

## **ROYCE W. FLOYD, PH.D., P.E., S.E.**

School of Civil Engineering and Environmental Science  
The University of Oklahoma  
202 W. Boyd St., Room 334, Norman, OK, 73019  
Office: (405) 325-1010 Fax: (405) 325-4217

### **EDUCATION**

**Doctor of Philosophy, Civil Engineering, University of Arkansas**, Fayetteville, AR, August 2012, Dissertation: *Investigating the Bond of Prestressing Strands in Lightweight Self-Consolidating Concrete*, Supervising Professor: W. Micah Hale, Ph.D., P.E.

**Bachelor of Science in Civil Engineering, University of Arkansas**, Fayetteville, AR, Summa Cum Laude, May 2008, Honors Thesis: *Development Length of Prestressed Beams cast with Self-Consolidating Concrete*

### **ACADEMIC APPOINTMENTS**

**Associate Professor** (July 2018 – Present), School of Civil Engineering and Environmental Science, University of Oklahoma, Norman, OK.

**Assistant Professor** (August 2012 – June 2018), School of Civil Engineering and Environmental Science, University of Oklahoma, Norman, OK.

**Instructor** (August 2009 – December 2011), Department of Civil Engineering, University of Arkansas, Fayetteville, AR. Reinforced Concrete Design (Fall 2009 and Fall 2011)

**Teaching Assistant** (January 2010 – May 2012), Department of Civil Engineering, University of Arkansas, Fayetteville, AR. Structural Materials Lab Assistant.

**Research Assistant** (August 2008 – July 2012), Department of Civil Engineering, University of Arkansas, Fayetteville, AR. Investigating strand bond in lightweight self-consolidating concrete (SCC) mixtures. Developing normal weight SCC fresh concrete specifications for use in box culverts. Mixing/testing ultra-high performance concrete (UHPC).

**Undergraduate Research Assistant** (Fall 2007- May 2008), Department of Civil Engineering, University of Arkansas, Fayetteville, AR. Testing 19 prestressed beams to determine development length.

### **ACADEMIC LEADERSHIP APPOINTMENTS**

**Graduate Studies Coordinator** (May 2018 – January 2021) School of Civil Engineering and Environmental Science, University of Oklahoma, Norman, OK.

### **INDUSTRY EXPERIENCE**

**Exam Proctor** (August 2008 – July 2012), Center for Training Transportation Professionals, Fayetteville, AR. Proctored performance evaluations for ACI Concrete Field Testing Technician Grade I certification, soil, basic aggregate, and asphalt testing certifications.

**Engineer Intern** (May – August 2007), Garver Engineers (now Garver), Little Rock, AR. General drafting, assisted with roadway and drainage design.

**Civil Engineer Technician/Surveyor** (May – August 2006), Crafton, Tull & Associates (now Crafton Tull), Little Rock, AR. Field work and surveying.

**Civil Engineer Technician** (May – August 2005), Arkansas Electric Cooperative Corporation, Little Rock, AR.

## **AWARDS AND HONORS**

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### ***Awards***

2019 University of Arkansas College of Engineering Early Career Alumni Award

2016 Gallogly College of Engineering Teaching Scholars Award

### ***Fellowships and Scholarships***

2013 ASCE ExCEEEd Faculty Fellowship

2009 American Concrete Institute Presidents' Fellowship

2008 University of Arkansas Distinguished Doctoral Fellowship

### ***Graduate Awards***

2011 Mack-Blackwell Rural Transportation Center 2011 Outstanding Student of the Year

### ***Other Honors***

2013 “Best Breakout Session” BP DEVAS and BP Engineering Academy

## **TEACHING**

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**Summary:** I have taught 5 different courses (2 undergraduate/2 graduate/1 dual enrollment) at OU and have directed 18 students in sections of Independent Study. All my courses have received student evaluation scores exceeding the department and Gallogly College of Engineering averages. I have advised a total of 21 graduate students, and have graduated 1 Ph.D. student and 16 M.S. thesis students including 5 women and 11 men. I have advised 1 exchange student (1 woman) in research whose degree was granted by her home university. I have served on 5 Ph.D. committees, 23 master's thesis committees, and 6 non-thesis master's committees. I have supervised a total of 23 undergraduate students in research at OU that have been involved in research to varying degrees from general lab help to undergraduate Honors theses. Nine of these students have continued into the master's program under my supervision. I currently advise 1 Ph.D. student and 3 M.S. thesis students in progress along with 3 undergraduate research assistants.

### **Courses Taught**

#### ***University of Oklahoma***

**CEES 2113 Statics:** Vector representation of forces and moments; general three-dimensional theorems of statics; centroids and moments of area and inertia. Free-body diagrams, equilibrium of a particle and of rigid bodies, distributed loads, friction and internal shear and moment loads. Analysis of trusses, frames, and machines.

**CEES 3673 Structural Design – Concrete I:** Analysis and design of reinforced concrete beams, columns, slabs, footings, etc., along with discussion of current building practice. (with laboratory)

**CEES 4753 Structural Design – Wood:** Material properties and behavior of wood. Analysis and design of solid and laminated structural members, connections, systems, trusses and arches. Current developments in structural wood design and research.

**CEES 5783 Structural Design – Concrete II:** Advanced reinforced concrete behavior and design including limit design, anchorage slender columns, truss models for shear and torsion on beams, two-way and flat slabs, and the art of detailing.

**CEES 5793 Prestressed Concrete Structures:** Design procedures for pretensioned and post-tensioned concrete structures, with emphasis on the behavior of prestressed concrete. Topics include methods of analysis, time dependent effects, fabrication and construction procedures, connections, highway bridges, frames, composite construction, continuous structures, and anchorage zone detailing.

**Summary of Student Course Evaluations (questions tracked for department evaluation)**

<u>Course</u>	<u>Enrollment</u>	<u>I</u>	<u>D</u>	<u>C</u>
CEES/PE 2113 Statics and Dynamics (F. 2012)	46	4.37	4.17	4.09
CEES 5783 Structural Design – Concrete II (Sp. 2013)	22	4.33	4.30	4.15
CEES 2113 Statics (F. 2013)	37	4.67	4.31	4.15
CEES 5793 Prestressed Concrete Structures (F. 2013)	9	4.57	4.31	4.15
CEES 5783 Structural Design – Concrete II (Sp. 2014)	12	4.60	4.49	4.26
CEES 2113 Statics (F. 2014)	50	4.60	4.30	4.18
CEES 3673 Structural Design – Concrete I (F. 2014)	32	4.76	4.30	4.18
CEES 5783 Structural Design – Concrete II (Sp. 2015)	14	4.81	4.37	4.26
CEES 4753 Structural Design – Wood (F. 2015)	31	4.54	4.18	4.13
CEES 5793 Prestressed Concrete Structures (F. 2015)	13	4.90	4.18	4.13
CEES 5783 Structural Design – Concrete II (Sp. 2016)	17	4.71	4.32	4.15
CEES 4753 Structural Design – Wood (F. 2016)	40	4.73	4.26	4.22
CEES 5783 Structural Design – Concrete II (Sp. 2017)	20	4.88	4.23	4.19
CEES 4753 Structural Design – Wood (F. 2017)	43	4.60	4.32	4.15
CEES 5793 Prestressed Concrete Structures (F. 2017)	26	4.95	4.32	4.15
CEES 5783 Structural Design – Concrete II (Sp. 2018)	14	4.86	4.36	4.15
CEES 4753 Structural Design – Wood (F. 2018)	27	4.48	4.36	4.12
CEES 5793 Prestressed Concrete Structures (F. 2018)	12	4.63	4.36	4.12
CEES 5783 Structural Design – Concrete II (Sp. 2019)	22	4.75	4.29	4.17
CEES 4753 Structural Design – Wood (OL) (Su. 2019)	14	4.76	4.28	4.39
CEES 4753 Structural Design – Wood (F. 2019)	41	4.68	4.41	4.24
CEES 5793 Prestressed Concrete Structures (Sp. 2020)	16	4.79	4.36	4.21
CEES 4753 Structural Design – Wood (OL) (Su. 2020)	26	4.73	4.56	4.35
CEES 4753 Structural Design – Wood (F. 2020)	29	4.53	4.19	4.21
CEES 5783 Structural Design – Concrete II (OL) (F. 2020)	19	4.84	4.19	4.21
CEES 5793 Prestressed Concrete Structures (Sp. 2021)	16			

Note: I indicates my score, D indicates departmental average score, C indicates college of engineering average score, Scale: 1-5 poor to excellent

***Independent Study Sections*****Enrollment**

CEES 5010 Advanced Concrete Materials (Sp. 2013)	2
CEES 5990 Ind. Study – Prestressed Concrete (Su. 2014)	1
CEES 5990 Ind. Study – Sustainable Cement Alt. (Sp 2016)	1
CEES 5010 Civil Engineering Problems (Sp. 2016)	1
CEES 5990 Ind. Study – Conc. Lat. Load Resisting Systems (F. 2016)	1
CEES 5990 Ind. Study – Seis. Des. of Conc. Struct. (Sp. 2017)	1
CEES 5990 Ind. Study – Bridge Deck Des. and Maintenance (Sp. 2017)	1
CEES 5990 Ind. Study – Preservation of Historic Structures (F. 2017)	1
CEES 5990 Ind. Study – Highway Bridge Design (F. 2017)	1
CEES 5990 Ind. Study – Prestressed Parking Structure Design (F. 2017)	1
CEES 5990 Ind. Study -- Concrete Design Software (Sp. 2018)	1
CEES 5990 Ind. Study – Advanced Wood Design (Sp. 2019)	1
CEES 5990 Ind. Study – Advanced Wood Design (Su. 2019)	1
CEES 5010 Civil Engineering Problems (Su. 2019)	1
CEES 5990 Ind. Study – Structural Design – Concrete 2 (F. 2019)	1
CEES 5990 Ind. Study – Concrete Parking Garage Design (Sp. 2020)	2
CEES 5990 Ind. Study – Structural Design – Concrete II (Sp. 2021)	1
CEES 3980 Honors Research	3

