

Issam Elias Harik, Ph.D.

Personal

Born October 12, 1952 in Beirut, Lebanon. Married, two children. Speaks, reads and writes in English, Arabic and French.

Education

- Ph.D., Civil Engineering (Structures), Wayne State University, Detroit, Michigan, 12/82.
- M.S., Civil Engineering (Structures), Wayne State University, Detroit, Michigan, 12/78.
- B.S., Civil Engineering, Wayne State University, Detroit, Michigan, 6/77.

Specialization

Bridges, Seismic Evaluation and Retrofit, Mitigation, Impact Forces on Bridges, Hazard Mitigation, Fiber Reinforced Polymer Composites, Reinforced and Prestressed Concrete Structures, Structural Analysis and Design, Plates and Shells.

Experience

- July 2000 – Present: Raymond-Blythe Professor, Department of Civil Engineering.
- March 1993 – 2004: Program Manager, Structures and Coatings Section, Kentucky Transportation Center, University of Kentucky. (Head, Structures Section: March 1993 – July 2004)
- July 2001 – June 2006: Chair, Department of Civil Engineering (Interim Chair: July 2000-June 2001)
- July 1994-June 2000: Professor of Structures; Department of Civil Engineering, University of Kentucky.
- July 1987 – June 1994: Associate Professor of Structures, Department of Civil Engineering, University of Kentucky.
- August 1982 – June 1987: Assistant Professor of Structures, Department of Civil Engineering, University of Kentucky.

Recent Research Awards

1. Harik, I.E., “Application of Self-Consolidating Concrete and Rapid Construction in Bridges -Bridge on Indian Gap Road over Camp Pleasant Branch in Franklin County, KY (Highway District 5) (FRT 180)”, Federal Highway Administration and Kentucky Transportation Cabinet. 10/01/2010 to 08/31/2015.
\$255,000
2. Harik, I.E., “Retrofit of AASHTO Girders Using High Strength Steel Wire Fabric - Bridge on KY11 Over CSX RR and Strodes Run in Mason County, KY (Highway District 9) (FRT 179)”, Federal Highway Administration and Kentucky Transportation Cabinet. 10/01/2010 to 08/31/2015.
\$210,000
3. Harik, I.E., “Bridge Load Testing and Load Rating, (SPR 423)” Federal Highway Administration and Kentucky Transportation Cabinet. 7/1/2010-6/30/2012.
\$75,000

4. Harik, I.E., "Stainless Steel Reinforcement for a Concrete Bridge Deck, (FRT 161)" Federal Highway Administration and Kentucky Transportation Cabinet. 10/01/2007-09/30/2013.
\$95,000
5. Harik, I.E., "High Strength and High Modulus CFRP Laminates Strengthening of Steel girders on I-65 in Louisville, (FRT 160)" Federal Highway Administration and Kentucky Transportation Cabinet. 10/01/2007-09/30/2013.
\$260,000
6. Harik, I.E., "GFRP Stay-in-Place Forms and Reinforced Concrete Deck Overlay for Bridge Deck Replacement for Galloway Road Bridge Over North Elkhorn Creek, (FRT 159)" Federal Highway Administration and Kentucky Transportation Cabinet. 10/01/2007-09/30/2013.
\$240,000
7. Harik, I.E., "Carbon Fiber Reinforced Polymer Strengthening of the KY 714 Bridge Over Jephtha Creek in Shelby County, Kentucky, (FRT 158)" Federal Highway Administration and Kentucky Transportation Cabinet. 10/01/2007-09/30/2012.
\$150,000
8. Harik, I.E., "Effect of Thermal Loads on Bridge Sub Structures, (SPR 408)" Federal Highway Administration and Kentucky Transportation Cabinet. 7/1/2009-6/30/2012.
\$160,000
9. Harik, I.E., "Aluminum Bridge Deck Testing, Design, Deployment, and Monitoring in Webster County, Kentucky, (FRT 157)" Federal Highway Administration and Kentucky Transportation Cabinet. 12/15/2006-12/31/2011.
\$345,000
10. Harik, I.E., "Deployment of Remote Monitoring Instrumentation on the US 41N Bridge Over the Ohio River, (KHIT 56)" Federal Highway Administration and Kentucky Transportation Cabinet. 12/15/2006-12/31/2011.
\$198,000
11. Harik, I.E., "Bridge Repair Using Steel Reinforced Polymer Sheets (SRP) on the US 150 Bridge Over Beech Fork Creek, (KHIT 51)" Federal Highway Administration and Kentucky Transportation Cabinet. 6/2006-12/31/2011.
\$308,000
12. