; Multi-Disciplinary Workshop on the Biodeterioration of Construction Materials, Invited Speaker 10/15-16/99, NSF, Houston, TX.

Tikalsky, P.J.; "Materials Science in the Durability of Bridges," Invited Speaker, Penn State University – Xerox Series in Material Science, September 9, 1998.

Tikalsky, P.J.; “Using Foundry Sand in the Highway Infrastructure,” Invited Speaker, 9th American Foundrymen’s Society Environmental, Health and Safety Conference, August, 1997, Indianapolis, IN.

Tikalsky, P.J.; “Changing Concrete Specifications to Produce Better Concrete,” Invited Speaker, Pennsylvania Aggregate and Concrete Association, Summer Meeting, June 19, 1997, State College, PA.

Tikalsky, Paul J.; Winter Workshop on Concrete Materials, Oregon Concrete and Aggregates Association, Invited Speaker, Portland, OR, 2-13-98

Tikalsky, P.J.; “Short Course on Concrete and Concrete Making Materials,” Invited Speaker, National Ready-Mixed Concrete Association, Summer Meeting, June, 1997, University of Maryland, College Park, MD.

Tikalsky, Paul J.; “Air Entraining Admixtures in Concrete,” educational session at American Concrete Institute's National Meeting in New Orleans, LA, 11/1996. Presenter

Tikalsky, Paul J.; “Cementitious Binder Effects on Sulfate Attack,” technical session at American Concrete Institute's National Meeting in New Orleans, LA, 11/1996. Presenter

Tikalsky, Paul J.; “Chemical Attack on Concrete”, Mather Symposium on Concrete Technology, Montreal, Canada, 3/96. Presenter

MENTORED RESEARCH STUDENTS

Doctoral Students (chaired or advised)

Tuan Duc Le	External Advisor	Czech Tech. Univ. Ostrava	2019
	Assistant Professor, Vietnam university/Principal of Construction Co.		
Mohamad Tahersima	Chair/Advisor	Oklahoma State University	2017
	Professional Engineer, Kleinfelder, San Diego, CA		
Uma Ramasamy	Chair/Advisor	University of Utah	2014
	Lecturer, University of Utah		
Shannon Bogutyn	Chair/Advisor	University of Utah	2013
	Professional Engineer, WPM Associates, Houston, TX		
Pratanu Ghosh	Chair/Advisor	University of Utah	2011
	Associate Professor, California State University Fullerton		
David Tepke	Chair/Advisor	Penn State	ABD
	Professional Engineer, SKA Consulting Engineers Inc., Greensboro, NC		
Tyson Rupnow	External Advisor/PI	Iowa State University	2008
	Manager of Research, Louisiana Dept. of Transportation		
Petr Konecny	co-Advisor	Czech Tech. Univ. Ostrava	2005
	Associate Professor at Czech Technical University Ostrava		
An Deng	Chair/Advisor	Penn State	2003
	Associate Professor, University of Adelaide, AUS		
Steve Badger	co-Advisor	Penn State	2003
	Director of Technology, Pittsburgh Corning Corp.		
Arjun Periaswamy	co-Advisor	Penn State	2000
	R&D Manager, MYK Laticrete, India		
Ed Gannon	Chair/co-Advisor	Penn State	1998
	VP, Urban Engineers, Bellefonte, PA		

Deanna Corbett	co-Advisor	Penn State	1997
Engineering with Proctor and Gamble			

Masters of Science Thesis Students (chaired or advised)