***University of Arkansas***

CVEG 4303 Reinforced Concrete Design I (F. 2009, F. 2011)

**Graduate Student Advisement*****Ph.D. (1 completed, 1 in progress)***

Stephen Roswurm (Expected May 2022), *Bond and Long-term Deformation Behavior of Rapid-Setting Belitic Calcium Sulfoaluminate Cement for Pretensioned, Prestressed Concrete*

Cameron Murray (August 2017), *Understanding Ultimate Shear Behavior of Prestressed Concrete Girder Bridges as a System Through Experimental Testing and Analytical Methods*

***Master's Thesis (16 completed, 3 in progress)***

Zachary Tiry (Expected December 2022)

Dip Banik (Expected December 2022)

Phuoc Huynh (Expected December 2021), *Performance of Prestressed Girder End Region Repairs Using UHPC*

Mujtaba Ahmadi (May 2021), *End Region Repair of Prestressed Concrete Girders for Restoring Shear Capacity using UHPC, FR-SCC, and MALP Concrete*

Richard Campos (December 2020), *Effect of Fiber Content on Tensile Strength of Non-Proprietary Ultra-High Performance Concrete*

Kim Serey Vuth Chea (December 2020), *Comparative Study of Proprietary and Non-Proprietary Ultra-High Performance Concrete as Partial-Depth Joint Replacement*

Yana Dyachkova (August 2020), *Effect of Fiber Content of Properties of Non-Proprietary UHPC*

John Toshima (with J. Pei, December 2019), *Identification of Piecewise Flexural Rigidity Using Experimental Measurements*

Connor Casey (August 2019), *Performance of Ultra-High Performance Concrete Continuity Joints for Precast Concrete Beams*

Chandler Funderburg (May 2018), *Evaluation of Surface Preparation and Angle Combinations for Bridge Joint Replacement using Ultra-High Performance Concrete*

Alieu Jobe (with J. Pei, May 2018), *Testing Structural Elements for Free Vibration*

Afnan Ali (May 2018), *Incorporating Grillage Model Derived Load Distribution Factors Into Ratings of Prestressed Concrete Bridges*

Stephen Tanksley (May 2018), *Internal Curing of Calcium Sulfoaluminate Cement Concrete Using Lightweight Aggregate*

Ashwin Kesiraju (May 2017), *Assessing Impact of Climate Change on Oklahoma Bridge Deck and Superstructure Deterioration Using National Bridge Inventory Data*

Troy Bowser (December 2016), *Development Length of 0.6 in. Prestressing Strands in Precast, Prestressed Calcium Sulfoaluminate Cement Concrete*

Darion Mayhorn (August 2016), *Investigation of the Effects of End Region Deterioration in Precast, Prestressed Concrete Bridge Girders*

Brittany Cranor (May 2015), *Analysis and Experimental Testing for Shear Behavior of an AASHTO Type II Girder in Service for Several Decades*

Kavitha Sadhasivam (December 2014), *Top Strand Effect in Prestressed Concrete Members using Lightweight Self-Consolidating Concrete*

Arthur Wendling (May 2014), *Long-Term Performance of Lightweight Self-Consolidating Concrete Members with Top Strands*

### ***Exchange Students***

Elvira Bella Canet (May 2016) *Effect of Vertical Strand Location on Bond of Prestressing Members: Application to Prestressing Strands Cast in Lightweight Self-Consolidating Concrete*, research performed at OU, degree granted from Universidad Politecnica de Valencia

### ***Committee Service***

#### ***Dissertation***

Wassim Tabet (December 2015), Sattar Atash Bahar (December 2017), Jonathan Drury (Su. 2018), Mohammad Tehrani (Su. 2019), Tommy Bounds (December 2020), Trevor Looney, Jacob Choate

#### ***Master's Thesis***

Seth Carlton (Sp. 2013), Jesse Roswurm (Sp. 2013), Seth Roswurm (Sp. 2013), Yusheng Su (Sp. 2013), Jacquelyn Baker (Su. 2014), Corey Wirkman (Sp. 2016), Austin Messerli (Sp. 2016), Kodi Wallace (Su. 2016), Kevin Wise (Su. 2016), Lexis Allen (F. 2017), Corey Casey (F. 2017), Amy (Crone) McDaniel (F. 2017), Dakota Gennings (Sp. 2018), Jacob Roswurm (Sp. 2018), Stephen Roswurm (Sp. 2018), Jacob Choate (Su. 2018), Skylar Calhoun (Su. 2018), Raina Coleman (F. 2018), Maranda Leggs (Su. 2019), Thomas Cain (Sp. 2020), Kevin Lepissier (Su.

2020), Michael Mesigh (Sp. 2021), Puthynan Bin (Sp. 2021), Derek Garcia, Erik Reyes, Rex McLaughlin

#### *Master's Non-Thesis*

Travis Poole (F. 2012), Jesse Berdis (F. 2013), Katie Brown (Sp. 2014), Michael Hendrick (Sp. 2014), Brandon Ezell (Sp. 2014), Gary Quinonez (Sp. 2014)

#### ***Student Awards***

- 2021 American Concrete Institute Tribute to the Founders Fellowship – Stephen Roswurm
- 2020 CEES Withrow Graduate Fellowship – Stephen Roswurm
- 2019 OU Dolese Teaching Fellowship – Stephen Roswurm
- 2018 3<sup>rd</sup> Place Oklahoma Transportation Research Day Poster Contest– Connor Casey
- 2017 2<sup>nd</sup> Place SPTC Student Thesis Award – Darion Mayhorn
- 2016 Southern Plains Transportation Center Student of the Year – Cameron Murray
- 2016 1<sup>st</sup> Place Oklahoma Transportation Research Day Poster Contest– Cameron Murray
- 2016 Dwight David Eisenhower Graduate Fellowship – Cameron Murray
- 2015 1<sup>st</sup> Place SPTC Student Thesis Award – Brittany Cranor
- 2015 Honorable Mention Oklahoma Transportation Research Day Poster Contest – Darion Mayhorn
- 2014 2<sup>nd</sup> Place Oklahoma Transportation Research Day Poster Contest – Cameron Murray
- 2014 Honorable Mention Oklahoma Transportation Research Day Poster Contest – Brittany Cranor
- 2014 Boggs Graduate Fellowship, University of Oklahoma College of Engineering – Cameron Murray

#### **Undergraduate Student Advisement**

##### ***University of Oklahoma***

##### *Undergraduate Honors Research*

- Cade Harris (Sp. 2021) “Bond Behavior of Epoxy Coated Reinforcing Bars in UHPC”
- Parker Hoffman (Sp. 2021) “Bond Behavior of Epoxy Coated Reinforcing Bars in UHPC”
- John Guerrero (Sp. 2021) “Internal Curing of Ultra-High Performance Concrete
- Alexandria Stumps (Sp. 2015) “Bond Stress Distribution Analysis of the Embedment Length of Prestressed Concrete Specimens”
- Daniel Velazquez (Sp. 2014) “Internal Curing of Calcium Sulfoaluminate Cement Concrete Using Expanded Shale Aggregate”
- Dylan Smith (Su. 2013) “Impacts of High-Percentage Lightweight Coarse Aggregate Replacement of Normal Weight Aggregate on Concrete Compressive Strength and Chloride Ion Permeability”

##### *Undergraduate Research Assistants: (also providing general assistance for multiple projects)*

John Guerrero (6/2021 – present)

Cade Harris (6/2021 – present)

Omar Yadak (4/2021 – present)

Kate Maier (1/2021 – 5/2021), Internal Curing of Ultra-High Performance Concrete

Cole Walker (1/2019-present), Effect of Fiber Content on Compressive Strength of UHPC

Jacob Starks (8/19/2019-12/31/2020), Freeze-Thaw Behavior of UHPC Joint Specimens

Levi Kell (5/15/2019-5/15/2020)

Mathew Alvarado (5/15/2019-5/08/2020)

Yana Dyachkova (1/2019-5/2019), Effect of Fiber Content of Properties of Non-Proprietary UHPC

Kim Serey Vuth Chea (1/2019-5/2019), Performance of Half-Depth UHPC Deck Slab Joints

Eric Budder (5/2018-12/2018), Fatigue Performance of a UHPC Slab Joint

Richard Campos (5/2018-12/2018)

Kaitlyn Anderson (10/2017-5/2018)

Chandler Funderburg (5/2016-5/2017), Evaluation of Joint Details for UHPC Bridge Joints

Connor Casey (5/2015-5/2017), Lateral Load Testing of a Masonry Wall for Evaluating Damage Detection Methods

Stephen Tanksley (5/2015-5/2016), Internal Curing of Calcium Sulfoaluminate Cement Concrete

Alexandria Stumps (5/2014-5/2016), Bond Stress Distribution Analysis of the Embedment Length of Prestressed Concrete Specimens

Troy Bowser (10/2013-5/2015), Effect of Corrosion on End Regions of Prestressed Concrete Girders

Matthew Long (5/2013-8/2013), Evaluation of Calcium Sulfoaluminate Cement Concrete for Prestressed Members

Brittany Cranor (01/2013-05/2014), Development of UHPC Using Local Materials

Clayton Bointy (01/2013-05/2013), Evaluation of Calcium Sulfoaluminate Cement Concrete for Prestressed Members

*CEES Professional Internship/Co-op (CEES 4423)*

Colleen Shappee (F. 2013): Halliburton Cement Field Engineer Intern

***University of Arkansas (not included in summary)***

*Undergraduate Honors Thesis*

Michael B. Howland (May 2012) “Comparison of Strand Bond Using Surface Gages and End Slips”

Brendan Ho (May 2013) “Aggregate Distribution in Self-Consolidating Concrete Undergraduate Researchers”

Jared Bymaster (May 2011) “Segregation Evaluation of SCC”

## **RESEARCH**

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**Summary:** I have been PI or Co-PI on 21 funded projects (13 as PI) constituting \$2,148,311 in total research funding contracted to OU, with \$1,101,698 in individual credit. Out of the 24 funded projects, 5 are National grants (3 active/3 complete), 14 are State/Regional grants (3 active/11 complete), 3 are Industry sponsored (3 complete), and 1 is University sponsored (complete). I have also completed 3 projects supported only by material donations from industry. I have been author or co-author of 43 refereed journal articles published or in the review process (38 published or in press/5 in review (39/5 since beginning at OU). I have been author or co-author of 28 refereed conference proceedings published (14 since beginning at OU)). I have co-authored 1 article in a major industry trade magazine and I have issued 9 technical reports in my time at OU.

