Sang-Wook Bae, Ph.D. Department of Civil, Environmental and Construction Engineering Texas Tech University Box 41023 Lubbock, TX 79409-1023 E-mail: sangwook.bae@ttu.edu Phone: 806-834-4792 Fax: 806-742-3488

CURRENT POSITION

• Assistant Professor, Department of Civil, Environmental and Construction Engineering, Texas Tech University, September 2009 ~ Present (Tenured September 2015).

RESEARCH INTERESTS

- Structural behavior of reinforced and prestressed concrete structures
- Fiber-reinforced-polymer (FRP) composite materials as internal and external reinforcement for concrete structures.
- Sustainable structural rehabilitation using FRP composite materials and other emerging materials.
- Computational modeling

EDUCATION

- Ph.D. in Civil Engineering, University of Missouri-Rolla (UMR), Missouri, USA, Dec. 2004. (Dissertation Title: Evaluation of the Effects of Various Environmental Conditions on RC Columns Wrapped with FRP Sheets; Advisor: Dr. Abdeldjelil 'DJ' Belarbi)
- M.S. in Civil Engineering, Myongji University, S. Korea, Feb. 2000. (Thesis Title: An Experimental Study on the Flexural Behavior of RC Slabs with Expansive Additives; Advisor: Dr. Hong-Yong Park)
- **B.S. in Civil Engineering**, Myongji University, S. Korea, Feb. 1998.

EMPLOYMENT HISTORY

- Assistant Professor, Department of Civil, Environmental and Construction Engineering, Texas Tech University, September 2009 ~ Present (Tenured September 2015).
- **Post Doctoral Research Fellow**, Department of Civil, Architectural and Environmental Engineering, Missouri University of Science and Technology (formerly known as UMR), Jan. 2005 ~ July. 2009.
- **Research Assistant**, Department of Civil, Architectural and Environmental Engineering, University of Missouri-Rolla (UMR), Feb. 2001 ~ Dec. 2004.
- Researcher, Concrete Structure Laboratory, Dept. of Civil Engineering, Myongji University, Dec. 1999 ~ Oct. 2000.
- **Research Assistant**, Department of Civil and Environmental Engineering, Myongji University, Mar. 1999 ~ Feb. 2000.
- **Teaching Assistant**, Academic Affairs & Academic Support Team, Myongji University, S. Korea, Mar. 1999 ~ Feb. 2000.
- Structural Engineer, Dongrim Consultant Co., Ltd., S. Korea, Dec. 1997 ~ Oct. 1998.

HONORS AND AWARDS

- Nominated by the Department for the President's Excellence in Teaching, Texas Tech University, 2014.
- Nominated by the College of Engineering for Spencer A. Wells Award for Creativity in Teaching, Texas Tech University, 2014.
- Dr. Charles L. Burford Faculty Award for Excellence in Undergraduate Teaching, College of Engineering, Texas Tech University, April, 2013.
- Nominated by the Department for the New Faculty Award, College of Engineering, Texas Tech University, 2012.
- Nominated by the College for Hemphill Wells New Professor Excellence in Teaching Award, Texas Tech University, 2011.
- Excellence in Civil Engineering Education (ExCEEd) Fellowship, American Society of Civil Engineers (ASCE), 2010.
- First Place Winner of the Year, Annual Poster Presentation, Intelligent System Center, University of Missouri-Rolla, 2005.
- Best Graduate Research Presentation Award, Annual Research Presentation, Intelligent System Center, University of Missouri-Rolla, 2004.
- Role Model Scholarship, Myongji University, 1997.
- Tau Beta Pi the Engineering Honor Society
- Sigma Xi the International Honor Society for Scientific and Engineering Research

PROFESSIONAL AFFLIATION

- American Concrete Institute (ACI)
- American Society of Civil Engineers (ASCE)
- International Institute for FRP in Construction (IIFC)
- Engineers without Borders (EWB)
- Korean-American Scientists and Engineers Association (KSEA)

