The civil, architectural and environmental engineering department had a notable year with increased productivity in nearly all aspects of our scholarly work, and we are thrilled to share that in our Scholarly Productivity Report for 2018.

Our team saw increases in enrollment (topping 600 students in the fall), publications, student productivity, research expenditures, new awards and national visibility. We also continued to make progress on our strategic plan, Vision 2020. We started this endeavor in 2011, and as we move closer to 2020, we continue to position our department on the front line of excellence for future students.

Our team continues to grow, and that, of course, expands the pool of talents that contribute to the education of our next generation of Miner alumni.

We welcomed three new team members, and we look for all three to lead us into new research and educational areas.

- **Dr. Islam El-adaway** joined us as the Hurst-McCarthy Professor. Dr. El-adaway, formerly an associate professor of civil and environmental engineering at the University of Tennessee, is a fellow of both ASCE and the Institution of Civil Engineers (UK), is a licensed professional engineer and has received multiple awards for teaching and research.

- **Dr. Guney Olgun** joined our team as an assistant professor. Dr. Olgun was an assistant research professor at Virginia Tech, where he earned a Ph.D. in 2009. His research interests include energy geotechnology, geothermal foundations, earthquake engineering and seismic hazard mapping. He has published over 40 articles and taught multiple courses on these topics.

- **Dr. Sanjay Tewari** joined the department as an assistant teaching professor to strengthen our cooperative program with Missouri State University in Springfield, Mo. Dr. Tewari was an assistant professor at Louisiana Tech University. His expertise is in solving challenges associated with water and wastewater. His research focuses on electrochemistry applications in greywater/water reuse as well as resource recovery and infrastructure resiliency.

We also celebrate a strong year of production, with 157 peer-reviewed journal articles published by our faculty and students (page 7), as well as many notable international keynote talks and presentations (page 19 and 23).

Research productivity increased 62 percent over 2017 to $4.4 million. We graduated 13 Ph.D. students in 2018. Many of them started their academic careers as professors or postdoctoral researchers at peer institutions in the U.S. or internationally.

Our faculty received several national and international awards, ranging from notable research breakthroughs to career recognition for accomplishments in teaching, service and research (page 29).

Our research and educational facilities combined with such a talented faculty team will undoubtedly create even more opportunities for our graduates to go out and change the world as Miner alumni.

If you have any questions about the exciting things happening in Rolla or about our future vision of civil, architectural and environmental engineering at Missouri S&T, please contact me and take any opportunity to stay engaged with our CArEE team.

Sincerely,

Joel G. Burken
Chair and Curators’ Distinguished Professor
Email: burken@mst.edu
CHAIR & ASSISTANT CHAIRS

Joel Burken
Ph.D., P.E., BCEE, FAEESP
Department Chair and Curators’ Distinguished Professor, Civil, Architectural and Environmental Engineering
Education: Ph.D. Civil and Environmental Engineering, University of Iowa
Research Interests: Phytoforensics, Phytoremediation and natural treatment systems, Biological wastewater treatment, Constructed wetlands, Green remediation

Stuart Baur
Ph.D., A.I.A.
Assistant Chair and Associate Professor, Architectural Engineering
Education: Ph.D. Civil Engineering, Missouri S&T
Research Interests: Design cost effective clean alternative energy, Develop new building technologies and practices through the use of materials and methodology, Generate intelligent responsive building systems

Mark Fitch
Ph.D.
Assistant Chair and Associate Professor, Environmental Engineering
Education: Ph.D. Chemical Engineering, University of Texas at Austin
Research Interests: Constructed wetlands/ Biochemical reactors for metals removal, Biofiltration/Membrane biofiltration, Nutrient uptake in streams

Eric Showalter
Ph.D., P.E.
Assistant Chair and Teaching Professor, Civil Engineering
Director, Advising Center
Education: Ph.D. Civil Engineering, Purdue University
Research and Teaching Interests: Information technology applications in construction, Environmental remediation, Productivity simulation, Cost effectiveness of technology