### **External Funding**

#### ***National Grants***

1. Design Guidance for UHPC Connections of Precast Girders Made Continuous for Live Load, Accelerated Bridge Construction – University Transportation Center (ABC-UTC), Florida International University; PI, Total Budget: \$44,999, Floyd Credit: 60% (\$26,999); Co-PI: J. Volz; Duration: 2/1/2021 to 3/31/2022.
2. Development of User-Friendly Tools and Decision-Making Algorithms for Service Life Design of ABC Bridges, Accelerated Bridge Construction – University Transportation Center (ABC-UTC), Florida International University; Co-PI, Total Budget: \$56,612, Floyd Credit: 30% (\$16,984); PI: S. Mohebbi; Duration: 4/1/2020 to 8/31/2021.
3. Service Life Design Guidance for UHPC Link Slabs, Accelerated Bridge Construction – University Transportation Center (ABC-UTC), Florida International University; PI, Total Budget: \$57,990, Floyd Credit: 50% (\$28,995); Co-PI: J. Volz, Md. Zaman; Duration: 4/1/2020 to 8/31/2021.
4. Development of Non-Proprietary UHPC Mix, Accelerated Bridge Construction – University Transportation Center (ABC-UTC), Florida International University; PI, Total Budget: \$99,999, Floyd Credit: 40% (\$40,000); Co-PI: J. Volz, Md. Zaman; Duration: 1/1/2019 to 12/31/2020.
5. 2016 Eisenhower Graduate Fellowship Program - Cameron Murray; U.S. Department of Transportation, Federal Highway Administration; PI, Total Budget: \$35,500, Floyd Credit: 50% (\$17,750); Co-PI: C. Murray (PhD student); Duration: 9/29/2016 to 9/28/2017.
6. RAPID: Lateral Load Resistance of Residential Housing Exposed to Extreme Wind Event; National Science Foundation; Co-PI, Total Budget: \$7,000, Floyd Credit: 25% (\$1,750); PI: C. Ramseyer; Co-PI: L. Holliday; Duration: 10/1/2013 to 9/30/2014.

#### ***State/Regional Grants***

7. Design and Monitoring of Non-Proprietary UHPC Joints of Precast Elements, Year 1, Oklahoma Department of Transportation; PI, Total Budget: \$62,745, Floyd Credit: 60% (\$37,647); Co-PI: J. Volz; Duration: 2/26/2021 to 09/30/2021.



8. Monitoring of UHPC Connections on Eufaula Spillway Bridge, Oklahoma Department of Transportation Task Order; PI, Total Budget: \$32,000, Floyd Credit: 100%; Duration: 11/1/2020 to 09/30/2021.
9. Prestressed Girder Continuity Joint and End Region Repair Using Ultra-High Performance Concrete and Fiber Reinforced Self-Consolidating Concrete, Oklahoma Department of Transportation; PI, Total Budget: \$191,821 (\$96,282 Year 1, \$5,833 Year 1 Supplement, \$89,706 Year 2), Floyd Credit: 55% (\$105,501); Co-PI: J. Volz; Duration: 10/1/2018 to 12/31/2020.
10. A Systems Approach for Design, Construction, and Maintenance of Bridges and Adjacent Roadways, Years 1-2; Oklahoma Department of Transportation; Co-PI, Total Budget: \$299,274 (\$99,758 Year 1, \$99,758 Year 2, \$99,758), Floyd Credit: 25% (\$74,819); PI: K. Muraleetharan, Co-PI: G. Miller and J. Volz; Duration: 10/1/2018 to 09/30/2021.
11. Evaluation of Ultra-High Performance Concrete for Use in Bridge-Connections and Repair: Phase 2 - Partial Depth Replacements and Corrosion Behavior, Oklahoma Department of Transportation; PI, Total Budget: \$137,358 (\$98,954 Year 1, \$38,404 Year 2), Floyd Credit: 60% (\$82,414); Co-PI: J. Volz; Duration: 10/1/2018 to 10/31/2020.
12. Development of Rating Tool For Prestressed Concrete Bridges Vulnerable to Shear, Oklahoma Department of Transportation; PI, Total Budget: \$160,853 (\$78,102 Year 1, \$82,751 Year 2, Floyd Credit: 60% (\$96,512), Co-PI: J.S. Pei; Duration: 10/1/2017-09/30/2019.
13. Application of Fiber Optic Sensors for Monitoring Prestressed Concrete Bridges; Southern Plains Transportation Center Early Career Development Program; PI, Total Budget: \$12,600 OU (\$25,200 project total), Floyd Credit: 100% OU total (\$12,600); Co-PI: M. Soliman (Oklahoma State University); Duration: 7/1/2017 to 6/30/2018.
14. Evaluation of Ultra-High Performance Concrete for use in Bridge Connections and Repair; Oklahoma Department of Transportation; PI, Total Budget: \$184,713 (\$98,514 Year 1, \$86,199 Year 2), Floyd Credit: 60% (\$110,828); Co-PI: J. Volz; Duration: 10/1/2016 to 09/30/2018.
15. Prioritizing Bridge Maintenance and Repairs Considering Geospatial and Climatological Factors; Southern Plains Transportation Center Early Career Development Program; Co-PI, Total Budget: \$12,600 OU (\$25,200 project total), Floyd Credit: 100% OU total (\$12,600); PI: Y. Shan (Oklahoma State University); Co-PI: Q. J. Li (Oklahoma State University); Duration: 7/1/2016 to 6/30/2017.
16. Overturning Forces at Bridge Abutments and the Interaction of Horizontal Forces from Adjacent Roadways: Phase 3 - Post-Repair Monitoring of Instrumented Bridges; Oklahoma Department of Transportation; Co-PI, Total Budget: \$103,882 (\$51,941 Year 1, \$51,941 Year 2), Floyd Credit: 20% (\$20,776); with K. Muraleetharan (PI) and G. Miller (Co-PI); Duration: 10/1/2015 to 9/30/2017.
17. Incorporating Climate Impact to Assess the Deterioration of Bridge Decks; Southern Plains Transportation Center Early Career Development Program; Co-PI, Total Budget: \$12,600 OU (\$25,200 project total), Floyd Credit: 100% OU total (\$12,600); PI: Y. Shan

(Oklahoma State University); Co-PI: Q. J. Li (Oklahoma State University), P. Lewis (Oklahoma State University); Duration: 7/1/2015 to 6/30/2016.

18. Evaluation and Repair of Existing Bridges in Extreme Environments; Southern Plains Transportation Center; PI, Total Budget: \$143,780 OU (\$158,780 project total), Floyd Credit: 100% OU total (\$143,780); Co-PI: G. Prinz (University of Arkansas); Duration: 9/1/2014 to 8/31/2016.
19. Impact of Extreme Summer Temperatures on Bridge Structures; Southern Plains Transportation Center; Co-PI, Total Budget: \$0 OU, (\$55,608 project total), Floyd Credit: 0%; PI: M. Hale (University of Arkansas); Duration: 8/1/2015 to 7/30/2016. (not included in summary totals).
20. Understanding the Behavior of Prestressed Girders After Years of Service; Oklahoma Department of Transportation; PI, Total Budget: \$327,331 (\$127,339 Year 1, \$99,996 Year 2, \$99,996 Year 3), Floyd Credit: 55% (\$180,032); Co-PI: J. Pei; Duration: 10/21/2013 to 9/30/2016.
21. Overturning Forces at Bridge Abutments and the Interaction of Horizontal Forces from Adjacent Roadways: Phase II - Pre- and Post-Repair Monitoring of SH3 North Bridge Over BNSF Railroad; Oklahoma Department of Transportation; Co-PI, Total Budget: \$132,398 (\$80,263 Year 1, \$52,135 Year 2), Floyd Credit: 20% (\$26,480); PI: K. Muraleetharan; Co-PI: G. Miller (Co-PI); Duration: 10/21/2013 to 9/30/2015.

#### ***Industry Sponsored Research***

22. Internal Curing of Calcium Sulfoaluminate Cement Concrete; Expanded Shale, Clay, and Slate Institute; PI, Total Budget: \$6,300, Floyd Credit: 100% (\$6,300), Duration: 5/1/2016 to 6/30/2017.
23. Analysis of the Load Response of the Tella Firma Slabtek Foundation System; Tella Firma Foundations; PI, Budget Total: \$6,500, Floyd Credit: 75% (\$4,875); Co-PI: J. Volz; Duration: 4/15/2015 to 3/31/2016.
24. Feasibility of Using High Early Strength Concrete Made with Rapid Set® Calcium Sulfoaluminate Cement for Prestressed Bridge Girders in Oklahoma; CTS Cement Manufacturing Corporation; PI, Total Budget: \$9,456, Floyd Credit: 100%; Duration: 11/15/2012 to 7/1/2013.

#### ***University Grants***

25. Safer School Buildings for Wind and Earthquakes: A Multidisciplinary Approach; Gallogly College of Engineering Seed Funding for Interdisciplinary Research; Co-PI, Total Budget: \$10,000, Floyd Credit: 0%; PI: P. S. Harvey, Co-PI: L. Gruenwald, J. Havlicek, Y. Li (Michigan Technological University), J. Pei, Duration: 6/1/2015-5/31/2016.

#### ***Research Projects Supported by Material Donations***

1. Development Length of 0.6 in. Prestressing Strands in Precast, Prestressed Calcium Sulfoaluminate Cement Concrete; PI, Donors: Coreslab Structures (prestressing strand), Dolese (aggregates), CTS Cement Manufacturing Corp. (cement); Duration: 1/15/2016 to 12/30/2016.