PROFESSIONAL ACTIVITIES/SERVICES

- Technical Committees
 - ACI Committee 440 Fiber Reinforced Polymer Reinforcement ACI 440-L FRP Durability
 - ACI Committee 563 Specifications for Repair of Structural Concrete in Buildings

Technical Paper Review

- Advances in Structural Engineering
- ASCE Journal of Bridge Engineering
- ASCE Journal of Composites for Construction
- ASCE Journal of Structural Engineering
- ASCE Journal of Materials in Civil Engineering
- Composite Structures: Elsevier
- NED University Journal of Research
- International Journal of Concrete Structures and Materials
- Structural Engineering and Mechanics
- International Conference on Fiber Reinforced Polymer for Reinforced Concrete Structures (2010)
- ACI Special Publication (ACI 345 SP-13) Recent Advances in Maintenance and Repair of Concrete Bridges (2010)

- Invited Grant Proposal Review
 - CRDF Global, an International Grant Agency Funded by the U.S. Department of Energy, Development of Research Capacity in Tajikistan, October, 2013.
- Other Services
 - Instructor, LEAD (Learning Enhancement across Disciplines) Learning Center, Missouri University of Science and Technology, Spring 2008.
- Workshops Attended
 - Excellence in Civil Engineering Education (ExCEEd) Workshop, American Society of Civil Engineers (ASCE), United States Military Academy, West Point, NY, July 28 August 2, 2010.
 - PCA Professor's Workshop, Portland Cement Association, Skokie, IL, August 1-5, 2011.

SPONSORED RESEARCH PROJECTS

- Co-PI with William Lawson (PI) Priyantha Jayawickrama (Co-PI), Hoyoung Seo (Co-PI), Stephen Morse (Co-PI), Timothy Wood (Co-PI), All from Civil and Environmental Engineering, James Surles (Co-PI, Mathematics and Statistics), "Load Rating TxDOT's Pre-1980 In-Service Culverts", Texas Department of Transportation: \$1,097,227 (16% Prorated for Sang-Wook Bae: \$175,556), August 2014 ~ July 2016.
- Co-PI with Priyantha Jayawickrama (PI), Andrew Jackson (Co-PI), William Lawson (Co-PI), and Hoyoung Seo (Co-PI), All from Civil and Environmental Engineering, "Impact of Deicing Salts on Corrosion Rates of MSE Reinforcement", Southern Plains Transportation Center: \$63,322 (20% Prorated for Sang-Wook Bae: \$12,664), July 2014 ~ June 2016.
- PI with Sangwook Lee (Co-PI, Construction Engineering and Engineering Technology), "TxDOT 0-6731 Repair Systems for Deteriorated Bridge Piles", Texas Department of Transportation: \$267,575 (50% Prorated for Sang-Wook Bae: \$133,788), Sep. 2011 ~ August 2015.
- **PI**, "Evaluation of the Tensile Mechanical Properties of Coiled Reinforcing Bars", Concrete Reinforcing Steel Institute Education and Research Foundation: \$30,000, Sep. 2011 ~ August 2012.
- PI with Delong Zuo (Co-PI, Civil and Environmental Engineering) and Derrick Tate (Co-PI, Mechanical Engineering), "TxDOT 0-6639 Testing of Alternative Supporting Materials for Roll-Up Signs Used in Maintenance Work Zones", Texas Department of Transportation: \$321,509 (34% Prorated for Sang-Wook Bae: \$109,313), Sep. 2010 ~ Aug. 2013.

