Matt O'Reilly, Ph.D, P.E.
785-864-9017
Email: oreilly3@ku.edu

Licensed Professional Engineer–Kansas, ACI Concrete Field Testing Technician-Grade I

EDUCATION:

University of Kansas, Lawrence, KS
- PhD (with honors) in Civil Engineering — January 2011
- Master of Science in Civil Engineering — December 2008

University of Rochester, Rochester, NY
- BS (summa cum laude) in Mechanical Engineering with a minor in Math — May 2006

WORK EXPERIENCE:

Assistant Professor, University of Kansas	May 2013 – Present
Visiting Assistant Professor, University of Kansas	August 2012 – May 2013
Lecturer, University of Kansas	January 2011 – August 2012
Research Assistant, University of Kansas	August 2006 – January 2011
Teaching Assistant, University of Kansas & University of Rochester	2003 – 2006

PROFESSIONAL SERVICE:
- Member, ASTM International Committee A01 on Steel, Stainless Steel and Related Alloys, Subcommittee A01.14 on Methods of Corrosion Testing and Subcommittee A01.05 on Steel Reinforcement
- Member, ASCE
- Member, American Concrete Institute Committee 222 on Corrosion of Metals in Concrete
- Associate Member, American Concrete Institute Committee 123 on Research

PAPERS:
Sperry, J., Darwin, D., O'Reilly, M., Lequesne, R.D.,Yasso, S., Matamoros, A., Feldman, L.R.,and Lepage, A., "Conventional and High-Strength Hooked Bars - Part 2: Data Analysis," ACI Structural Journal, Vol. 114, No. 1, January-February 2017, pp. 267-314.

Sperry, J., Yasso, S., Searle, N., DeRubies, M., Darwin, D., O'Reilly, M., Matamoros, A., Feldman, L.R., Lepage, A., Lequesne, R.D., and Ajaam, A., "Conventional and High-Strength Hooked Bars - Part 1: Anchorage Tests," ACI Structural Journal, Vol. 114, No. 1, January-February 2017, pp. 255-342.

Yuan, J., O'Reilly, M., Matamoros, A., and Darwin, D., "Effect of Preexisting Cracks on Lap Splice Strength of Reinforcing Bars," *ACI Structural Journal*, Vol. 113, No. 4, Jul.-Aug. 2016, pp. 801-812.

O'Reilly, M., Darwin, D., and Browning, J., "Corrosion Performance of Prestressing Strands in Contact with Dissimilar Grouts," *ACI Materials Journal*, Vol. 112, No. 4, Jul.-Aug. 2015, pp. 491-500.

Darwin, D., O'Reilly, M., Browning, J., Locke, C. E., Virmani, Y. P., Ji, J., Gong, L., Guo, G., Draper, J., and Xing, L., "Multiple Corrosion Protection Systems for Reinforced Concrete Bridge Components: Laboratory Tests," *Journal of Materials in Civil Engineering*, ASCE, Vol. 26, No. 11, Nov. 2014, pp. 04014085-1–04014085-9.

Darwin, D., O'Reilly, M., Browning, J., and Xing, L., "Case for Changing Reinforcing Bar Deformation Spacing Requirements," *Journal of Testing and Evaluation*, ASTM, Vol. 42, No. 2, Mar. 2014, 8 pp.

O'Reilly, M., Darwin, D., Browning, J., Xing, L., Locke, C. E., and Virmani, Y. P., "Effect of Corrosion Inhibitors on Concrete Pore Solution Composition and Corrosion Resistance," *ACI Materials Journal*, Vol. 110, No. 5, Sep.-Oct. 2013, 577-585.

Darwin, D., Browning, J.P., O'Reilly, M., Xing, L. and Ji, J., "Critical Chloride Corrosion Threshold of Galvanized Reinforcing Bars," *ACI Materials Journal*, Vol. 106, No. 2, March/April 2009, pp. 176-183.

REPORTS:

Ajaam, Ali, Darwin, D., and O'Reilly, M., "Anchorage Strength of Reinforcing Bars with Standard Hooks," SM Report No. 125, The University of Kansas Center for Research, Inc., Lawrence, KS, April 2017, 372 pp.

Yasso, S., Darwin, D., and O'Reilly, M., "Anchorage Strength of Standard Hooked Bars in Simulated Exterior Beam-Column Joints," SM Report No. 124, The University of Kansas Center for Research, Inc., Lawrence, KS, April 2017, 330 pp.

Farshadfar, O., O'Reilly, M., Darwin, D., "Performance Evaluation of Corrosion Protection Systems for Reinforced Concrete," SM Report No. 122, The University of Kansas Center for Research, Inc., Lawrence, KS, January 2017, 350 pp.