Esra Hasanbas	Chair	University of Utah	2012
Tyler Papulak	Chair/Advisor	University of Utah	2012
David Beh	Chair/Advisor	University of Utah	2012
Amanda Gilliland	Chair/Advisor	University of Utah	2011
Stephan Woll	Chair/Advisor	University of Utah	2011
Stephanie Marquez	Chair/Advisor	University of Utah	2011
Rohit Cambampaty	Chair	University of Utah	2011
Shannon Hanson	Chair/Advisor	University of Utah	2010
Alex Hammond	Chair/Advisor	University of Utah	2009
Mohamad Siddiqui	Chair/Advisor	University of Utah	2009
Alison St. Claire	Chair/Advisor	Penn State	2007
Sumanth Chejarla	co-Chair	Penn State	2007
Dhruv Desai	Chair/Advisor	Penn State	2006
Josh Golumb	Chair/Advisor	Penn State	2005
Geoff Kurgan	Chair/Advisor	Penn State	2004
Parag Sane	Chair/Advisor	Penn State	2003
Steve Camisa	Chair/Advisor	Penn State	2003
John Garvey	Chair/Advisor	Penn State	2002
Savita Goel	Chair/Advisor	Penn State	2002
Kevin Smith	co-Advisor	Penn State	2002
Christopher Gottschall	Chair/Advisor	Penn State	2001
Earl Smith	Chair/Advisor	Penn State	2001
David Tepke	Chair/Advisor	Penn State	2001
Brian May	Chair/Advisor	Penn State	2000
Tara Krize	Chair/Advisor	Penn State	1999
Erica VanTassel	Chair/Advisor	Penn State	1999
James Pospisil	Chair/Advisor	Penn State	1998
Michael Gaffney	Chair/Advisor	Penn State	1998
Kerry McDonnell	Chair/Advisor	Penn State	1998
Deniz Dalgic	Chair/Advisor	Santa Clara University	1994
Levent Nayir	Chair/Advisor	Santa Clara University	1994
Pam Chun	Chair/Advisor	Santa Clara University	1993
Ron Brown	Chair/Advisor	Santa Clara University	1993

Bachelor of Science Honor's Thesis or Project

Greg Barner	Chair/Advisor	Santa Clara University	1993
Desiree Bello	Chair/Advisor	Santa Clara University	1993
Doug Lorang	Chair/Advisor	Santa Clara University	1993
Susan O'Connor	Chair/Advisor	Santa Clara University	1993
Nancy Piepho	Chair/Advisor	Santa Clara University	1993
Valerie Hirano	Chair/Advisor	Santa Clara University	1994
Matthew Lorenz	Chair/Advisor	Santa Clara University	1995
Christopher Hahn	Chair/Advisor	Santa Clara University	1995

Nicholas Pera	Chair/Advisor	Santa Clara University	1995
Jarrett Rosenau	Chair/Advisor	Santa Clara University	1995
Mark Davis	Chair/Advisor	Santa Clara University	1995
Christopher Gottschall	Chair/Advisor	Penn State	1998
Earl Smith	Chair/Advisor	Penn State	1998
Karl Shellenberger	Chair/Advisor	Penn State	2001
Jeff Oshnack	Chair/Advisor	University of Utah	2006
Rachel Smith	Advisor	University of Utah	2008
Levi Roberts	Advisor	University of Utah	2009
David Thomas	Advisor	University of Utah	2010
Hwashin Baek	Advisor	University of Utah	2011

RESEARCH CONTRACTS

2021-2025, Building an Educational Ecosystem for STEM, U.S Department of Defense – National Defense Educational Program, \$6,000,000; PI.

2019-2023, Performance Based Classification Methods for Reclaimed Fly Ash, USDOT-FHWA, \$1,385,688; co-PI.

2014-2019, Alternative Cementitious Materials for Development of the Next Generation of Sustainable Transportation, USDOT-FHWA, \$296,121, co-PI.

2011-2013, Hess Pumice Pozzolan; Hess Pumice Products, 06/01/2011 - 05/31/2012.
Total project funding: \$52,375.00. PI.

2010-2011, Performance Based Concrete Specifications, Utah Department of Transportation, \$50,000, PI.

2005-2011, Development of Performance Properties of Ternary Mixtures, Federal Highway Administration Pooled Fund Study, TPF5 117, \$1,800,000, PI.

2009-2010, Posi-Shell Research and Development, Landfill Services Corp., \$12,365, PI.

2008-2009, UDOT Research Manual, Utah Department of Transportation, \$34,532, PI.

2008-2009, Rhyolitic Pozzolans in Concrete, Robertson Concrete, Inc., \$25,000, PI.

2007-2008, Design of Performance Concrete, Utah Department of Transportation, \$30,833, PI.

2006-2007, Hardened Air in Concrete Roadway Pavements and Structures, Pennsylvania Department of Transportation & Mid-Atlantic University Transportation Center, \$175,000, PI.

2004-2005, Antifreeze Chemical Admixture for Concrete, USACE-SBIR, \$33,000, Co-PI.

2005, Dynamic Load Effects of Motorsport Vehicles, Clear Channel Communications, \$25,806, PI.

2005-2006, Testing and Evaluation of Cayuga Beneficiated Fly Ash for Concrete, Headwaters Resources, Inc., \$18,075, PI.

2005-2006, Testing and Evaluation of Inoculated Concrete, Innovative Engineering Technology Corp., \$12,000, PI.