GRADUATE PROGRAMS & ADVISING

Cesar Mendoza
Ph.D.
Associate Professor, Water Resources Engineering
Associate Chair, Graduate Studies and Advising
Education: Ph.D. Civil Engineering, Colorado State University
Research Interests: Hydraulics, Hydrology, Fluid mechanics, Sediment transport, Stream mechanics, Environmental hydraulics, Mathematical modeling

William Schonberg
Ph.D., P.E., FASCE, FASME, Assoc F.AIAA
Professor, Civil, Architectural and Environmental Engineering
Assistant Chair, Distance Education and Advising
Education: Ph.D. Civil Engineering, Northwestern University
Research Interests: Armor/anti-armor and penetration mechanics, Spacecraft vulnerability/survivability, Spacecraft shielding against meteoroid and orbital debris impacts, Hypervelocity impact phenomena, Building collapse/rubble modeling

EMERITUS FACULTY

Jerry Bayless
Associate Professor Emeritus

Franklin Cheng
Professor Emeritus

Roger LaBoube
Curators’ Teaching Professor Emeritus

Rodney Lentz
Associate Professor Emeritus

Charles Morris
Associate Professor Emeritus

Thomas Petry
Professor Emeritus

Shamsher Prakash
Professor Emeritus

David Richardson
Chancellor’s Professor and Associate Professor Emeritus

Richard Stephenson
Professor Emeritus

Jerome Westphal
Professor Emeritus

Wei-Wen Yu
Curators’ Professor Emeritus
Daniel Abbott  
Lecturer, Mechanics  
**Education:** M.S. Mechanical Engineering, Missouri S&T  
**Courses Taught:** Engineering Mechanics: Statics, Materials Testing, Introduction to Engineering Design  

Magdy Abdelrahman  
Ph.D., P.E.  
Missouri Asphalt Pavement Association (MAPA) Endowed Professor  
**Education:** Ph.D. Civil Engineering, University of Illinois at Urbana-Champaign  
**Research Interests:** Infrastructure sustainability and recycling of asphalt pavement, Modified asphalt binders, Quality control/assurance, Road materials and construction, Design and characterization of asphalt binders and mixtures, Pavement design and analysis, Advanced materials characterization and modeling, and Environmental aspects of road material recycling  

Genda Chen  
Ph.D., P.E., F.ASCE  
Robert W. Abbott Distinguished Professor, Civil Engineering  
**Education:** Ph.D. Civil Engineering, State University of New York at Buffalo  
**Research Interests:** Structural health monitoring, Interface mechanics and deterioration of composite structures, Adaptive passive dampers and systems, Multi-hazards assessment and mitigation, Forensic study, Seismic analysis and retrofit, Soil-structure interaction, Bridge engineering  

Wen Deng  
Ph.D.  
Assistant Professor, Geotechnical Engineering  
**Education:** Ph.D. Geosciences, Iowa State University  
**Research Interests:** Multiphase flow, Chemical and thermal transport, Microbial growth in porous and fractured media, Areas of geo-energy recovery, Waste sequestration, Environmental remediation  

Islam El-adaway  
Ph.D., P.E., C.Eng., F.ASCE, F.ICE  
Hurst/McCarty Professor of Construction Engineering and Management  
**Education:** Ph.D. Civil Engineering, Iowa State University  
**Research and Teaching Interests:** Modeling and simulation; Sustainable infrastructure, resilient hazard, energy contractual and dispute, planning, safety, decision and risk management; Engineering education and ethics  

Mohamed ElGawady  
Ph.D.  
Professor and Benavides Faculty Scholar, Structural Engineering  
**Education:** Ph.D. Structural Engineering, EPFL, Swiss Federal Institute of Technology, Lausanne, Switzerland  
**Research Interests:** Seismic behavior of unreinforced masonry (URM) structures, Application of Fiber Reinforced Polymers (FRP) in strengthening and repair of masonry/reinforced concrete structures, Seismic behavior of reinforced concrete bridges  