COURSES TAUGHT

- **CE5343 Advance Design of Concrete Structures**, Department of Civil, Environmental and Construction Engineering, Texas Tech University.
- **CONE 4312 Construct Concrete Structures**, Department of Civil, Environmental and Construction Engineering, Texas Tech University.
- **CE4343 Design of Concrete Structures**, Department of Civil, Environmental and Construction Engineering, Texas Tech University.
- **CE/Arch 223 Reinforced Concrete Design**, Department of Civil, Architectural and Environmental Engineering, Missouri University of Science and Technology
- **IDE50 Engineering Mechanics Statics**, Department of Interdisciplinary Engineering, Missouri University of Science and Technology

STUDENT ADVISING

- Ph.D. Dissertation Chair
 - Germany, Susan, "Repair of Deteriorated Bridge Piles with External Composite Reinforcement", Department of Civil, Environmental and Construction Engineering, Texas Tech University.(September 2012 ~)
 - Wu, Dayong, "Life-Cycle Cost Analysis for Bridge Pile Repair Projects", Department of Civil, Environmental and Construction Engineering, Texas Tech University.(September 2011 ~ April 2014) <u>Not Complete</u>

Ph.D. Dissertation Committee Member

- Karagah, Hossein, "Repair of Corrosion-Damaged Steel Piles with FRP Jacket Systems", Department of Civil, and Environmental Engineering, University of Houston, (September 2011 ~ August 2015)
- Shi, Cheng, "Repair of Corrosion-Damaged Steel Piles with Steel Plating Technique", Department of Civil, and Environmental Engineering, University of Houston, (September 2011 ~ December 2015)
- Saraf, Sureel, "Premature Distress Mitigation in Continuously Reinforced Concrete Pavement", Department of Civil, Environmental and Construction Engineering, Texas Tech University, (January 2010 ~ August 2013).

M.S. Thesis Committee Chair

- Gonzlez, Guillermo, "FRP Jacket System for Steel Slender Members", (September 2015 ~)
- Griggs, David, "Analytical Investigation on the Behavior of Non-Conventional Low-Strength Materials Confined by FRP Materials", Department of Civil, Environmental and Construction Engineering, Texas Tech University.(September 2012 ~ May 2014)
- Ghodsifasaei, Mahnaz "Evaluation of the Tensile Mechanical Properties of Coiled Reinforcing Bars", Department of Civil, Environmental and Construction Engineering, Texas Tech University.(January 2012 ~ May 2013)
- Athawale, Parth "Effective Bond Length of Externally Bonded FRP Composite Laminates", Department of Civil, Environmental and Construction Engineering, Texas Tech University.(January 2011 ~ Dec 2012)
- Tann, Bradley "Size Effect of RC Beams Strengthened in Shear with Externally Bonded FRP", Department of Civil, Environmental and Construction Engineering, Texas Tech University. (January 201 ~ Dec 2011)

M.S. Report Advisor

- Wang, Tiancheng "Natural Fibers as Reinforcement for Various Structural Elements", Department of Civil, Environmental and Construction Engineering, (May 2017).
- Yang, Quiwei "Modeling of a typical roll-up sign and evaluation of its crashworthiness by Finite Element Method", Department of Mechanical Engineering, (Dec 2012). Co-Advisor
- Alsalem, Mahdi "Literature Review on Sustainable Non-Traditional Construction Materials", Department of Civil, Environmental and Construction Engineering, Texas Tech University. (August 2012)
- Gonzalez, Victoria "Testing of Alternative Materials to Support Portable Roll-Up Signs", Department of Civil, Environmental and Construction Engineering, Texas Tech University. (May 2012)
- Nieman, Ross, "Design of a Warehouse Building using Till-Up Precast Concrete Panel.", Department of Civil, Environmental and Construction Engineering, Texas Tech University, (August, 2010).