2. Long-Term Performance of Lightweight Self-Consolidating Concrete Prestressed Members; PI, Donors: Coreslab Structures (prestressing strand and aggregate), Dolese (aggregates, cement); Duration: 1/15/2013 to 7/30/2014.
3. Impact of High-Percentage Lightweight Coarse Aggregate Replacement on Concrete Compressive Strength and Chloride Ion Permeability; PI, Donors: CTS Cement Manufacturing Corporation (cement); Duration: 5/1/2013 to 5/30/2014.

## **Publications**

In the following sections \* indicates graduate student, # indicates undergraduate student, and + indicates Floyd advisee.

### ***Refereed Journal Publications***

*Published/In press*

1. **Floyd, R. W.**, Bymaster, J., Dang, C. N., and Hale, W. M., “Development Length of Prestressing Strands Cast in Lightweight Self-Consolidating Concrete,” *Engineering Structures*, Vol. 226, 2021, 11 pp., <https://doi.org/10.1016/j.engstruct.2020.111393>
2. \*Looney, T., \*Coleman, R., +\*Funderburg, C., Volz, J., and **Floyd, R.** “Concrete Bond and Behavior of Non-Proprietary Ultra-High Performance Concrete Bridge Slab Joints,” *ASCE Journal of Bridge Engineering*, Vol. 26, No. 2, 2021, 11 pp., DOI: 10.1061/(ASCE)BE.1943-5592.0001669.
3. \*Yi, J., Wang, L., **Floyd, R. W.**, and Zhang, J., “Rotation-Affected Bond Strength Model Between Steel Strand and Concrete,” *Engineering Structures*, Vol. 204, 2020, 8 pp. <https://doi.org/10.1016/j.engstruct.2019.110060>
4. \*Khandel, O., Soliman, M., **Floyd, R. W.**, and +\*Murray, C. D., (2021) “Performance Assessment of Prestressed Concrete Bridge Girders using Fiber Optic Sensors and Artificial Neural Networks,” *Structure and Infrastructure Engineering*, Vol. 17, No. 5. DOI: 10.1080/15732479.2020.1759658
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#### *Under Review*

39. +Murray, C. and **Floyd, R. W.** ”Parametric Study of Shear Distribution Factors for Type II Girder Bridges”, *Frontiers of Structural and Civil Engineering* (in revision).
40. Lovell, M. D., **Floyd, R. W.**, Dymond, B. Z., and Hover, K. C. “Approaches for Teaching Shear Analysis and Design of Reinforced Concrete,” *ACI Special Publication*, (Submitted March 2020).
41. **Floyd, R. W.**, Meyer, K. F., and Ross, B. E. “Teaching Flexural Strength (Failure Modes) in Reinforced Concrete I”, *ACI Special Publication*, (Submitted August 2020)
42. \*Yuan, P., Wang, L., Huang, K., and Floyd, R. W. “Optimal Load Paths-Based on Strut-and-Tie Model of Corroded Reinforced Concrete Beams, *Engineering Structures*, (Submitted October 4, 2020).
43. \*Looney, T., Volz, J., and Floyd, R. “Behavior of a 3-Span Continuous Bridge Before and After Continuity Joint Replacement Using Ultra-High Performance Concrete,” *ASCE Journal of Performance of Constructed Facilities*, (Submitted for second review May 2021)

#### *Refereed Conference Publications*

1. \*Khandel, O., Soliman, M. and **Floyd, R.** “Application of Fiber Optic Sensors for Damage Detection and Performance Monitoring of Prestressed Concrete Bridge Girders,” 9<sup>th</sup> International Conference on Structural Health Monitoring of Intelligent Infrastructure, St. Louis, MO, August 4-7, 2019.
2. +\*Mayhorn, D. T., +\*Murray, C. D., **Floyd, R. W.**, and Prinz, G. S., “Effect of Corrosion on End Region Behavior of Pretensioned, Prestressed Bridge Girders,” 2018 PCI Convention and National Bridge Conference, Denver, CO, February 20-24, 2018.
3. **Floyd, R. W.** and Freyne, S. F., “A Hands-on Project for a Wood Structures Course,” Proceedings of the 2017 ASEE Conference & Exposition, Columbus, OH, June 25-28, 2017.

4. <sup>+</sup>\*Bowser, T. and **Floyd, R. W.**, “Calcium Sulfoaluminate Cement Concrete for Precast, Prestressed Concrete Components,” Proceedings of the AEI Conference 2017, Oklahoma City, OK, April 11-13, 2017.
5. Harvey, P. S., **Floyd, R. W.**, Pei, J. S., Gruenwald, L., <sup>\*</sup>Tang, P., <sup>\*</sup>Doan, D. V., and Havlicek, J. P., “Nonlinear Vibrations Based Damage Detection for Building Structural Systems, Proceedings of the AEI Conference 2017, Oklahoma City, OK, April 11-13, 2017.
6. <sup>+</sup>\*Murray, C. D., <sup>+</sup>\*Cranor, B. N., **Floyd, R. W.**, and Pei, J. S., “Shear Behavior of 45-Year-Old AASHTO Type II Bridge Girders,” Proceedings of the PCI Convention and National Bridge Conference, Cleveland, OH, February 28-March 4, 2017 Paper 57.
7. <sup>+</sup>\*Sadhasivam, K., <sup>+</sup>\*Wendling, A., and **Floyd, R.** “Prestress Transfer in Self-Consolidating Concrete Members with Top Strands,” Proceedings of the 2016 PCI Convention and National Bridge Conference at the Precast Show, Nashville, TN, March 1-5, 2016, Paper No. 66.
8. **Floyd, R.** and Ramseyer, C. “Behavior of Precast, Prestressed Calcium Sulfoaluminate Cement Concrete Beams,” Proceedings of the 2016 PCI Convention and National Bridge Conference at the Precast Show, Nashville, TN, March 1-5, 2016, Paper No. 37.
9. Ramseyer, C., Holliday, L., and **Floyd, R.**, “Influence of Lateral Load Bracing Systems on Damage and Survivability of Residential Structures Impacted by the Moore Oklahoma Tornado of May 20th, 2013,” 2014 Structures Congress, Boston, MA, April 3-5, 2014.
10. **Floyd, R.** and <sup>+</sup>\*Sadhasivam, K. “Calcium Sulfoaluminate Cement for Precast, Prestressed Bridge Girders”, Proceedings of the PCI Convention and National Bridge Conference, Grapevine, TX, September 21-24, 2013, Paper No. 93.
11. <sup>\*</sup>Ramirez-Garcia, A., **Floyd, R.**, Hale, W. M., and Martí-Vargas, J.R., “Effect of Concrete Compressive Strength on Transfer Length and Development Length”, Proceedings of the PCI Convention and National Bridge Conference, Grapevine, TX, September 21-24, 2013, Paper No. 56.
12. <sup>\*</sup>Dang, C., <sup>\*</sup>Murray, C., **Floyd, R.**, Hale, W., and Marti-Vargas, J, “A Review of Factors Influencing Strand Bond”, PCI Convention and National Bridge Conference, Grapevine, TX, September 21-24, 2013, Paper No. 91.
13. <sup>\*</sup>Murray, C., <sup>\*</sup>Deschenes, Jr., R., **Floyd, R.**, and Hale, W. 2012. “The Effect of Mortar Strength on the Standard Test for Strand Bond”, Proceedings of the PCI Convention and National Bridge Conference, Nashville, TN, September 29 – October 2, 2012, Paper No. 105.
14. **Floyd, R.** and Hale, W. 2012. “Sensitivity of Lightweight SCC to Variations in Aggregate Moisture”, Proceedings of the PCI Convention and National Bridge Conference, Nashville, TN, September 29 – October 2, 2012, Paper No. 126.
15. **Floyd, R.**, and Hale, W., “Developing Lightweight Self-Consolidating Concrete Mixtures”, Proceedings of the PCI Annual Convention and National Bridge Conference, Salt Lake City, UT, October 22-26, 2011 Paper No. 66.

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18. **Floyd, R.**, Howland, M., Ward, D., and Hale, W., "Modulus of Elasticity of Lightweight Self-Consolidating Concrete for Prestressed Members," Proceedings of the 9th Symposium on High Performance Concrete, Rotorua, New Zealand, August 9-11, 2011, Paper No. IS117P.
19. Howland, M., **Floyd, R.**, and Hale, W., "Bond Performance of Lightweight Self-Consolidating Concrete," Proceedings of the 9th Symposium on High Performance Concrete, Rotorua, New Zealand, August 9-11, 2011, Paper No. IS118P.
20. John, E., Ruiz, E., **Floyd, R.**, and Hale, W., “Transfer and Development Length and Prestress Losses in Ultra-High Performance Concrete”, Proceedings of the 2011 Transportation Research Board Annual Meetings, Paper No. 11-2656.
21. **Floyd, R.** and Hale, W., “Review of Strand Bond Performance in Lightweight Concrete”, Proceedings of the 2010 Concrete Bridge Conference, National Concrete Bridge Council, Phoenix, AZ, February 24-26, 2010, Paper No. 65.
22. **Floyd, R.**, Tackett, A., and Hale, W., “Developing Fresh Concrete Specifications for SCC”, Proceedings of the FHWA National Bridge Conference, San Antonio, TX, September 12-15, 2009. Paper No. 62.
23. Ward, D., **Floyd, R.**, and Hale, W., “Bond of 0.5 in. Strands Cast in Lightweight SCC”, Proceedings of the FHWA National Bridge Conference, San Antonio, TX, September 12-15, 2009, Paper No. 46.
24. Ruiz, E., Tackett, A., **Floyd, R.**, and Hale, W., “Performance of Prestressed Members Cast with Ultra-High Performance Concrete”, Proceedings of the 11<sup>th</sup> Annual International fib Symposium, London, United Kingdom, June 22-24, 2009.
25. Tackett, A., **Floyd, R.**, Ruiz, E., and Hale, W., “Effect of Mixer Type on the Performance of Ultra-High Performance Concrete”. Proceedings of the 11<sup>th</sup> Annual International fib Symposium, London, United Kingdom, June 22-24, 2009.
26. Ruiz, E., Do, N., Staton, B., **Floyd, R.**, and Hale, W., “Transfer and Development Lengths of Prestressed Beams Cast with Ultra-High Performance Concrete”, Proceedings of the FHWA National Bridge Conference, Orlando, FL, October 4-7, 2008, Paper No. 22.
27. **Floyd, R.**, Ruiz, E., Do, N., Staton, B., and Hale, W., “Development Lengths of High Strength SCC Beams”, Proceedings of the FHWA National Bridge Conference, Orlando, FL, October 4-7, 2008, Paper No. 25.
28. Ward, D., **Floyd, R.**, Hale, W., and Grimmelsman, K., “Performance of Precast/Prestressed Double-Tees Cast with Lightweight SCC”, Proceedings of the PCI Annual Convention, Orlando, FL, October 4-7, 2008, Paper No. 8.