Dimitri Feys  
Ph.D.  
Assistant Professor, Materials Engineering  
**Education:** Ph.D. Civil Engineering, Ghent University, Ghent, Belgium  
**Research Interests:** Behavior of highly workable concrete in the fresh state, Rheology of complex materials and suspensions, Suspension flow and sedimentation, Fluid mechanics and flow modeling, Concrete made with recycled materials and advanced sustainability  

William Gillis  
Ph.D., P.E., PMP, LEED AP, M.ASCE, M.ASHRAE  
Assistant Teaching Professor, Civil and Architectural Engineering  
**Education:** Ph.D. Engineering Management, Missouri S&T  
**Research and Teaching Interests:** Building systems and system efficiency, Green building design and construction, Building commissioning, Indoor air quality
XianBiao Hu
Ph.D.
Assistant Professor, Transportation Engineering
Education: Ph.D. Transportation Engineering, University of Arizona
Research Interests: Smart transportation systems design, development and deployment, Big data analytics and applications in transportation engineering, Incentive-based travel behavior research, Transportation system modeling and simulation, Driving safety and insurance telematics, Performance evaluation and traffic operation

Kamal Khayat
Ph.D., P.E., F.ACI, F.RILEM
Vernon and Maralee Jones Professor, Materials Engineering Director, Center for Infrastructure Engineering Studies
Education: Ph.D. Civil Engineering, University of California, Berkeley
Research Interests: Design and performance of advanced structural materials, including high-performance concrete with adapted rheology, self-consolidating concrete, Repair and rehabilitation of civil engineering infrastructure, Durability and deterioration of cement-based materials in aggressive environments

Nicolas Ali Libre
Ph.D.
Assistant Teaching Professor, Structural Engineering
Education: Ph.D. Civil Engineering, University of Tehran, Iran

Jenny Liu
Ph.D., P.E.
Professor, Materials and Pavement Engineering
Education: Ph.D. Civil Engineering, Texas A&M University
Research Interests: Infrastructure Materials – Engineering characterization and modeling of asphalt cement, Hot-mix asphalt mixtures, Granular and stabilized bases, Portland cement concrete, and Other infrastructural materials, Pavement Engineering – Pavement design and testing, Pavement preservation, repair and rehabilitation, Non-destructive testing, Pavement construction, and Pavement management system (PMS)

Hongyan Ma
Ph.D.
Assistant Professor, Materials Engineering
Education: Ph.D. Civil Engineering, Hong Kong University of Science and Technology
Research Interests: Hydration kinetics of (blended) cementitious materials, Microstructural characterization and modeling of cement paste, interfacial transition zone and mortar/concrete, Measuring and multi-scale modeling of transport properties of concrete, Mechanisms and properties of novel construction/rehabilitation materials, Magnesia-phosphate cement (MPC) and MPC-based functional materials

John Myers
Ph.D., P.E., F.ACI, FASCE, F.IIFC, F.TMS
Professor, Structural Engineering Associate Dean, College of Engineering and Computing Director, High-Bay Laboratory
Education: Ph.D. Civil Engineering, University of Texas at Austin
Research Interests: Structures/high performance concrete (HPC) behavior and durability performance, Fiber-reinforced polymers (FRP) in structural repair and strengthening applications with an emphasis related to concrete and masonry structures, and their durability performance

Daniel Oerther
Ph.D., P.E., BCCE, CEng, CEHS, D.AAS, M.CIEH, CEP, CEnv, FAAN, F.RSA, F.RSPH
Professor, Environmental Health Engineering
Education: Ph.D. Environmental Engineering, University of Illinois
Research Interests: Environmental biotechnology and sustainable development with a special emphasis on water, sanitation and hygiene (WaSH); Food safety, security and nutrition; and Poverty alleviation using design thinking and social entrepreneurship