M.S Thesis Committee Member

- Dhungana, Krishna, "Impact of Deicing Salts on Corrosion Rates of MSE Reinforcement", Department of Civil, Environmental and Construction Engineering, Texas Tech University (On-Going)
- Do, Dung (Drake), "Nature's Pattern The VORONOI Algorithm", College of Architecture, Texas Tech University. (Dec. 2011)
- Won, Hoon Ill, "The Evaluation of Bonded, Continuously Reinforced Concrete Overlay over Distressed Jointed Concrete Pavement.", Department of Civil, Environmental and Construction Engineering, Texas Tech University (August, 2011)
- Wondwosen, A., "Finite Element Temperature Development and Moisture Diffusion Prediction Models for Hardening Concrete Using MATLAB." Department of Civil, Environmental and Construction Engineering, Texas Tech University (May, 2010).
- Ortega, C. A., "Anchorage Behavior of Externally Bonded FRP Sheets used for Shear Strengthening of Concrete Structures.", Department of Civil, Architectural and Environmental Engineering, Missouri University of Science and Technology (Jan., 2009).
- Brancaccio, A., "Behavior of Full-Scale RC T-Beams Strengthened in Shear with Externally Bonded FRP Sheets." Department of Civil, Architectural and Environmental Engineering, Missouri University of Science and Technology (Dec. 2008).
- Tumialan, R. P., "Performance Evaluation of Existing Analytical Methods to Compute the Shear Contribution Provided by Externally Bonded FRP Sheets in Concrete Structures.", Department of Civil, Architectural and Environmental Engineering, University of Missouri-Rolla (Aug. 2007).

SERVICE TO UNIVERSITY, COLLEGE AND DEPARTMENT

- Department
 - Curriculum Committee, Member, September 2011 Present
 - Recruiting/Public Relation Committee, Member, September 2012 Present
 - Chair Search Committee, Member, October 2013 ~ January 2014
- College/Graduate School
 - Dean's Representative for Doctoral Defense: Pangil Choi, Department of Civil, Environmental and Construction Engineering, June 25, 2015
 - Dean's Representative for Doctoral Defense: Wujun Zhou, Department of Civil, Environmental and Construction Engineering, June 25, 2013.
 - Dean's Representative for Doctoral Defense: Robert J. Steele, Department of Industrial Engineering, June 11, 2014.
- University
 - Faculty Banner Barer at the Commencement, August 2012

PUBLICATIONS

Peer-Reviewed Journal Papers (Under Preparation)

- 21. Athawale, P. and <u>Bae, S.W.</u> "Parametric Study on Effective Bond Length of Externally Bonded FRP Composite Laminates Using FEA".
- 20. Yang, Q., Tate, D. and <u>Bae, S.W.</u> "Finite Element Model Simulation to Predict the Crashworthiness of Portable Roll-Up Signs".

- 19. <u>Bae, S.W.</u>, Zuo, D., Tate, D. and Wood, T. "Toward the Proper Design of Portable Roll-Up Signs: Based on Crash Test Results".
- 18. <u>Bae, S. W.</u> and Belarbi, A. "Factors Affecting the Shear Behavior of RC Beams Strengthened with Externally Bonded FRP Sheets".
- 17. <u>Bae, S.W.</u>, Zuo, D., Tate, D. and Wood, T. "Experimental Study on Behavior of Portable Roll-Up Signs Subjected to Various Wind Loads".
- 16. <u>Bae, S.W.</u>, and Tann, B., "Size Effect of Reinforced Concrete Beams Strengthened in Shear with Externally Bonded CFRP Sheets".
- 15. Lee, S., Wu, D., and <u>Bae, S.W.</u>, "Life-Cycle Cost Analysis Approach for Assessing Bridge Pile Repair Techniques".