### **Technical Reports**

1. Floyd, R. W., Volz, J. S., \*Looney, T., \*Mesigh, M., \*+Ahmadi, M., \*+Roswurm, S., \*+Huynh, P., and \*Manwarren, M. “Evaluation of Ultra-High Performance Concrete, Fiber Reinforced Self-Consolidating Concrete, and MALP Concrete for Prestressed Girder Repair, Report No. FHWA-OK-21-03, Oklahoma Department of Transportation, Oklahoma City, OK, 2021, 313 pp.
2. Floyd, R. W., Volz, J. S., Funderburg, C. K., McDaniel, A. S., Looney, T., Choate, J., Roswurm, S., Casey, C., Coleman, R., Leggs, M., and Chea, K. S. V., “Evaluation of Ultra-High Performance Concrete for Use in Bridge Connections and Repair,” Report No. FHWA-OK-21-03, Oklahoma Department of Transportation, Oklahoma City, OK., 2021, 358 pp.
3. Floyd, R. W., Pei, J. S., \*+Murray, C. D., \*+Toshima, J., \*+Ali, A., \*+Roswurm, S. “Development of Rating Tool for Prestressed Concrete Bridges Vulnerable to Shear,” Report No. FHWA-OK-20-01, Oklahoma Department of Transportation, Oklahoma City, OK, January 2020, 274 pp.
4. **Floyd, R.**, Soliman, M. \*Shen, L. and \*+Casey, C., “Application of Fiber Optic Sensors for Monitoring Prestressed Concrete Bridges,” Report No. SPTC17.1-01A, Southern Plains Transportation Center, Norman, OK, September 2018, 33 pp.
5. **Floyd, R. W.**, Pei, J. S., \*+Murray, C. D., \*+Cranor, B., \*Tang, P. F., “Understanding the Behavior of Prestressed Girders after Years of Service,” Report No. FHWA-OK-16-03, Oklahoma Department of Transportation, Oklahoma City, OK, December 2016, 184 pp.
6. \*Pough, K., \*+Mayhorn, D., Prinz, G. S., and **Floyd, R. W.**, “Evaluation and Repair of Existing Bridges in Extreme Environments, Report No. SPTC14.1-58-F, Southern Plains Transportation Center, Norman, OK, January 2017, 199 pp.
7. **Floyd, R.**, Volz, J. S., \*+Murray, C. D., and \*+Bowser, T., “Load Response of the Tella Firma Foundation System”, Research Report, Fears Structural Engineering Laboratory, School of Civil Engineering and Environmental Science, April 2016, 48 pp.
8. Graettinger, A., Ramseyer, C., Freyne, S., Prevatt, D., Myers, L., Dao, T., **Floyd, R.**, Holliday, L., Agdas, D., Haan, F., Richardson, J., Gupta, R., Emerson, R., \*Alfano, C., “Tornado Damage Assessment in the Aftermath of the May 20<sup>th</sup> 2013 Moore, Oklahoma Tornado,” National Science Foundation, March 2014, 138 pp.
9. **Floyd, R.** and \*+Sadhasivam, K., “Feasibility of Using High Early Strength Concrete Made with Rapid Set<sup>®</sup> Calcium Sulfoaluminate Cement for Prestressed Bridge Girders in Oklahoma,” Research Report, Fears Structural Engineering Laboratory, School of Civil Engineering and Environmental Science, May 2013, 34 pp.

### **Other Publications**

1. Giannini, E. R., Aidoo, J., Solnosky, R., Al-Hammoud, R., Brodland, G. W., **Floyd, R. W.**, Ross, B. E., Snell, L. M., Lamanna, A. J., and Hartell, J. A., “Classroom Demonstrations Demonstrated,” *Concrete International*, Vol. 39, No. 6, 2017, pp. 52-58.

## **Presentations**

In the following sections \* indicates graduate student, # indicates undergraduate student, and + indicates Floyd advisee.

### ***National and International Conference Presentations***

1. **Floyd, R. W. (presenter)**, Pei, J.S., and Wright, J. P. “Simple Model for Time-Dependent Bond Transfer in Pretensioned Concrete using Draw-in Data,” EMI/PMC 2021 Conference, Virtual (Hosted by Columbia University), May 25-28, 2021.
2. Lovell, M. D., **Floyd, R. W. (presenter)**, Dymond, B. Z., and Hover, K. C., “Approaches for Teaching Shear Analysis and Design of Reinforced Concrete,” ACI Spring 2021 Convention, Virtual, March 28 – April 1, 2021.
3. <sup>+</sup>Ahmadi, M. (presenter) and **Floyd, R.** “End Regions Repair of Prestressed Girders for Restoring the Shear Capacity using UHPC, FR-SCC, and MALP, ACI Spring 2021 Convention, Virtual, March 28 – April 1, 2021.
4. **Floyd, R. W. (presenter)**, Meyer, K. F., and Ross, B. E. “Teaching Flexural Strength (Failure Modes) in Reinforced Concrete I,” ACI Spring 2021 Convention, Virtual, March 28 – April 1, 2021
5. **Floyd, R.**, Volz, J., and <sup>+</sup>Casey, C., “Structural Performance of Precast Members Made Continuous for Live Load with UHPC Connections,” ACI Fall 2020 Convention, Virtual, October 25-29, 2020.
6. Volz, J. (presenter) and **Floyd, R.** “Non-Proprietary UHPC Mix Design and Material Selection” 2019 International Accelerated Bridge Construction Conference Pre-Conference Workshop W-03, Miami, FL, December 11, 2019.
7. **Floyd, R.** (presenter) and Volz, J., “Material and Bond Properties of “ABC-UTC Non-Proprietary UHPC Mix”, 2019 International Accelerated Bridge Construction Conference Pre-Conference Workshop W-03, Miami, FL, December 11, 2019.
8. **Floyd, R.** (presenter) and Volz, J., “ABC-UTC Non-Proprietary UHPC Mix” Durability Considerations,” 2019 International Accelerated Bridge Construction Conference Pre-Conference Workshop W-03, Miami, FL, December 11, 2019.
9. **Floyd, R.** (presenter) and Volz, J. “Non-Proprietary UHPC Across the United States,” 2019 International Accelerated Bridge Construction Conference Pre-Conference Workshop W-03, Miami, FL, December 11, 2019.
10. **Floyd, R.** (presenter) and <sup>\*</sup>Looney, T. (presenter) “UHPC Mixing and Placement Interactive Demonstration,” 2019 International Accelerated Bridge Construction Conference Pre-Conference Workshop W-07, Miami, FL, December 11, 2019.
11. **Floyd, R.** (presenter) and <sup>\*</sup>Looney, T. (presenter) “UHPC Material Property Testing Interactive Demonstration,” 2019 International Accelerated Bridge Construction Conference Pre-Conference Workshop W-07, Miami, FL, December 11, 2019.
12. **Floyd, R.**, Volz, J., Zaman, M., <sup>+</sup>Walker, C., <sup>+</sup>Roswurm, S., <sup>+</sup>Dyachkova, Y., <sup>\*</sup>Looney, T. (presenter), “Development of ABC-UTC Non-Proprietary UHPC Mix,” (poster), 2019 International Accelerated Bridge Construction Conference, Miami, FL, December 12-13, 2019.

13. \*Khandel, O. (presenter), Soliman, M. and **Floyd, R.** “Application of Fiber Optic Sensors for Damage Detection and Performance Monitoring of Prestressed Concrete Bridge Girders,” 9<sup>th</sup> International Conference on Structural Health Monitoring of Intelligent Infrastructure, St. Louis, MO, August 4-7, 2019.
14. \*Looney, T. (presenter), \*McDaniel, A., Volz, J., and **Floyd, R.**, “Evaluation of Ultra-High Performance Concrete for Use in Bridge Connections and Repair,” Slag Cement Project of the Year Awards Ceremony, Quebec City, QC, Canada, March 27, 2019.
15. **Floyd, R.W. (presenter)** and +\*Tanksley, S. “Internal Curing of Calcium Sulfoaluminate Cement Concrete Using Lightweight Aggregate,” ACI Spring 2019 Convention, Quebec City, QC, March 24-28, 2019.
16. **Floyd, R. W. (presenter)**, \*Bymaster, J., Hale, W. M., “High Strength Lightweight Self-Consolidating Concrete for Prestressed Members,” ACI Spring 2019 Convention, Quebec City, QC, March 24-28, 2019.
17. **Floyd, R. W. (presenter)**, Volz, J. S., Zaman, M., “Development of Non-Proprietary UHPC,” TRB ABC Subcommittee, 2019 TRB Annual Meeting, Washington, D.C., January 14, 2019.
18. +\*Murray, C. D. (presenter), **Floyd, R.**, and Ramseyer, C. “Performance of Precast Prestressed Beams Cast with Calcium Sulfoaluminate-Belite Cement Concrete,” ACI Fall 2018 Convention, Las Vegas, NV, October 14-18, 2018.
19. +\*Murray, C., +\*Cranor, B., **Floyd, R. (presenter)**, and Pei, J. S. “Shear Testing of AASHTO Type II Bridge Girders with Corrosion Damage in the End Regions”, ACI Committee 423 , ACI Fall 2018 Convention, Las Vegas, NV, October 14-18, 2018.
20. +\*Mayhorn, D. T. (presenter), +\*Murray, C. D., **Floyd, R. W.**, and Prinz, G. S., “Effect of Corrosion on End Region Behavior of Pretensioned, Prestressed Bridge Girders,” 2018 PCI Convention and National Bridge Conference, Denver, CO, February 20-24, 2018.
21. **Floyd, R. W.**, Freyne, S. F., and Carroll, J. C. (presenter) “A Hands-on Project for a Wood Structures Course,” ASEE Conference & Exposition, Columbus, OH, June 25-28, 2017.
22. +\*Bowser, T. and **Floyd, R. W. (presenter)**, “Calcium Sulfoaluminate Cement Concrete for Precast, Prestressed Concrete Components,” AEI Conference 2017, Oklahoma City, OK, April 11-13, 2017.
23. Harvey, P. S. (presenter), **Floyd, R. W. (presenter)**, Pei, J. S., Gruenwald, L., Tang, P., \*Doan, D. V., and Havlicek, J. P., “Nonlinear Vibrations Based Damage Detection for Building Structural Systems, AEI Conference 2017, Oklahoma City, OK, April 11-13, 2017.
24. **Floyd, R.**, “Simple Demonstrations for Teaching Reinforced Concrete,” ACI Spring 2017 Convention, Detroit, MI, March 26-29, 2017
25. **Floyd, R.**, “End Region Deterioration in Precast, Prestressed Concrete Bridge Girders in Oklahoma,” ACI Spring 2017 Convention, Detroit, MI, March 26-29, 2017
26. +\*Murray, C. D. (presenter), +\*Cranor, B. N., **Floyd, R. W.**, and Pei, J. S., “Shear Behavior of 45-Year-Old AASHTO Type II Bridge Girders,” PCI Convention and National Bridge Conference, Cleveland, OH, February 28-March 4, 2017.