Guney Olgun
Assistant Professor, Geotechnical Engineering
Education: Ph.D., Civil and Environmental Engineering, Virginia Polytechnic Institute and State University
Research and Teaching Interests: Energy geotechnology, Geothermal foundations, Geotechnical earthquake engineering, Seismic hazard mapping, Liquefaction, Multi-scale characterization of geomaterials, Soil erosion, Deep foundations, Ground improvement and soil reinforcement, Soil-foundation-structure interaction, Advanced numerical modeling, Disaster resilience and risk management
Lesley Sneed  
Ph.D., P.E., F.ACI  
Associate Professor and  
Stirrat Faculty Scholar,  
Structural Engineering  
Education:  
Ph.D. Civil Engineering,  
Purdue University  
Research Interests:  
Reinforced and prestressed concrete structural members and systems, Structural models and experimental methods, Innovative methods of repair and strengthening of structures subjected to seismic loading or other extreme hazards, Structural hazard mitigation, Design codes and construction specifications for structural concrete

Sanjay Tewari  
Assistant Teaching Professor,  
MSU Program/Environmental and Water Resources Engineering  
Education:  
Ph.D. Civil Engineering,  
Texas A&M University  
Research and Teaching Interests:  

Jeffery Thomas  
Ph.D., P.E.  
Associate Teaching Professor,  
Structural Engineering  
Education:  
Ph.D. Engineering Mechanics,  
Missouri S&T  
Research and Teaching Interests:  
Engineering education, Mechanics of biological materials, Design of percussion instruments, Residential construction

Jianmin Wang  
Ph.D., P.E.  
Professor,  
Environmental Engineering  
Education:  
Ph.D. Civil Engineering,  
University of Delaware  
Research Interests:  
Sustainable technologies for advanced wastewater treatment, Synergistic toxic effect of nanoparticles and heavy metals, Fate and transport of heavy metals in natural and engineered systems

Chenglin Wu  
Ph.D.  
Assistant Professor,  
Structural Engineering  
Education:  
Ph.D. Engineering Mechanics,  
The University of Texas at Austin  
Research Interests:  

Grace Yan  
Ph.D.  
Assistant Professor,  
Structural Engineering  
Education:  
Ph.D. Engineering Mechanics,  
Harbin Institute of Technology,  
China  
Research Interests:  
Resilient infrastructural systems in multi-hazard environments, Structural health monitoring, Structural damage detection, Wireless sensor networks, Advanced signal processing, Nonlinear system identification and damage detection, Model updating of structural FEMs, Structural vibration control, Smart materials and structures

Xiong Zhang  
Ph.D., P.E.  
Associate Professor,  
Geotechnical Engineering  
Education:  
Ph.D. Civil Engineering,  
Texas A&M University  
Research Interests:  
Advanced testing techniques for geo-material characterization, Modeling of coupled hydro-chemo-thermo-mechanical behavior of geo-materials, Numerical methods and modeling, Geothermal and ground source heat pump systems, Soil structure interaction, Foundation on expansive and collapsible soils, Geotechnical applications in pavement engineering, Frozen ground engineering, Remote sensing for geo-engineering applications

STAFF
Support  
Darlene Turner  
Marsha Grayer  
Becky Callen  
Angel Roark
Advising Center  
Jeannie Werner  
Jody Seely
Engineering and Technical  
Brian Swift  
Gary Abbott  
John Bullock  
Greg Leckrone
Research  
Mike Lusher
Communications  
Joann Stiritz
Abdelrahman, M.


Baur, S.W.


Burken, J.G.

JOURNAL PUBLICATIONS (continued)


Deng, W.


El-adaway, I.


Dr. Mohamed ElGawady and his research group tested a full-scale post-tensioned masonry wall where they implemented their filed patent (Patent Pending U.S. Appl. 15/691,375). Their goal was to increase the ductility and strength of the masonry shear walls, which is essential in high seismic zones.