Peer-Reviewed Journal Papers

- You, Y., Ayoub, A., <u>Bae, S.W.</u> and Belarbi, A., "Numerical Simulation of FRP Shear-Strengthened Reinforced Concrete Girders", ACI Special Publication, Vol. 301, pp. 1-16, 2015
- <u>Bae, S.W.</u>, and Belarbi, A., "Behavior of Various Anchorage Systems Used for Shear Strengthening of Concrete Structures with Externally Bonded FRP Sheets", ASCE Journal of Bridge Engineering, Vol. 18, No. 9, pp. 837-847, 2013.
- <u>Bae, S.W.</u>, Murphy, M., Mirmiran, A., and Belarbi, A. "Behavior of RC T-Beams Strengthened in Shear with CFRP under Cyclic Loading", ASCE Journal of Bridge Engineering, Vol. 18, No. 2, pp. 99-109, 2013.
- 11. Murphy, M. S., Belarbi, A., and <u>Bae, S.W.</u>, "Behavior of PC I-Girders Strengthened in Shear with Externally Bonded FRP Sheets", PCI Journal, Vol. 57, No. 3, pp. 63-82, 2012.
- Belarbi, A., <u>Bae, S.W.</u>, and Brancaccio, A., "Behavior of Full-Scale RC T-Beams Strengthened in Shear with Externally Bonded FRP Sheets." Construction and Building Materials, Vol. 32, pp. 27-40, 2012.
- <u>Bae, S.W.</u>, and Belarbi, A., "Effects of Various Environmental Conditions on RC Columns Wrapped with FRP Sheets." Journal of Reinforced Plastics and Polymers, Vol. 29, No. 2, pp. 290-309, 2010.
- Ouezdou, M.B., Belarbi, A., and <u>Bae, S.W.</u>, "Effective Bond Length of FRP Sheets Externally Bonded to Concrete." International Journal of Concrete Structures and Materials, Vol. 3, No. 2, pp.127-131, 2009.
- Bae, S.W., and Belarbi, A., "Effects of Corrosion of Steel Reinforcement Embedded in RC Columns Wrapped with CFRP sheets." ASCE Journal of Performance of Constructed Facilities, Vol. 28, No. 1, 20-31, 2009.
- 6. <u>Bae, S.W.</u>, LaBoube, R. A., Belarbi, A. and Ayoub, A., "Progressive Collapse of Cold-Formed Steel Framed Structures.", Thin-Walled Structures, Vol. 46, 706-719, 2008.
- 5. Belarbi, A. and <u>Bae, S.W.</u>, "An Experimental Study on the Effect of Environmental Exposures and Corrosion on RC Columns with FRP Composite Jackets.", Composite B: Engineering, Vol. 38., 674-684., 2007.
- Bae, S.W., Belarbi, A., and LaBoube, R. A., "Bearing Strength of Slabs on Grade Supporting Load Bearing Walls Constructed of Cold-Formed Steel Studs.", ASCE Journal of Architectural Engineering, Vol. 12, No.1, pp. 24-32, 2006.
- 3. <u>Bae, S.W.</u>, Belarbi, A., and Myers, J. J., "Performance of Corrosion-Damaged RC Columns Repaired by CFRP Sheets.", ACI SP-230, Vol. 2, pp.1447-1464, 2005.
- 2. Park, H., Kim, C., Choi, I., <u>Bae, S.W.</u>, and Ryu, J., "Chemically Prestressed Precast Concrete Box Culvert with Expansive Additives.", ACI SP-200, pp. 149-166, 2001.
- 1. Park, H., Kim, C., Choi, I., <u>Bae, S.W.</u>, and Lee, H., "An Experimental Study on Flexural Behavior of RC Slabs with Expansive Additives.", Journal of the Korea Concrete Institute, Vol. 12, No. 4, 2000. (Publication Language: Korean)