27. <sup>+</sup>\*Bowser, T. M. (presenter) and **Floyd, R. W.**, “Calcium Sulfoaluminate Cement Concrete for Precast, Prestressed Concrete Components” ACI Fall 2016 Convention, Philadelphia, PA, October 24, 2016.
28. **Floyd, R. W.** and <sup>+</sup>\*Murray, C. D. (presenter), “Bond Performance of Top Strands Cast in Lightweight Self-Consolidating Concrete, ACI Fall 2016 Convention, Philadelphia, PA, October 24, 2016.
29. <sup>+</sup>\*Sadhasivam, K., <sup>+</sup>\*Wendling, A., and **Floyd, R. (presenter)**, “Prestress Transfer in Self-Consolidating Concrete Members with Top Strands,” 2016 PCI Convention and National Bridge Conference at the Precast Show, Nashville, TN, March 1-5, 2016.
30. **Floyd, R. (presenter)** and Ramseyer, C., “Behavior of Precast, Prestressed Calcium Sulfoaluminate Cement Concrete Beams,” 2016 PCI Convention and National Bridge Conference at the Precast Show, Nashville, TN, March 1-5, 2016.
31. **Floyd, R. (presenter)**, <sup>+</sup>\*Wendling, A., and <sup>+</sup>\*Sadhasivam, K., “Creep and Shrinkage of Lightweight Self-Consolidating Concrete,” XIX Congreso Nacional de Ingenieria Civil, Huaraz, Peru, November 11-14, 2015.
32. **Floyd, R. (presenter)** and <sup>+</sup>\*Wendling, A., “A Review of Creep and Shrinkage of Self-Consolidating Concrete for Prestressed Applications,” ACI Fall 2014 Convention, Washington, D.C., October 28, 2014.
33. **Floyd, R. (presenter)** and Ramseyer, C., Behavior of Precast, Prestressed Calcium Sulfoaluminate Cement Concrete Beams ACI Fall 2014 Convention, Washington, D.C., October 27, 2014.
34. Ramseyer, C. (presenter), Holliday, L., and **Floyd, R.**, “Influence of Lateral Load Bracing Systems on Damage and Survivability of Residential Structures Impacted by the Moore Oklahoma Tornado of May 20th, 2013,” 2014 Structures Congress, Boston, MA, April 3-5 2014.
35. **Floyd, R.**, <sup>\*</sup>Dang, C., and Hale, W. (presenter), “A Review of Strand Bond in Lightweight Concrete”, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, South Korea, January 17, 2014.
36. **Floyd, R.**, <sup>\*</sup>Dang, C., and Hale, W. (presenter), “A Review of Strand Bond in Lightweight Concrete”, Seoul National University, Seoul, Korea, January 16, 2014.
37. **Floyd, R. (presenter)** and <sup>+</sup>\*Sadhasivam, K., “Calcium Sulfoaluminate Cement for Precast, Prestressed Bridge Girders”, PCI Convention and National Bridge Conference, Grapevine, TX, September 21-24, 2013, Paper No. 93.
38. <sup>\*</sup>Ramirez-Garcia, A. (presenter), **Floyd, R.**, Hale, W. M., and Martí-Vargas, J.R., “Effect of Concrete Compressive Strength on Transfer Length and Development Length”, PCI Convention and National Bridge Conference, Grapevine, TX, September 21-24, 2013, Paper No. 56.
39. <sup>\*</sup>Dang, C. (presenter), <sup>\*</sup>Murray, C., **Floyd, R.**, Hale, W., and Marti-Vargas, J, “A Review of Factors Influencing Strand Bond”, PCI Convention and National Bridge Conference, Grapevine, TX, September 21-24, 2013, Paper No. 91.

40. \*Murray, C. (presenter), \*Deschenes, Jr., R., **Floyd, R.**, and Hale, W. “The Effect of Mortar Strength on the Standard Test for Strand Bond”, PCI Convention and National Bridge Conference, Nashville, TN, September 29 – October 2, 2012, Paper No. 105.
41. **Floyd, R.** and Hale, W. (presenter) “Sensitivity of Lightweight SCC to Variations in Aggregate Moisture”, PCI Convention and National Bridge Conference, Nashville, TN, September 29 – October 2, 2012, Paper No. 126.
42. John, E. (presenter), Ruiz, E., **Floyd, R.**, and Hale, W., “Transfer and Development Length and Prestress Losses in Ultra-High Performance Concrete”, 2011 Transportation Research Board Annual Meetings, Paper No. 11-2656.
43. **Floyd, R. (presenter)**, Howland, M., Ward, D., and Hale, W., "Modulus of Elasticity of Lightweight Self-Consolidating Concrete for Prestressed Members," 9th Symposium on High Performance Concrete, Rotorua, New Zealand, August 9-11, 2011.
44. Howland, M. (presenter), **Floyd, R.**, and Hale, W., "Bond Performance of Lightweight Self-Consolidating Concrete," 9th Symposium on High Performance Concrete, Rotorua, New Zealand, August 9-11, 2011.
45. **Floyd, R.** and Hale, W. (presenter), “Review of Strand Bond Performance in Lightweight Concrete”, 2010 Concrete Bridge Conference, National Concrete Bridge Council, Phoenix, AZ, February 24-26, 2010.
46. **Floyd, R. (presenter)**, Tackett, A., and Hale, W., “Developing Fresh Concrete Specifications for SCC”, FHWA National Bridge Conference, San Antonio, TX, September 12-15, 2009.
47. Ward, D., **Floyd, R.**, and Hale, W. (presenter), “Bond of 0.5 in. Strands Cast in Lightweight SCC”, FHWA National Bridge Conference, San Antonio, TX, September 12-15, 2009.
48. Ruiz, E., Tackett, A., **Floyd, R. (presenter)**, and Hale, W., “Performance of Prestressed Members Cast with Ultra-High Performance Concrete”, 11<sup>th</sup> Annual International fib Symposium, London, United Kingdom, June 22-24, 2009.
49. Tackett, A. (presenter), **Floyd, R.**, Ruiz, E., and Hale, W., “Effect of Mixer Type on the Performance of Ultra-High Performance Concrete”. 11<sup>th</sup> Annual International fib Symposium, London, United Kingdom, June 22-24, 2009.
50. Ruiz, E., Do, N., Staton, B., **Floyd, R.**, and Hale, W. (presenter), “Transfer and Development Lengths of Prestressed Beams Cast with Ultra-High Performance Concrete”, FHWA National Bridge Conference, Orlando, FL, October 4-7, 2008.
51. **Floyd, R. (presenter)**, Ruiz, E., Do, N., Staton, B., and Hale, W., “Development Lengths of High Strength SCC Beams”, FHWA National Bridge Conference, Orlando, FL, October 4-7, 2008.
52. Ward, D., **Floyd, R.**, Hale, W. (presenter), and Grimmelsman, K., “Performance of Precast/Prestressed Double-Tees Cast with Lightweight SCC”, PCI Annual Convention, Orlando, FL, October 4-7, 2008.