**ElGawady, M.A.**


**Feys, D.**


**Fitch, M.**


**Hu, X.**


**Hu, X.**


Ma, H.


Dr. Hongyan Ma, is working on a safer, simpler and potentially more affordable method of combining nanoparticles with concrete. His method involves forming the nanoparticles inside the fresh concrete, creating an even disbursement.


Myers, J.J.


Schonberg, W.P.


Sneed, L.H.


Sneed, L.H., Carloni, C., Fraioli, G., and Baietti, G., “Confinement of Brick Masonry Columns with SRG Jackets,” Composites with Inorganic Matrix for Repair of Concrete and Masonry Structures, SP-324, American Concrete Institute, Farmington Hills, MI, pp. 5.1-5.10, 2018.


Tewari, S.


Wang, J.


Dr. Grace Yan educated the world on the dangers of tornado alley and the wide-ranging benefits of making it a safer and better place to call home during the 2018 TEDxMissouriS&T event, Dare to Consider.

Yan, G.R.


Zhang, X.


Chen, G.


Deng, W.


El-adaway, I.


ElGawady, M.A.


Feys, D.


Hu, X.


Liu, J.


Ma, H.


Myers, J.J.


Oerther, D.B.


**Burken, J.G.**


**Chen, G.**


**Chen, G.**, “Sensor-enhanced Analysis and Behavior of Steel Beams in Fire,” Presented at the 5th World Congress and Exhibition on Construction and Steel Structure (Steel Structure 2018), Los Angeles, CA, October, 2018, (keynote presentation).


**Chen, G.**, “Emerging Roles of Automation and Informatics in Civil Engineering,” Hong Kong Polytechnic University, Hong Kong, China, December, 2018.

**Feys, D.**


(continued on page 21)
Schonberg, W.P.


Sneed, L.H.


Tewari, S.


Yan, G.


Zhang, X.

Li, L., and Zhang, X., “Deformation and Suction Variation of an Unsaturated Soil during Constant Water Content Triaxial Loading,” The 7th International Conference on Unsaturated Soils, Hong Kong, China, August, 2018.


INVITED TALKS (continued)


Khayat, K.H., “Effect of Rheological Properties on Quality of Formed Surfaces Cast with SCC and Superworkable Concrete,” CBMA, Beijing, China, November, 2018.


Khayat, K.H., “Effect of Rheological Properties on Quality of Formed Surfaces Cast with SCC and Superworkable Concrete,” Las Vegas, NV, October, 2018.


Khayat, K.H., “Ultra High-performance Concrete with Adapted Rheology,” Central South University, Changsha, China, August, 2018.

Khayat, K.H., “Rheology Control of High Strength Concrete and Effect on Performance,” Tsinghua University, Beijing, China, May, 2018.


Khayat, K.H., “A Long Winding Road,” Honorary Member, Chi Epsilon, Missouri S&T Chapter, Rolla, MO, April, 2018.


Myers, J.J., “Microstructure and Mechanical Property Behavior of In-situ FRP Reinforcement Autopsied from In-service Bridge Structures,” American Concrete Institute 2018 Fall Convention, Las Vegas, NV, October, 2018.


Oerther, D.B., “Lessons from The Road Not Taken,” Keynote Address to Undergraduate Research Symposium, Missouri University of Science and Technology, Rolla, MO, April, 2018.

Schonberg, W.P.


Schonberg, W.P., “Be the Bridge: An Exploration of Physical as well as Metaphorical Bridges,” TedxUCCI, University College of the Cayman Islands, Grand Cayman, BWI, March, 2018, https://www.youtube.com/watch?v=nI3h8CIW9ZI.

Sneed, L.H.


Sneed, L.H., “Navigating the Road to a Successful Academic Career,” Purdue University, West Lafayette, IN, February, 2018.