2004-2005, Evaluation of CemPozz from Seward Fly Ash, Robindale Energy, \$2,800, PI.

2004-2007, Statewide High Performance Concrete Initiative, Pennsylvania Department of Transportation, \$636,632, PI.

2004-2007, Glass Fiber Reinforced Concrete Testing Program, Custom Castings Northeast, Research Services Agreement (est. \$10,000), PI.

- 2003-2007, New Product Evaluation for Low Volume Roads, Pennsylvania Department of Transportation, Contract Services Agreement, P.O. No. 020109. Open-ended contract for research services, (est. \$250,000-\$500,000), PI.
- 2003-2004, Conduct Research on Interstate 99 Construction Project in Centre & Blair Counties, Pennsylvania Department of Transportation, Investigator, \$410,671.
- 2001-2003, Northeast Cement Shippers Association, High Performance Concrete Research and Education Program, Grant, \$45,000, PI.
- 2001, Development of Product/Materials Use Approval for Reclaimed Portland Cement Concrete for State and Local Projects, Pennsylvania Department of Transportation, \$69,022, PI.
- 2000-2003, "High Performance Concrete (HPC) Initiative. Long Term Durability of Bridge Decks – Phase I," Pennsylvania Department of Transportation, \$527,603, PI.
- 2000-2003, IPA Phase III, IPA Systems, Inc., \$70,000, Co-PI.
- 2000-2003, High Performance Concrete Initiative 2000, Silica Fume Association, Grant, \$150,000, PI.
- 2000-2003, High Performance Concrete Research and Education Program, IPA Systems, Inc., Grant, \$75,000, PI.
- 2002-2003, Beneficial Use of Nye Chromite and Ferrocolumbium Slag, SheildAlloy Metals Corporation, \$29,500, PI.
- 2002-2003, Maturity Method Demonstration, Oregon Department of Transportation, \$26,085, PI.
- 2000-2004, Metal Casting Industry of the Future: Development of Technical Data to Validate Performance of Foundry By-Products in Hot-Mix Asphalt and Controlled Low-Strength Material, United States Department of Energy and Industrial Consortium, \$1,500,000, PI.
- 1997-2000, "Relationship of Portland Cement Characteristics to Concrete Durability, National Cooperative Highway Research Program Project 18-05, \$400,000," co-PI.
- 1998-2000, Durability of Blended Cement Using Natural Pozzolans, Universal Cement, \$27,547, PI.
- 1998-2000, Research Testing Phase I and II, IPA Systems, Inc., \$21,000, PI.
- 1997-2001, New Products Evaluation, Pennsylvania Department of Transportation, \$300,000, PI.
- W.O. 4: Potential for Using Stainless and Stainless Clad Steel in Highway Construction, matching funds from Drexel University, Co-PI.
- W.O. 5: Feasibility of the Use of Cathodic Protection and Electro-Chloride Extraction Technology for Structures in Pennsylvania, 50% matching funds from Lehigh University, Co-PI.
- 1997-2001, Materials Durability Testing and Analysis, Pennsylvania Department of Transportation, \$300,000, PI.
- W.O. 2: Review of Publication 408 Specifications for the Use of Recycled and Co-Product Materials 50% matching funds from Lehigh University, co-PI, 30%.
- W.O. 3: Integration of Recycled and Co-Product Materials for Control Low-Strength Materials 50% matching funds from Pennsylvania Foundry Association, PI.
- 1997-2001, Construction Materials Analysis and Design Specification Development, Pennsylvania Department of Transportation, \$200,000, PI.
- W.O. 3: High Performance Concrete Applications, 50% matching funds from Nevada Department of Transportation, PI.

1999-2001, University-Based Research, education and Technology Program Work Order #22, Pilot Project for Concrete Maturity Meter for QA/QC and Acceptance, Pennsylvania Department of Transportation, \$126,000, PI.

2000, Rapid Setting Time for Control Low Strength Materials, Combustion Products Management, \$6,743, PI.

1999, Chemical Treatment to Enhance Concrete Aggregate Performance, Glenn O. Hawbaker, Inc., \$11,523, PI.

1999, Physical Properties of Fiber Reinforced Fly Ash-Based Cementitious Grouts Designed for the Construction of Livestock Paddocks,” Emissions Control By-Products Consortium-UWV, \$17,367, Co-PI.