Darwin, D., Khajehdehi, R., Alhmood, A., Feng, M., Lafikes, J., Ibrahim, K., O'Reilly. M., "Construction of Crack-Free Bridge Decks: Final Report, " SM Report No. 121, The University of Kansas Center for Research, Inc., Lawrence, KS, December 2016, 160 pp.

Farshadfar, O., Keith C. A., O'Reilly, M., Darwin, D. "Corrosion Tests of XM28 Stainless Steel Reinforcing Bars," SL Report No. 16-3, The University of Kansas Center for Research, Inc., Lawrence, KS, August 2016, 34 pp.

Shao, Y., Darwin, D., O'Reilly, M., Lequesne, R.D., Ghimire, K., and Hano, M. "Anchorage of Conventional and High-Strength Headed Reinforcing Bars, " *SM Report* 117, The University of Kansas Center for Research, Inc., Lawrence, KS, August 2016, 234 pp.

Al-Qassag, O., Darwin, D., and O'Reilly, M., "Effect of a Rheology Modifier on Settlement Cracking of Concrete," *SM Report* 116a, The University of Kansas Center for Research, Inc., Lawrence, KS, April 2016, 38 pp.

Carter, N. and O'Reilly, M. "Graffiti Resistance of Wax-based and Epoxy-based Coatings on Steel and Concrete Substrates," *SL Report* 16-1, The University of Kansas Center for Research, Inc., Lawrence, KS, January 2016, 50 pp.

Sperry, J., Darwin, D., O'Reilly, M., and Lequesne, R., "Anchorage Strength of Conventional and High-Strength Hooked Bars in Concrete," *SM Report* 115, University of Kansas Center for Research, Inc., Lawrence, Kansas, December 2015, 266 pp.

Al-Qassag, O., Darwin, D., and O'Reilly, M., "Effect of Synthetic Fibers and a Rheology Modifier on Settlement Cracking of Concrete," *SM Report* 116, University of Kansas Center for Research, Inc., Lawrence, Kansas, December 2015, 113 pp.

Alhmood, A., Darwin, D., and O'Reilly, M., "Crack Surveys of Low-Cracking High-Performance Concrete Bridge Decks in Kansas 2014-2015," *SL Report* 15-3 University of Kansas Center for Research, Inc., Lawrence, Kansas, September 2015, 116 pp.

Sperry, J., Al-Yasso, S., Searle, N., DeRubeis, M., Darwin, D., O'Reilly, M., Matamoros, A., Feldman, L., Lepage, A., Lequesne, R., and Ajaam, A., "Anchorage of High-Strength Reinforcing Bars with Standard Hooks," *SM Report* 111, University of Kansas Center for Research, Inc., Lawrence, Kansas, June 2015, 244 pp.

Brettmann, R., Darwin, D., and O'Reilly, M., "Developing a Test Procedure to Evaluate Settlement Cracking Performance," *SL Report* 15-2, University of Kansas Center for Research, Inc., Lawrence, Kansas, May 2015, 40 pp.

Farshadfar, O., Ajaam, A., Hano, M., O'Reilly, M., Darwin, D., "Bond Strength of Reinforcing Bars with Deformation Spacings that Exceed Maximum Specified in ASTM A615," *SL Report* 14-2, The University of Kansas Center for Research, Inc., Lawrence, KS, August 2014, 26 pp.

Searle, N., DeRubeis, M., Darwin, D., Matamoros, A. B., O'Reilly, M., and Feldman, L., "Anchorage of High-Strength Reinforcing Bars with Standard Hooks - Initial Tests," *SM Report* 108, The University of Kansas Center for Research, Inc., Lawrence, KS, February 2014, 120 pp.

Darwin, D., O'Reilly, M., Somogie, I., Sperry, J., Lafikes, J., Storm, Browning, J., "Stainless Steel Reinforcement as a Replacement for Epoxy Coated Steel in Bridge Decks," *SM Report* 105, University of Kansas Center for Research, Inc., Lawrence, Kansas, August 2013, 205 pp.

O'Reilly, M. and Darwin, D., "Rapid Macrocell Tests of 2205 and XM-28 Reinforcing Bars," *SL Report 13-2a*, University of Kansas Center for Research, Inc., Lawrence, Kansas, January 2013, 29 pp.

O'Reilly, M. and Darwin, D., "Rapid Macrocell Tests of 2304 and XM-28 Reinforcing Bars," *SL Report 12-3a*, University of Kansas Center for Research, Inc., Lawrence, Kansas, November 2012, 17 pp.