Wang, J.

Wang, J., “Why Should we Promote Low DO Aeration?” Fudan University, Shanghai, China, June, 2018.


Wu, C.


Yan, G.

Abdelrahman, M.


Chen, G.


Deng, W.


ElGawady, M.A.


Conferences Presentations (continued)


Feys, D.


Hu, X.


Libre, N.A.


Libre, N.A., “Activating Student Learning and Success with Instructor-built Resources,” University of Missouri-St. Louis, Focus on Teaching and Technology Conference, St. Louis, MO, September, 2018.

Liu, J.


Ma, H.

Ma, H., “Studies on Advanced Materials for Sustainable Infrastructure,” School of Materials Science Engineering, Southeast University, Nanjing, China, June, 2018.


Ma, H., “Advances in Novel Binding Mechanisms and Binder Materials,” School of Civil Engineering, Qingdao University of Technology, Qingdao, China, May, 2018.

Ma, H., “Frontiers in Durability Study of Concrete,” College of Civil Engineering, Shenzhen University, Shenzhen, China, January, 2018.

Myers, J.J.


Myers, J.J., “In-service Stress and Strain Behavior of Missouri Bridge A7957,” 9th International Conference on Bridge Maintenance, Safety, and Management (IABMAS 2018), Melbourne, Australia, July, 2018, (co-presenter).


Schonberg, W.P.


Tewari, S.


**Wang, J.**


**Wu, C.**


**Zhang, X.**


**Jianmin Wang**, pictured left, and C.P. Huang

Dr. Jianmin Wang gave the keynote address at the 256th American Chemical Society (ACS) National Meeting and Exposition held in Boston in August. He also gave two other separate talks regarding energy saving strategy for wastewater treatment and beneficial use of scrap tire for road construction. He served as a session chair organized by his former Ph.D. advisor, Dr. C.P. Huang from the University of Delaware.
Abdelrahman, M.


Burken, J.G.

Burken, J.G. (PI), and Yin, Zhaozheng (Co-PI), “The Missouri Transect: Climate, Plants and Communities,” NSF Office of Experimental Programs, August 2018 to July 2019; $147,713.


Chen, G.


El-adaway, I.


ElGawady, M.A.


Feys, D.


Fitch, M.


Hu, X.


Khayat, K.H.


Khayat, K.H. (PI), “Compacted Concrete Pavement-SE District,” Missouri Department of Transportation, September 2018 to December 2021; $125,000.


LaBoube, R.

LaBoube, R. (PI), “Wei-Wen Yu Center for Cold-formed Steel Structures,” Metal Building Manufacturers Association, January 2018 to December 2018; $5,000.

LaBoube, R. (PI), “SDI Sponsorship of CCFSS,” Steel Deck Institute, January 2018 to December 2018; $5,000.

LaBoube, R. (PI), “RMI Sponsorship of CCFSS,” Rack Manufacturers Institute, Inc., January 2018 to December 2018; $5,000.


LaBoube, R. (PI), “Wei-Wen Yu Center for Cold-Formed Steel Structures,” Steel Framing Industry Association, January 2018 to December 2018; $5,000.

LaBoube, R. (PI), “CFSEI Sponsorship of CCFSS’ Cold-Formed Steel Engineers Institute, January 2018 to December 2018; $5,000.

Myers, J.J.


Pickerill, H.A.

Pickerill, H.A. (PI), “Local Assistance Program at the Missouri University of Science and Technology (S&T),” Missouri Department of Transportation, January 2018 to December 2018; $300,000.

Sneed, L.H.


Zhang, X.

Zhang, X. (PI), “A Photogrammetric Method to Measure 3D Full Field Displacement of Geosynthetics during the Tensile Test (Xiaolong Xiao),” Geosynthetic Institute, July 2018 to July 2019; $5,000.