### *State and Local Presentations*

53. Floyd, R., Volz, J., <sup>+</sup>Ahmadi, M., and <sup>\*</sup>Mesigh, M. “Ultra-High Performance Concrete and Innovative Concrete Materials for Prestressed Concrete Girder Repair, Tran-SET UTC Webinar, March 9, 2021.
54. **Floyd, R. W.**, “Overview of Changes and Additions in ACI 318-19” National Council of Structural Engineers Associations (NCSEA) Webinar, March 4, 2021.
55. **Floyd, R. W.**, “Basics of Strut and Tie Modeling,” Structural Engineers Association of Texas (SEAoT), Virtual Conference, October 29-30, 2020.
56. **Floyd, R. W.**, “Non-Proprietary UHPC for Transportation Structures,” Oklahoma Transportation Research Day, Oklahoma City, OK, October 20, 2020.
57. <sup>+</sup>Ahmadi, M. (presenter), **Floyd, R.**, and Volz, J., “End Regions Repair of Prestressed Girders for Restoring the Shear Capacity using UHPC, FR-SCC, and MALP,” (poster) Oklahoma Transportation Research Day, Oklahoma City, OK, October 20, 2020.
58. <sup>+</sup>Huynh, P. M. and **Floyd, R.**, “Rehabilitation of the End Corroded Region of Prestressed Concrete Bridge Girders,” (poster) Oklahoma Transportation Research Day, Oklahoma City, OK, October 20, 2020.
59. **Floyd, R. W.**, “Basics of Strut and Tie Modeling,” Structural Engineers Association of New Mexico (SEANM) Monthly Meeting, August 12, 2020.
60. **Floyd, R. W.**, “Basics of Strut and Tie Modeling,” National Council of Structural Engineers Associations (NCSEA) Webinar, February 20, 2020.
61. <sup>\*</sup>Contreras-Nieto, C., Shan, Y. (presenter), and **Floyd, R. (presenter)**, “Consideration of Climate and Spatial Information in Assessing Oklahoma Bridge Condition and Prioritizing Maintenance,” Oklahoma Transportation Research Day, Oklahoma City, OK, November 5, 2019.
62. **Floyd, R.**, Volz, J., Zaman, M., <sup>+</sup>Walker, C. (presenter), <sup>+</sup>Roswurm, S., and <sup>+</sup>Dyachkova, Y., “Development of ABC-UTC Non-Proprietary UHPC Mix,” (poster), Oklahoma Transportation Research Day, Oklahoma City, OK, November 5, 2019.
63. <sup>+</sup>Roswurm, S. (presenter), <sup>+</sup>Casey, C., <sup>\*</sup>Coleman, R., <sup>+</sup>Funderburg, C., Volz, J. and **Floyd, R.**, “Ultra-High Performance Concrete for Bridge Joint Retrofit,” 2019 SPTC Summer Symposium, Oklahoma City, OK, August 8, 2019.
64. <sup>+</sup>Walker, C. (presenter), <sup>+</sup>Dyachkova, Y., <sup>+</sup>Roswurm, S., <sup>\*</sup>Looney, T., Volz, J., Zaman, M., and **Floyd, R.**, “Development of ABC-UTC Non-Proprietary UHPC Mix,” (poster), 2019 SPTC Summer Symposium, Oklahoma City, OK, August 8, 2019.
65. Hale, W. M. and **Floyd, R. (presenter)**, “Recently Sponsored SPTC/ODOT Research on Bridges in Extreme Environments,” Oklahoma Transportation Research Day, Oklahoma City, OK, October 23, 2018.
66. **Floyd, R.**, Soliman, M., <sup>\*</sup>Shen, L. and <sup>+</sup>Casey, C. (presenter), “Application of Fiber Optic Sensors for Monitoring Prestressed Concrete Bridges,” (poster), Oklahoma Transportation Research Day, Oklahoma City, OK, October 23, 2018.

67. <sup>+</sup>\*Casey, C. (presenter), **Floyd, R.**, and Volz, J. “Ultra-High Performance Concrete for Connections of Precast, Prestressed Girders Made Continuous for Live Load,” (poster), Oklahoma Transportation Research Day, Oklahoma City, OK, October 23, 2018.
68. <sup>\*</sup>Choate, J. (presenter), <sup>\*</sup>Wirkman, C., <sup>+</sup>\*Murray, C., Volz, J. and **Floyd, R.**, “Implementing Fiber-Reinforced, Self-Consolidating Concrete as a Repair Material for AASHTO Prestressed Concrete Girders,” (poster), Oklahoma Transportation Research Day, Oklahoma City, OK, October 23, 2018.
69. Pei, J. S., <sup>+</sup>\*Toshima, J. M. (presenter), Floyd, R. W., Beck, J. L. “Identification of Piecewise Flexural Rigidity Using Experimental Measurements,” (poster), Oklahoma Transportation Research Day, Oklahoma City, OK, October 23, 2018.
70. **Floyd, R.** “Development of UHPC Using Local Material,” Accelerated Bridge Construction Transportation Center Workshop on Accelerated Bridge Construction (ABC), Oklahoma City, OK, October 11, 2018.
71. **Floyd, R. W.**, “Overview of Changes and Additions in ACE 318-14,” National Council of Structural Engineers Associations (NCSEA) Webinar, September 20, 2018.
72. <sup>\*</sup>Looney, T. (presenter), **Floyd, R. W.**, and Volz, J. S. "Mechanical Property Characterization of Non-Proprietary Ultra-High Performance (UHPC) Mix Designs," SPTC Summer Symposium, Oklahoma City, OK, August 14, 2018.
73. <sup>##</sup>Budder, E. (presenter), <sup>+</sup>\*Funderburg, C., <sup>+</sup>\*Casey, C., and **Floyd, R. W.**, "Determining Effects of Cyclic Loading on a Small-Scale Slab with UHPC Joint," SPTC Summer Symposium, Oklahoma City, OK, August 14, 2018.
74. **Floyd, R. W. (presenter)**, Pei, J. S., and Wright, J. P., "Simple Model for Time-Dependent Bond Transfer in Pretensioned Concrete Using Draw-In Data," SPTC Summer Symposium, Oklahoma City, OK, August 14, 2018.
75. <sup>+</sup>\*Casey, C. (presenter), **Floyd, R.**, and Volz, J. “Ultra-High Performance Concrete for Connections of Precast, Prestressed Girders Made Continuous for Live Load,” (poster), SPTC Summer Symposium, Oklahoma City, OK, August 14, 2018.
76. **Floyd, R.** “Consideration of Climate in Prioritizing Bridge Maintenance and Repair,” Southern Plains Transportation Center Climate and Transportation Seminar Series, Norman, OK, November 8, 2017.
77. <sup>+</sup>\*Funderburg, C., <sup>+</sup>\*Casey, C., **Floyd, R.**, and Volz, J. “Ultra-High Performance Concrete for Bridge Joint Replacement and Repair,” (poster and demonstration), Oklahoma Transportation Research Day, Oklahoma City, OK, October 17, 2017.
78. <sup>+</sup>\*Ali, A., <sup>+</sup>\*Murray, C. D., **Floyd, R.**, and Pei, J.S. “Grillage Models for Determining Shear Load Distribution Factors,” (poster), Oklahoma Transportation Research Day, Oklahoma City, OK, October 17, 2017.
79. <sup>+</sup>\*Tanksley, S. and **Floyd, R.** “Internal Curing of Calcium Sulfoaluminate Cement Concrete,” (poster), Oklahoma Transportation Research Day, Oklahoma City, OK, October 17, 2017.

80. <sup>+</sup>\*Casey, C., <sup>+</sup>\*Funderburg, C., **Floyd, R.**, and Volz, J. “Ultra-High Performance Concrete for Bridge Joint Replacement and Repair,” (poster), SPTC Summer Symposium, Oklahoma City, OK, August 15, 2017.
81. <sup>+</sup>\*Tanksley, S. and **Floyd, R.** “Internal Curing of Calcium Sulfoaluminate Cement Concrete,” (poster), SPTC Summer Symposium, Oklahoma City, OK, August 15, 2017.
82. **Floyd, R.** “Shear Behavior of 45-Year Old AASHTO Type II Bridge Girders”, Oklahoma Chapter of American Concrete Institute Monthly Meeting, Oklahoma City, OK, January 10, 2017.
83. **Floyd, R.** “Reorganization of ACI 318-14. What is new and what is the same?, Oklahoma Structural Engineers Association Central Chapter Monthly Meeting, Oklahoma City, OK, November 15, 2016.
84. <sup>+</sup>\*Murray, C. (presenter), **Floyd, R.**, and Pei, J. S. “Construction of a half-scale bridge to examine load transfer and shear behaviour of composite bridge-slab system,” (poster) Oklahoma Transportation Research Day, Oklahoma City, OK, October 18, 2016.
85. <sup>+</sup>\*Murray, C. D. (presenter), <sup>+</sup>\*Cranor, B. N., **Floyd, R. W.**, and Pei, J. S., “Shear Behavior of 45-Year-Old AASHTO Type II Bridge Girders,” Southern Plains Transportation Center Summer Symposium, Oklahoma City, OK, August 10, 2016.
86. <sup>+</sup>\*Bowser, T. M. (presenter), <sup>+</sup>\*Murray, C. D., and **Floyd, R.** “Development Length of 0.6 in. Prestressing Strands in Precast, Prestressed Calcium Sulfoaluminate Cement Concrete,” (poster), Southern Plains Transportation Center Summer Symposium, Oklahoma City, OK, August 10, 2016.
87. <sup>+</sup>\*Murray, C. (presenter), <sup>+</sup>\*Cranor, B., **Floyd, R.**, and Pei, J. “Understanding the Behavior of Prestressed Concrete Girders after Years of Service,” (poster) Oklahoma Transportation Research Day, Oklahoma City, OK, October 20, 2015.
88. <sup>+</sup>\*Mayhorn, D. (presenter), <sup>\*</sup>Pough, K., <sup>+</sup>\*Murray, C., Prinz, G., and **Floyd, R.**, “Evaluation and Repair of Existing Bridges in Extreme Environments,” (poster), Oklahoma Transportation Research Day, Oklahoma City, OK, October 20, 2015.
89. <sup>+</sup>\*Mayhorn, D., <sup>\*</sup>Pough, K., <sup>+</sup>\*Murray, C. (presenter), Prinz, G., and **Floyd, R.**, “Evaluation and Repair of Existing Bridges in Extreme Environments,” (poster), Southern Plains Transportation Center Open House, Norman, OK, June 30, 2015.
90. **Floyd, R.**, “Rapid Setting Concrete for Prestressed Members,” Oklahoma Transportation Research Day, Oklahoma City, OK, October 20, 2014.
91. <sup>+</sup>\*Cranor, B., **Floyd, R.**, and Pei, J.S., “Understanding the Behavior of Prestressed Concrete Girders After Years of Service” (poster), Oklahoma Transportation Research Day, Oklahoma City, OK, October 20, 2014.
92. <sup>\*</sup>Hagedorn, R., <sup>\*</sup>Dang, C., Hale, W. M., and **Floyd, R.**, “Impact of Extreme Summer Temperatures on Concrete Bridge Structures” (poster), Oklahoma Transportation Research Day, Oklahoma City, OK, October 20, 2014.
93. Holliday, L. (presenter), Ramseyer, C. (presenter), and **Floyd, R. (presenter)**, “High Wind Construction City of Moore – New Building Code for Tornado Resistance,” American



Planning Association Oklahoma Chapter Annual Conference, Norman, OK, October 2, 2014.