Yuan, J., O'Reilly, M., Matamoros, A., and Darwin, D., "Effect of Simulated Cracks on Lap Splice Strength of Reinforcing Bars," *SL Report 12-2*, University of Kansas Center for Research, Inc., Lawrence, Kansas, June 2012, 243 pp.

O'Reilly, M., Darwin, D., and Browning, J.P., "Corrosion Performance of Prestressing Strands in Contact with Dissimilar Grouts," *SL Report 12-1*, University of Kansas Center for Research, Inc., Lawrence, Kansas, April 2012, 50 pp.

Lafikes, J., Storm, S., Darwin, D., Browning, J.P., and O'Reilly, M., "Stainless Steel Reinforcement as a Replacement for Epoxy Coated Steel in Bridge Decks," Annual Report for FY 2011, ODOT SPR Item Number 2231, November 2011, 172 pp.

Darwin, D., Browning, J., O'Reilly, M., Locke, C. E., and Virmani, Y. P., "Multiple Corrosion-Protection Systems for Reinforced Concrete Bridge Components," *Publication* No. FHWA-HRT-11-060, Federal Highway Administration, August 2011, 256 pp.

O'Reilly, M., Darwin, D., Browning, J.P., and Locke, Jr., C. E., "Evaluation of Multiple Corrosion Protection Systems for Reinforced Concrete Bridge Decks," *SM Report* 100, University of Kansas Center for Research, Inc., Lawrence, Kansas, January 2011, 535 pp.

Sturgeon, W.J., O'Reilly, M., Darwin, D., and Browning, J.P., "Rapid Macrocell Tests of ASTM A775, A615, and A1035 Reinforcing Bars" *SL Report* 10-4, University of Kansas Center for Research, Inc., Lawrence, Kansas, November 2010, 46 pp.

Sturgeon, W.J., O'Reilly, M., Darwin, D., and Browning, J.P., "Rapid Macrocell Tests of EnduraMet® 2304 Stainless Steel Bars," *SL Report* 10-3, University of Kansas Center for Research, Inc., Lawrence, Kansas, September 2010, 40 pp.

O'Reilly, M., Sturgeon, W.J., Darwin, D., and Browning, J.P., "Rapid Macrocell Tests of LDX 2101® Stainless Steel Bars," *SL Report* 10-2, University of Kansas Center for Research, Inc., Lawrence, Kansas, May 2010, 42 pp.

O'Reilly, M., Darwin, D., and Browning, J.P., "Initial Evaluation of Corrosion Performance and Alkali-Reactivity of Ceramic-Coated Reinforcing Bars," *SL Report* 10-1, University of Kansas Center for Research, Inc., Lawrence, Kansas, January 2010, 27 pp.

O'Reilly, M., Darwin, D., and Browning, J.P., "Beam-End Bond Tests and Bend Tests of Zinc-Clad No. 6 Reinforcing Bars," *SL Report* 09-2, University of Kansas Center for Research, Inc., Lawrence, Kansas, November 2009, 12 pp.

Darwin, D., Browning, J.P., O'Reilly, M., and Xing, L., "Bond Strength of Reinforcing Bars with Deformation Spacings that Exceed Maximum Specified in ASTM A615," *SL Report* 08-1, University of Kansas Center for Research, Inc., Lawrence, Kansas, March 2008, 21 pp.

PRESENTATIONS:

"Evaluation of Reinforcing Bar Corrosion Performance," FHWA Corrosion Resistant Reinforcing Bar Seminar, September 13, 2016, Harrisburg, PA, invited.

"TRB Webinar: Controlling Corrosion of Infrastructure Systems," TRB Webinar Series, August 4, 2016. Co-presenter w/ Kingsley Lau.

"Effect of Early Age Cracking on Corrosion in Reinforced Concrete," NACE Concrete Service Life Extension conference, May 25, 2016, Orlando FL.

"Evaluation of Reinforcing Bar Corrosion Performance," FHWA Corrosion Resistant Reinforcing Bar Seminar, April 7, 2016, Stillwater, OK, invited.

"Evaluation of Reinforcing Bar Corrosion Performance," FHWA Corrosion Resistant Reinforcing Bar Seminar, August 11, 2015, Honolulu, HI, invited.

"Evaluation of Reinforcing Bar Corrosion Performance," FHWA Corrosion Resistant Reinforcing Bar Seminar, April 28, 2015, Helena, MT, invited.

"Durability of Concrete: Ongoing Research," SEAKM, September 15 2014, Wichita, KS, invited.

"Durability of Concrete: Ongoing Research," KAPA Research & Specifications (R&S) Committee, August 6 2014, Topeka, KS, invited.