1999, Durability of Blended Cement Using Natural Pozzolans, Universal Cement Company, \$27,547, PI.

1999, Strength and Setting Time of Cellular Fill Materials, R.G. Johnson Company, \$19,707, PI.

1999, Product Evaluation Reports, Pennsylvania Department of Transportation, \$120,000, PI.

1998, Evaluate Remaining Life of Two Bridge Panels, IPA Systems, Inc., \$5,800, PI.

1997-1998, “Long-Term Service Evaluation of Internal Sealants in Concrete,” IPA Systems, Inc., \$25,000, PI, 100%.

1997-1998, “Freeze-Thaw Resistance of Cellular Concrete”, Celcore Inc., \$19,014, PI.

1998, “Materials Separation Technology for Fly Ash,” Custom Coal/Medici Associates, \$4000, PI.

1996, EPA - Foundry Project , Environmental Protection Agency, \$192,000, Investigator.

1996, Materials Development for Glass Fiber Reinforced Concrete, Custom Casting Northeast, Inc., \$6360, PI.

1996, “Composite Building Component Research and Development - Phase I”, Agile Building Technology, Inc., \$8039, PI.

1995, “A New Building System Based on Foamed Concrete Cast Between Stay-in-Place Forms of Fiberglass-Reinforced Cement Board,” U.S. Army Corps of Engineers/Four Corners Group CPAR Program, Investigator on subcontract to with Four Corners Group, \$29,000, PI.

1995, “Closed-Loop Plastic Recycling Laboratory,” Technology Innovation Trust Grant, \$31,003, Co-PI.

1994, "Utilization of Recycled High-Density Polyethylene in the Construction Industry," Internal IBM Research Grant, \$5,000, PI.

1992, "Full-Scale Biaxial Testing of Reinforced Masonry Panels," Battelle RTP Office (subcontractor to the U.S. Army Waterways Experiment Station), \$16,963, PI.

1993, "Tension Stiffening Prediction Model for Steel/Masonry Composites," Battelle RTP Office, (subcontractor to the U.S. Army Waterways Experiment Station), January, \$15,532, PI.

1991, "Composite Frame Connections for Tall Buildings", Internal IBM Research Grant, \$4,570.

1989, "Structural Testing of High Performance Materials", Presidential Research Grant, Santa Clara University, \$3,261, PI.

1986-1989, “CTR 481 - Durability of Concrete Containing Fly Ash,” TexDOT Div. of Materials and Testing, \$365,000, Research Assistant.

1984-1986, "CTR 364 - Concrete Containing Fly Ash," TexDOT Div. of Materials and Testing, \$250,000, Research Assistant.

EXTENSION PRESENTATIONS/COURSES

3rd International Conference on Mechanical, Materials, and Manufacturing, Savannah, GA USA, Conference Technical Committee, 2016

NESI-SES Association Strategic Energy Forum, Invited Speaker and Panelist, 11/12/14

Diwali Night, OSU Indian Student Association, Speaker and Guest of Honor, 11/1/2014

Transportation Roundtable, USDOT Secretary Anthony Foxx and US Senator James Inhofe, Tulsa, OK, 10/16/14, invited speaker.

"The Art and Science of Donor Development," professional training by Advanced Resources, 7/31-8/1/2013.

American Concrete Pavement Association Annual Meeting, Palm Springs, CA, Invited Plenary Speaker, Dec 1, 2011.

Cementitious Materials Workshop, FHWA, Helena, MT 11/1/2011, Invited Speaker.

Chemical Admixture Workshop, FHWA, Helena, MT 11/2/2011, Invited Speaker.

Best Concrete Practices for HPC, MSDOT/FHWA, Jackson, MS, 9/25/08, Instructor

University of Wisconsin Distinguished Alumni Series, "100-Year Highway - Sustainable Engineering," University of Wisconsin at Madison, September 28, 2007.

"Engineering Research: Creating a Better and More Sustainable World," Utah Professional Engineering Association, May 5, 2007.

"Why Should We Use 28-Day Cylinder Strength for Design of Concrete Structures?" Invited talk, ACI Forum, Denver Colorado, 2006.

High Performance Concrete Seminar, FHWA/ODOT, Portland, OR, 3/2/06, Invited Speaker.

Best Concrete Practices for HPC, PennDOT/FHWA, University Park, PA 9/16/04, Speaker, Organizer.

Cementitious Materials Workshops, FHWA, Honolulu, HI 1/30/2004, & Ames, IA, 11/18/2003, Speaker.