Peer-Reviewed Conferences Proceedings

- Lee, S., Wu, D., and <u>Bae, S. W.</u> "Analyzing Life-Cycle Costs in Repairing Bridge Piles: TxDOT Case", Transportation Research Board 93rd Annual Meeting, Washington, D. C., January, 2014
- 22. Lee, S., Wu, D., and <u>Bae, S. W.</u> "Evaluation of Life-Cycle Cost Analysis Programs for Bridge Pile Repair Projects", the ASC 49th Annual International Conference held in conjunction with the CIB Workgroup 89, California Polytechnic State University, San Luis Obispo, California, April, 2013
- 21. Yang, Q, Tate, D., and <u>Bae, S.W.</u> "Finite Element Modeling and Simulation Analysis of a Portable Roll-Up Sign", ASME 2012 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, Chicago, IL, August, 2012.
- 20. <u>Bae, S.W.</u>, Tann, B., and Belarbi, A., " Size Effect of Reinforced Concrete Beams Strengthened in Shear with Externally Bonded CFRP Sheets", The 6th International Conference on FRP Composites in Civil Engineering (CICE 2012), Rome, Italy, June 2012
- 19. Belarbi, A, Ortega, C. A., and <u>Bae, S.W.</u> "Performance Evaluation of Different Anchorage Systems for Externally Bonded FRP Sheets for Shear Strengthening of Concrete Structures", The Third Asia-Pacific Conference on FRP in Structures, Hokkaido, Japan, February, 2012
- Belarbi, A., Kuchma, A., Okeil, A., and <u>Bae, S.W.</u>, "Design Equations for Shear Capacity of Concrete Girders Strengthened in Shear with Externally Bonded FRP Sheets", The Third Asia-Pacific Conference on FRP in Structures, Hokkaido, Japan, February, 2012
- 17. Belarbi, A., Murphy, M. S., and <u>Bae, S.W.</u>, "Shear Strengthening of Full-Scale RC T-Beams with CFRP Sheets", The Third Asia-Pacific Conference on FRP in Structures, Hokkaido, Japan, February, 2012.
- 16. Kharkovsky, S., Case, J.T., Zoughi, R., <u>Bae, S.W.</u>, Belarbi, A., "Application of Microwave 3-D Imaging Technique for Detection and Evaluation Corrosion of Steel Rebars in Cement-Based Structures", Quantative Nondestructive Evaluation, Burlington, VT, July 2011.
- 15. Kuchma, D., Belarbi, A., <u>Bae, S.W.</u>, "Challenges in Strengthening Using FRP Strips", fib Symposium, Prague, Czech Republic, June 2011.
- 14. Murphy, M. S., Belarbi, A., and <u>Bae, S.W.</u>, "Externally Bonded FRPs for Shear Strengthening of Prestressed Concrete Girders." First Middle East Conference on Smart Monitoring Assessment and Rehabilitation of Civil Structures, Dubai, UAE, February, 2011.
- <u>Bae, S.W.</u>, Belarbi, A., and Brancaccio, A. "Shear Strengthening of Full-Scale RC T-Beams Using Externally Bonded CFRP Sheets." First Middle East Conference on Smart Monitoring Assessment and Rehabilitation of Civil Structures, Dubai, UAE, February, 2011.
- 12. Belarbi, A. and <u>Bae, S.W.</u>, "Shear Resistance Mechanism of Structural Concrete Girders Strengthened with CFRP Composites." 11th Arab Structural Engineering Conference (ASEC), Dhahran, Saudi Arabia, October, 2009.
- Murphy, M. S., Belarbi, A., and <u>Bae, S.W.</u>, "Shear Strengthening of Prestressed Concrete Bridge Girders with Externally Bonded CFRP Sheets." 9th International Symposium on Fiber Reinforced Polymer Reinforcement for Concrete Structures (FRPRCS9), Sydney, Australia, July 2009.
- Brancaccio, A., Belarbi, A., and <u>Bae, S.W.</u>, "Shear Behavior of RC T-Beams Strengthened in Shear with Externally Bonded FRP Sheets." 9th International Symposium on Fiber Reinforced Polymer Reinforcement for Concrete Structures (FRPRCS9), Sydney, Australia, July 2009.