94. **Floyd, R.**, “Rapid Setting Concrete for Prestressed Members,” Oklahoma ACI Chapter Monthly Meeting, Oklahoma City, OK, September 9, 2014.
95. **Floyd, R. (presenter)** and Ramseyer, C., “Performance of Structures in the May 20<sup>th</sup> Moore Tornado, NSF Evaluation – A quick review,” CVEG Graduate Seminar, The University of Arkansas, Fayetteville, AR, January 23, 2014.
96. **Floyd, R.**, “Investigating the Bond of Prestressing Strands in Lightweight Self-Consolidating Concrete”, CEES Seminar, The University of Oklahoma, Norman, OK, November 26, 2012.
97. **Floyd, R. (presenter)**, Howland, M., and Hale, W., “Bond of Prestressing Strands in Lightweight Self-Consolidating Concrete: Transfer Length”, Oklahoma Transportation Center Research Symposium, Midwest City, OK, August 6, 2012.
98. Bymaster, J. (presenter), **Floyd, R.**, and Hale, W., “Prestress Losses in Beams Cast with Lightweight Self-Consolidating Concrete”, Oklahoma Transportation Center Research Symposium, Midwest City, OK, August 6, 2012.
99. **Floyd, R.**, Bymaster, J., and Hale, W. (presenter), “Performance of Prestressed Bridge Girders”, Arkansas State Highway and Transportation Department, Transportation Research Committee, May 10, 2012, Little Rock, AR.
100. **Floyd, R.**, Bymaster, J., and Hale, W. (presenter), “Performance of Prestressed Girders Cast with Lightweight Self-Consolidating Concrete”, Mack-Blackwell Rural Transportation Center, Annual Advisory Board Meeting, November 18, 2011, Fayetteville, AR.
101. **Floyd, R.**, and Hale, W., (presenter), “Performance of Prestressed Girders Cast with Lightweight SCC”, Arkansas State Highway and Transportation Department, Transportation Research Committee, April 28, 2011, Little Rock, AR.
102. Smith, G., Bymaster, J., **Floyd, R.**, and Hale, W. (presenter), “Investigating the Use of SCC in Transportation Structures”, Arkansas State Highway and Transportation Department, Transportation Research Committee, April 28, 2011, Little Rock, AR.
103. Smith, G., **Floyd, R.**, and Hale, W. (presenter), “Investigating the Use of SCC in Transportation Structures”, Arkansas State Highway and Transportation Department Transportation Research Committee, November 10, 2010, Little Rock, AR.
104. **Floyd, R. (presenter)**, Hale, W. “A Comparison of Transfer and Development Length Predictions in Self-Consolidating Concrete”, University of Arkansas Civil Engineering Seminar Series, October 14, 2010, Fayetteville, AR.
105. Smith, G., **Floyd, R.**, and Hale, W. (presenter), “Investigating the Use of SCC in Transportation Structures”, Arkansas State Highway and Transportation Department, Transportation Research Committee, May 12, 2010, Little Rock, AR.
106. **Floyd, R.**, and Hale, W. (presenter), “Review of Strand Bond Performance in Lightweight Concrete”, American Concrete Institute – Oklahoma City, OK Chapter, March 9, 2010, Oklahoma City, OK.

107. Tackett, A., **Floyd, R.**, Ruiz, E., and Hale, W. (presenter), “Examining the Effects of Mixer Type on the Properties of UHPC”, Arkansas State Highway and Transportation Department, Transportation Research Committee, November 17, 2009, Little Rock, AR.
108. Do, N., Staton, B., **Floyd, R. (presenter)**, Tackett, A., and Hale, W., “Investigating the Use of Self-Consolidating Concrete (SCC)”, Arkansas State Highway and Transportation Department, Transportation Research Committee, May 6, 2009, Little Rock, AR.
109. Tackett, A., **Floyd, R.**, Ruiz, E. and Hale, W. (presenter), “Examining the Effects of Mixer Type on the Properties of UHPC”, Arkansas State Highway and Transportation Department, Transportation Research Committee, November 20, 2008, Little Rock, AR.
110. **Floyd, R. (presenter)**, “Development Length of Prestressed Beams cast with Self-Consolidating Concrete”, University of Arkansas, Freshman Engineering Honors Colloquium, October 2008, Fayetteville, AR.

### **Service and Contribution to the Profession**

**Summary:** I currently serve on CEES Committee A and served as the CEES Graduate Studies Coordinator/Graduate Liaison from 2018-2021 where I helped oversee the creation of two online master’s degrees and an increase in total graduate students from 75 to more than 250. I have also served the department on search committees for 4 faculty positions. I have been involved in multiple outreach programs to high school students and veterans and co-organized an annual graduate student symposium for the Southern Plains Transportation Center for four years. I am a registered structural engineer in Oklahoma, am a member of three professional organizations, and am a member of four technical committees within the American Concrete Institute. I am currently secretary of ACI Committee 363 High Strength Concrete where I lead Task Group working to update a guide document on high-strength concrete mix design.

### ***Departmental Service***

CEES Committee A (01/2021 – pres.)  
 Structural Engineering Search Committee (11/2020 – 5/2021)  
 Graduate Studies Coordinator/Graduate Liaison (05/2018 – 01/2021)  
 Graduate Studies Committee (08/2014 – pres.)  
 ASCE Concrete Bowling Ball Team Advisor (11/2018 – May 2019)  
 Office of Undergraduate Research Liaison (02/2017 – 2019)  
 Acting Graduate Liaison (01/2017 – 04/2017)  
 Fears Structural Engineering Laboratory Oversight Committee (08/2012 – 08/2014)  
 Structural Engineering Search Committee (09/2013 – 04/2014)  
 Architectural/Structural Engineering Search Committee (09/2012 – 05/2013)

### ***College Service***

Led a breakout session for Shell High School Girls Day (04/2015, 04/2016, 04/2017)  
 Co-led a breakout session for BP DEVAS and BP Engineering Academy (06/2013)  
 Judge for Student Research & Performance Day (03/2013)

### ***Professional Registration***

Registered Structural Engineer, State of Oklahoma (2021-pres.)

Registered Professional Engineer, State of Oklahoma, PE 28047 (2015-pres.)

### ***Professional Affiliations***

American Concrete Institute (ACI): Member 2012-pres., Student Member 2006-2012

Precast/Prestressed Concrete Institute (PCI): Member 2012-pres., Student Member 2009-2012

American Society of Civil Engineers (ASCE): Member 2015-pres., Associate Member 2012-2015, Student Member 2004-2012

American Society for Engineering Education (ASEE): Member 2017-2019.

### ***Professional Committees***

ACI 239, Ultra-High Performance Concrete, Associate Member, (2018 – pres.)

ACI 239-0E, UHPC Educational Outreach, Voting Member (2019-pres.)

Joint ASCE/ACI 423, Prestressed Concrete, Voting Member (2020 – pres.)

Joint ASCE/ACI 423, Prestressed Concrete, Associate Member (2018 – 2020)

ACI 363, High-Strength Concrete, Secretary (2019 – pres.)

ACI 363, High-Strength Concrete, Voting Member (2019 – pres.)

ACI 363, High-Strength Concrete, Associate Member (2014 – 2019)

- Led writing chapter of ACI 363 document on high strength lightweight concrete related to mix design (2016-2017)

ACI 213, Lightweight Aggregate and Concrete, Voting Member, (2018 – pres.)

ACI 213, Lightweight Aggregate and Concrete, Associate Member (2011 – 2018)

### ***Professional Activities***

Assistant Mentor at ASCE ExCEED Teaching Workshop (2018, 2019)

Webinar Presenter for National Council of Structural Engineers Associations (2018, 2020)

Session Moderator for 3 sessions at AEI Conference 2017

Local Planning Committee for AEI Conference 2017

Organized two ½ day pre-conference workshops on Non-Proprietary UHPC for ABC at the 2019 International ABC Conference

- W-03: Non-Proprietary UHPC for ABC, Part 1: Mix Development and Material Properties
- W-07: Non-Proprietary UHPC for ABC, Part 2: Demonstration and Implementation

Technical Paper Reviewer for:

- *ACI Structural Journal*
- *ACI Materials Journal*
- *Journal of Materials in Civil Engineering* (ASCE)
- *Journal of Performance of Constructed Facilities* (ASCE)
- *Journal of Structural Engineering* (ASCE)
- *Journal of Bridge Engineering* (ASCE)
- *Measurement* (Elsevier)

- *Construction and Building Materials* (Elsevier)
- *Engineering Structures* (Elsevier)
- *Structures* (Elsevier)
- *Advances in Civil Engineering Materials* (ASTM)
- *Journal of Structural Integrity and Maintenance* (Taylor and Francis)
- *PCI Journal*
- *Materials* (MDPI)
- *Sustainability* (MDPI)
- *KSCE Journal of Civil Engineering* (Springer, Korean Society of Civil Engineers)
- *Structure and Infrastructure Engineering* (Taylor and Francis)
- ACI Special Publication
- 2015 AEI Conference
- 2016 AEI Conference
- 2017 AEI Conference

### ***University Service***

Judge for Three Minute Thesis Competition Final Round (02/2021)

Judge for Three Minute Thesis Competition Preliminary Round (01/2020)

Co-Chair of the Southern Plains Transportation Center Summer Symposium (08/2016, 08/2017, 08/2018, 08/2019)

Led a demonstration session for the OU Warrior Scholar Project (07/2016, 07/2017, 06/2018, 07/2019)

### ***Professional Development***

NSF CAREER Proposal Development Series, University of Oklahoma Center for Research Program Development and Enrichment (01/2016 – 05/2016)

ASCE ExCEED Teaching Workshop (07/21/2013-07/26/2013)

“Writing Your Journal Article in 12 Weeks” University of Oklahoma Writing Center (01/2013-05/2013)