Workshops on the American Public University System and Engineering Education, Czech Technical University at Ostrava, CZ, 3/2003

The Slovak Technical University of Kosice, SR, 4/2003

Euro-SiBRAM 2002, International Colloquium on Simulation Based Reliability, Czech National Academy of Science – ITAM, Prague, CZ Rep. 9/24-26/2002, Technical Committee, Participant/Speaker.

ACBM – Teaching Workshop Center for Cement-Based Material National Science Foundation, Northwestern University, 7/23-25/2002, Speaker/Participant.

Concrete Admixtures Workshop, FHWA/PENNDOT/ACPA, Hershey, PA, 1/24/2002, Speaker/Participant.

Engineering Association of Puerto Rico Annual Concrete Forum, San Juan, PR, 12/6/2001, Invited Speaker & Panelist.

Beneficial Use of Recycled Materials in Transportation Applications, National Science Foundation, Recycled Materials Resource Center, Arlington, VA 11/13-15/01, Moderator/Steering Committee

Concrete Durability Workshops, FHWA, University Park, PA 8/16-17/01, & Raleigh, NC, 8/23-24/01, Speaker.

Bridge Professor's Seminar, Portland Cement Association, Skokie, IL 8/10-11/01, Participant/Speaker

Recycled and By-Product Materials Workshop, US DOE /Civil Engineering Research Foundation, Washington, D.C., 8/16-17/2000, Participant/Panelist.

Multi-Disciplinary Workshop on the Biodeterioration of Construction Materials, National Science Foundation, Houston, TX 10/15-16/1999, Participant/Invited Speaker.

Great Lakes Executive Transportation of Conference: Secondary Materials for Highway Construction Conference, Great Lakes Governor's Council, Harrisburg, PA 11/12-13/98, Conference Chairman.

Professor's Workshop on Concrete Pavements, American Concrete Paving Association PCA, Skokie, IL 6/24-26/1997, Participant.

Fourth Faculty Enhancement Workshop, National Science Foundation – ACBM, Lehigh, PA, 7/20-23/1997, Participant.

Short Course on Concrete and Concrete Making Materials, National Ready-Mixed Concrete Association, University of Maryland, College Park, MD. 8-25-1997, Participant.

Winter Workshop on Concrete Materials, Oregon Concrete and Aggregates Association, Portland, OR 2-13-1998, Speaker.

Professor Training Course in Asphalt Technology, National Center for Asphalt Technology, Auburn University, June 17-28, 1996, participant.

Concrete Pavement Rehabilitation, Resurfacing and Reconstruction, National Workshop, American Concrete Paving Association, Harrisburg, PA, 4/2-4/96.

Simulation-Based Reliability Assessment for Structural Engineers, San Jose State University/ASCE/SEAONC, San Jose, CA, 3/8-9/96, Invited Speaker.

The Engineering and Economics of Reinforced Concrete Buildings, Seminar for Civil Engineering Educators, CRSI/PCA/NRMCA sponsors, San Francisco, CA, August 7-9, 1995, Speaker/participant.

Review Course for California State Professional Engineering Examination, Professional Engineering Institute, 8/95-10/95, Instructor.

The Engineering and Economics of Reinforced Concrete Buildings, Seminar for Civil Engineering Educators, CRSI/PCA/NRMCA sponsors, Skokie IL, August 16-18, 1993, Participant.

Earthquake Protective Design, Federal Emergency Management Agency - Multi-Protection Design Summer Institute, Boulder, CO July 11-15, 1993, Participant.

Seismic Design and Retrofit of Bridges Workshop, University of California at Berkeley, June 8-9, 1992, Participant.

Experimental Stress Analysis for the Teaching Laboratory, Faculty Workshop, Measurements Group, Raleigh, N.C., July 15-19, 1991, Participant.

Federal Highway Administration Highway Materials Engineering Faculty Workshop, Purdue University, July 9-14, 1990, Participant.

Second International Symposium on Utilization of High Strength Concrete -Berkeley, CA, May 20-23, 1990, Participant.

American Concrete Institute Seminar on Concrete Construction Failures - San Francisco, CA, November 29, 1989, Participant.

American Society of Cost Engineers Seminar on Cost Engineering: The Key to Effective Project Management - Foster City, CA September 6-9, 1989, Participant.

SERVICE TO THE PROFESSION AND THE COMMUNITY

Higher Learning Commission, Peer Reviewer 2018-Present
Open Pathways and Standard Pathways
HLC Nominating Committee

American Association for the Advancement of Science (AAAS), Member 2016-Present

American Concrete Institute, Member/Fellow, 1984-Present
Board - Fellows Nominating Committee (2015-2021)
Board - Financial Advisory Committee (2001-2007)
Board - Educational Activities Committee (1998- 2006) Chair (2001-2006)
Board - Strategic Planning Committee (1997 - 2000)
Board - Chapter Activities Committee (2009-2012)
Board - Convention Committee, Ex-officio, (2002-2006)
Committee 240, Pozzolans, Member (2016-Present)
Committee 201, Durability of Concrete, Member (1989-Present)
Committee 232, Fly Ash and Natural Pozzolans in Concrete (1989-Present)
Chairman (1994-1998)
Committee E701, Concrete Construction Materials, (1993-2008), Chair (1995-1998)
Committee E804, Educational Awards Committee (2001-2004)

Federal Highway Administration, 2005-Present.
Expert Task Group for Advanced Concrete Pavement Technology (2005-2013)
Master Instructor for National Cement and Admixture Workshops (2007-Present)
Author National Workshop on Performance Based Specifications (2013-Present)

Chamber of Commerce – Stillwater, OK 2017
Board of Directors (2020-2024)

Accreditation Board for Engineering and Technology, Peer Evaluator 2010-2016

Concrete Research Council (1997 – 2018)
Nominations Committee (1999-2005), Chairman (2000-2001)

Association of Road and Transportation Builders (2003-2011)
Education and Research Committee (2003-2011)

American Society of Engineering Education (2003-Present)
Engineering Deans Council (2012-Present)
Public Policy Committee (2014-Present) Chair, Vice-Chair
Subcommittee with US Senate Armed Services Committee 2020, 2022
Energy Policy Forum organizing committee (2016)
Public Policy Colloquium organizing committee (2017-2022)

American Society of Testing and Materials, Member, 1988-Present
Committee C-09 (1995-Present)

Council of University Transportation Centers (2004 – 2014)

Council on Tall Buildings and Urban Habitat (1990-1992)
Committee 13 Commentary on Structural Steel Standards, Editor

Structural Engineers Association of California, Member (1989-1995)

Transportation Research Board, Member, 1997-Present
Committee AFN10 Basic Research and Emerging Technologies in Concrete
Chairman (2009-2015)
Committee A2E01 Durability of Concrete (2003-2012)

American Society of Civil Engineers, Member/Fellow, 1982-Present
ASCE National Concrete Canoe Competition Judge; 2005, 2006-Head Judge

National Civil Engineering Department Heads Executive Committee 2010-2012
Secretary 2011-2012

National Science Foundation;
Search Committee for Associate Director of Engineering, 2020-2021
Technical Review Panelist 1999, 2002, 2005, 2011

Czech National Academy of Science Research Program; Review Panelist 2004-2011

FIRST Project (Foundry Industry Recycling Starts Today) for American Foundrymen
Association, Expert Panel, CLSM Task Force, 1999-2001.

Technical consultant, Discovery Channel Series on Modern Miracles of Science, History
of Concrete, Actuality Productions, Sherman Oaks, CA; programming date 5/31/00.

Miscellaneous Professional Activities

Reviewer for *ACI Journal of Concrete Materials*, (1990-Present); *Construction and
Building Materials* (1998-Present); *Cement and Concrete Research* (1995-Present);
UAB University Transportation Center Proposals (2004-Present); *ASCE Structural
Engineering Journal* (1993-Present); *ASCE Materials Engineering Journal* (1997-
Present); *ASEE Journal of Engineering Education*;

Community Service

Troop 802, Boy Scouts of America
Assistant Scoutmaster (2013-2020)
Pack 4682, Boy Scouts of America
Cub Master (2010-2012)
Assistant Cub Master, (2009-2010)

Scout Executive Committee (2009-2012)
United Way of Payne County (2015-2022)
Day of Caring
Annual campaign mentor
St Francis Xavier Catholic Church
Finance Council (2022-2025)
Extraordinary Minister (2019-Present)
St. Thomas More Catholic Church
Parish Council 2011-2012
Knights of Columbus (2007-Present)
St. Cecil's Church, Liturgical Assistance (1991)
Sandy City Recreation, Soccer coach (2007)
Centre County Recreation, T-Ball coach (2006)
Special Olympics (1991-1995, 2001-2006)

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