"Bond Strength of Epoxy-Coated Reinforcement," Qatar Steel, May 26 2014, Doha, Qatar, invited.

"Evaluation of Reinforcing Bar Corrosion Performance," FHWA Corrosion Resistant Reinforcing Bar Seminar, May 14 2014, Topeka, KS, invited.

"Evaluation of Reinforcing Bar Corrosion Performance," FHWA Corrosion Resistant Reinforcing Bar Seminar, November 21 2013, Springfield, IL, invited.

"Evaluation of Reinforcing Bar Corrosion Performance," FHWA Corrosion Resistant Reinforcing Bar Seminar, November 19 2013, Ames, IA, invited.

"Comparison of ASTM A955 Corrosion Testing Methods with Field Performance of Reinforcement," American Concrete Institute Convention, October 19 2013, Phoenix AZ

"Evaluation of Reinforcing Bar Corrosion Performance," FHWA Corrosion Resistant Reinforcing Bar Seminar, August 15 2013, Queens, NY, invited.

"Evaluation of Reinforcing Bar Corrosion Performance," FHWA Corrosion Resistant Reinforcing Bar Seminar, June 20 2013, Baltimore, MD, invited.

"Evaluation of Reinforcing Bar Corrosion Performance," FHWA Corrosion Resistant Reinforcing Bar Seminar, May 9 2013, Lincoln, NE, invited.

"Evaluation of Reinforcing Bar Corrosion Performance," FHWA Corrosion Resistant Reinforcing Bar Seminar, May 7 2013, Jefferson City, MO, invited.

"Evaluation of Reinforcing Bar Corrosion Performance," FHWA Corrosion Resistant Reinforcing Bar Seminar, July 17 2012, Tampa, FL, invited.

"Corrosion Performance of Prestressing Strands in Contact with Two Different Grouts". Post-Tensioning Institute Convention, May 6–8 2012, Nashville, TN, invited.

"Multiple Corrosion Protection Systems for Reinforced Concrete Bridge Decks". American Concrete Institute Convention, April 22–26 2007, Atlanta, GA.

GRANTS:

"Investigating Mechanical Splicing of Reinforcing Steel," January 2017–December 2017, EPRI, $49,994 (PI, with D. Darwin and A. Lepage)

"Development of a Chloride Threshold Method for ASTM A1035," January 2017–May 2018, MMFX, $62,141 (PI, with D. Darwin)

"Construction of Low-Cracking High-Performance Bridge Decks Incorporating New Technology," January 2016–December 2018, KDOT and FHWA, $270,000 (Co-investigator with D. Darwin (PI))

"Assessment of Moisture-Tolerant Coatings for Decreasing Open-Top Construction Time," August 2015–December 2016, Electric Power Research Institute, $188,000 (Co-investigator with D. Darwin (PI) and M. Medina).

"Use of Headed Bars as Shear Reinforcement," January 2014–December 2016, Electric Power Research Institute, $400,000 (Co-investigator with D. Darwin (PI), R. Lequesne, and A. Lepage).

"Use of Headed Reinforcing Bars to Develop High-Strength Reinforcing Steel," January 2013–December 2015, Electric Power Research Institute, Concrete Reinforcing Steel Institute Education and Research Foundation, ERICO International Corporation, Headed Reinforcement Corporation, BarSplice Products Inc., $450,000 (Co-investigator with D. Darwin (PI), and A. Matamoros).

COURSES:

CE 310, Strength of Materials, Spring & Fall 2012
CE 412, Structural Engineering Materials, Fall 2013-2017
CE 563, Structural Materials II (Concrete Design), Spring & Fall 2012, Spring 2013
CE 715/CE 895/C&PE 765, Corrosion Engineering, Spring 2010-2017, Summer 2017
CE 721, Experimental Stress Analysis, Spring 2015, 2017
CE 764, Advanced Design of Reinforced Concrete Structures, Fall 2011
CE 810, Theory of Elastic Stability, Fall 2011
ARCH 625, Analysis and Design of Structures for Architects, Fall 2008

GRADUATE STUDENTS:

Chairperson:

- 1 Ph.D. graduate
- 1 Ph.D. candidate, currently enrolled
- 2 M.S. graduates
- 2 M.S. candidates, currently enrolled

Committee Member:

- 4 Ph.D. graduates
- 8 Ph.D. candidates, currently enrolled
- 14 M.S. graduates
- 1 M.S. candidate, currently enrolled

UNIVERSITY SERVICE:

Advisor, Engineers Without Borders	2015–Present
Advisor, Concrete Canoe Team	2013–Present

Advisor, Chi Epsilon	2013–2017
Judge, Graduate Engineering Association research competition	2013–Present