Zhang, X. (PI), “CESTICC Projects: #1508, #1509, #1619, #1616, #1617, #1618; Year 2 funds,” University of Arkansas, May 2018 to August 2019; $44,519.
**HONORS & AWARDS**

**Baur, S.W.**, Recipient, Experiential Learning Award, Missouri S&T, 2018.

**Burken, J.G.**, American Academy of Environmental Engineers and Scientists (AAEES) Science Award, 2018. (1 annually)


**El-adaway, I.**, 2019 Top Young Professional (i.e. Top 20 under 40), Engineering News Record Midwest, United States, 2018.

**ElGawady, M.A.**, Faculty Research Award, Missouri S&T, 2018.

**Feys, D.**, ACI Young Member Award for Professional Achievement, American Concrete Institute, 2018.

**Feys, D.**, Joseph and Jeanne Senne Award for Scholarly Achievement, CArEE, Missouri S&T, 2018.

**Feys, D.**, Outstanding Teaching Award, Missouri S&T, 2018.

**Fitch, M.**, Faculty Service Award, Missouri S&T, 2018.


**Khayat, K.**, Wason Medal for the Most Meritorious Paper, American Concrete Institute, 2018.

**Khayat, K.**, Chi Epsilon Chapter Honor Member, Missouri S&T, 2018.

**Khayat, K.**, Vice Chair, Gordon Research Conference, Advanced Materials for Sustainable Infrastructure Development, August 5-10, Hong Kong, China, 2018.


**Khayat, K.**, Elected Member, ACI 90 Technical Activities Committee, 2018.

**Libre, N.A.**, Faculty Achievement Award, Center for Advancing Faculty Excellence (CAFE), Missouri S&T, Rolla, MO, December, 2018.

**Libre, N.A.**, Teaching and Technology Award, Focus on Teaching and Technology Conference, St. Louis, MO, September, 2018.

**Libre, N.A.**, President Award for Innovative Teaching, University of Missouri System, Columbia, MO, June, 2018.

**Libre, N.A.**, CERTI Service Award, Center for Educational Research and Teaching Innovation (CERTI), Missouri S&T, Rolla, MO, April, 2018.


**Ma, H.**, Outstanding Reviewer, *Cement & Concrete Composites*, 2018.


---

**Pictured from left to right: Dimitri Feys, John Myers, Mohamed ElGawady, Mark Fitch and Nicolas Libre.**
Master of Science  
(with thesis)


Colbert, N., “Local Buckling of Axially Loaded Steel Tubes Externally Constrained Using Concrete and FRP,” Advisor: M.A. ElGawady

Doss, A., “Bioaccessibility of Lead from Contaminated Soil Using Phosphate Treatment-physiologically Based Extraction Test and In Vitro Gastrointestinal Method Test,” Advisor: M. Fitch


Moore, C., “A Study on End-anchorage and Bond Behavior of Steel Fiber Reinforced Cementitious Matrix Composites Externally Bonded to a Concrete Substrate,” Advisor: L.H. Sneed


Nain, M., “Cyclic Axial Compression Behavior of Concrete-filled Hybrid Large Rupture Strain FRP Tubes,” Advisor: M.A. ElGawady


Doctor of Philosophy

Abotaleb, I., “Construction Dispute Mitigation Using Quantitative and Qualitative Analytics,” Advisor: I. El-adaway


Alghazali, H., “Behavior and Temporal-based Effects of Sustainable Self-consolidating Concrete in Bridge Structures,” Advisor: J.J. Myers


Cao, J., “Bio-inspired Geomaterial Improvement and Development of Innovative Characterization Methods,” Advisor: W. Deng, Co-Advisor: B. Bate


Li, Z., “Critical Buckling and Post-buckling Behavior of Thin-walled Liners Confined in Underground Pipelines in Saturated Soils,” Advisor: G. Chen

Lusher, S.M., “Guayule Plant Extracts as Binder Modifiers in Flexible (Asphalt) Pavement Mixtures,” Advisor: D. Richardson

Qu, H., “Adaptive Data Analysis for Damage Detection in Civil Infrastructure,” Advisor: G. Chen


**HONORS & AWARDS (continued)**

**Myers, J.J.** The Masonry Society TAC Service Recognition – Award from TMS, recognized October, 2018.

**Myers, J.J.** Outstanding Elsevier Reviewer Award – Award from Elsevier’s *Construction and Building Materials Journal*, recognized April, 2018.

**Myers, J.J.** Missouri S&T Faculty External Recognition Award – University Wide, Missouri S&T, recognized May, 2018.

**Myers, J.J.** Missouri S&T Faculty Research Award – University Wide, Missouri S&T, recognized December, 2018.

**Oerther, D.B.** Faculty Service Learning Award, Missouri S&T, 2018.


**Oerther, D.B.** , Dr. John L. Leal Award, American Water Works Association, 2018.


**Oerther, D.B.** , Commendation for Outstanding Environmental Health Professional, Annual Excellence Awards, Chartered Institute of Environmental Health, 2018.


**Oerther, D.B.** , Elected Fellow, Chartered Institute of Environmental Health, 2018.

**Oerther, D.B.** , Appointed to the Board of Directors, Welfare Fund, Chartered Institute of Environmental Health, 2018.

**Schonberg W.P.** , Fulbright Distinguished Chair in Advanced Science and Technology, U.S. State Department, 2018.


**Showalter, W.E.** , Kiewit Faculty Scholar, Lenexa, KS, and Alamitos Power Plant, Seal Beach, CA, 2018.

**Showalter, W.E.** , Building a Stronger Curriculum with Kiewit – selected to attend faculty workshop in Omaha, NB, June, 2018.

**Showalter, W.E.** , Joseph Senne Academy of Civil Engineers Faculty Teaching and Service Achievement Award, April, 2018.

**Showalter, W.E.** , Missouri S&T, Chi Epsilon Chapter Honor Member Inductee, Fall, 2018.

**Sneed, L.H.** , University of Bologna Institute of Advanced Studies Visiting Fellowship, 2018.

**Sneed, L.H.** , Purdue University Civil Engineering Student Advisory Council (CEGSAC) Emerging Leaders Lecture Awardee, 2018.


**Tewari, S.** , National Committee on Water Desalination and Reuse, American Society of Civil Engineers, 2018.

**Tewari, S.** , National Committee on Student Members, American Society of Civil Engineers, 2018-2021.

**Tewari, S.** , National Committee on Water Pollution (formerly Wastewater Engineering Technical Committee), American Society of Civil Engineers, 2018.

**Tewari, S.** , Student Services Committee, Association of Environmental Engineering and Science Professors, 2018.

**INVITED TALKS (continued)**

**Yan, G.** “Simulation of Tornadic Wind Fields and Wind Effects Induced by Tornadoes,” Tongji University, Shanghai, China, June, 2018.


NEW LAB SPACE IN 2019
Advancing Missouri S&T’s leadership in infrastructure engineering

CLAYCO ACML
16,000 ft²

> 600
Fall 2018 Total CArEE Student Enrollment

7 Publications per Faculty
Average number per faculty for 2017
Top 25 nationally in Academic Analytics

13
Active student organizations and design teams

CARTEE Research Growth

<table>
<thead>
<tr>
<th>Year</th>
<th>Expenditures</th>
<th>Awards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>$2.05</td>
<td>$3.24</td>
</tr>
<tr>
<td>2016</td>
<td>$2.43</td>
<td>$1.22</td>
</tr>
<tr>
<td>2017</td>
<td>$2.68</td>
<td>$3.54</td>
</tr>
<tr>
<td>2018</td>
<td>$3.90</td>
<td>$5.99</td>
</tr>
</tbody>
</table>

CHANGING THE WORLD

LIKE OUR FACEBOOK PAGE
www.facebook.com/MissouriSandTCArE