- Ortega, C. A., Belarbi, A., and <u>Bae, S.W.</u>, "End Anchorage of Externally Bonded FRP Sheets for the Case of Shear Strengthening of Concrete Girders." 9th International Symposium on Fiber Reinforced Polymer Reinforcement for Concrete Structures (FRPRCS9), Sydney, Australia, July, 2009.
- Ben Ouezdou, M., <u>Bae, S.W.</u>, and Belarbi, A., "Effective Bond Length of FRP Sheets Externally Bonded to Concrete." 4th International Conference on FRP Composites in Civil Engineering (CICE2008), Zurich, Switzerland, July. 2008.
- Belarbi, A., Silva, P. and <u>Bae, S.W.</u> "Retrofit Using CFRP Composites of Circular RC Columns under Combined Shear, Flexural, and Torsion." Challenge for Civil Construction 2008 (CCC2008), Porto, Portugal, April, 2008.
- Bae, S.W., Belarbi, A., and Myers, J. J. "Design Guidelines for Axially Loaded RC Columns Wrapped With FRP Sheets under Combined Environmental Conditions.", The Third International Conference on Durability and Field Applications of FRP Composites for Construction (CDCC2007), Quebec, Canada, May, 2007.
- 5. Belarbi, A., <u>Bae, S.W.</u>, and Tumialan, R., "Toward Design Guidelines for Shear Strengthening of Concrete Structures Using Externally Bonded FRP Systems.", Advanced Composites in Construction (ACIC07), Bath, UK, April, 2007.
- 4. Belarbi, A., Ayoub, A. and <u>Bae, S.W.</u>, "State-of-Practice of FRP Strengthened RC Girders in Shear.", Third International Conference on FRP Composites in Civil Engineering (CICE2006), Miami, Florida, December, 2006.
- 3. <u>Bae, S.W.</u> and Belarbi, A., "Corrosion of RC Columns Repaired and Wrapped with CFRP Sheet.", International Conference on Concrete Repair, Rehabilitation and Retrofitting (ICCRRR), Cape Town, South Africa, November 2005.
- <u>Bae, S.W.</u> and Belarbi, A., "Evaluation of the Environmental Effects on the RC Columns Wrapped with FRP sheet.", The International Conference on Performance of Construction Materials in the New Millennium (ICPCM), Cairo, Egypt, 2003.
- <u>Bae, S.W.</u> and Belarbi, A., "Evaluation of Freeze-Thaw Cycles on the RC Columns Wrapped with FRP sheet.", Advances in Structural Engineering and Mechanics (ASEM02), Pusan, S. Korea, 2002.

Technical Reports

- 8. <u>Bae, S.W.</u>, and Ghodsifasaei, "Evaluation of the Tensile Mechanical Properties of Coiled Reinforcing Bars" Concrete Reinforcing Steel Institute, May 2014.
- Bae, S.W., Zuo, D., Tate, D., Timothy, W., Bligh, R., and Zimmer, D. "Testing of Alternative Support Materials for Portable Roll-Up Signs Used in Maintenance Work Zones", Texas Department of Transportation, Austin, TX, April 2014.
- 6. Belarbi, A., <u>Bae, S.W.</u>, Ayoub, A., Kuchma, D., Mirmiran, A., and Okeil, A., "Design of FRP Systems for Strengthening Concrete Girders in Shear.", NCHRP Report 678, National Cooperative Highway Research Program, Transportation Research Board, Washington, D.C., March 2011.
- 5. Belarbi, A., <u>Bae, S.W.</u>, and You, Y., "An Experimental Study on the Three-Sided Box Culverts." Egyptian Concrete Company, Aug. 2008.
- Bae, S.W., LaBoube, R. A., Belarbi, A. and Ayoub, A., "Analytical Study on Progressive Collapse of Cold-Formed Steel Framed Structures.", Research Report Prepared for National Science Foundation, September, 2006.
- <u>Bae, S.W.</u>, Belarbi, A., Myers, J. J., Chandrashekhara, K., and Watkins, S. E., "Structural Integrity of RC Columns Wrapped with FRP Sheet Subjected to Various Environmental Conditions Including Corrosion.", Research Report Prepared for Missouri Department of Transportation, Dec. 2004.

- 2. Belarbi, A., <u>Bae, S.W.</u> and Luna, R. "Design of a Protective Removable Bollard System.", Kontek Industries, Inc., Dec. 2004.
- 1. Park, H., Kim, C., Choi, I., <u>Bae, S.W.</u>, and Ryu, J., "Development of Chemically Prestressed Precast Concrete Box Culvert using Expansive Additives.", Research Report Prepared for To-Am Industrial Ltd., Dec. 1999. (Publication Language: Korean)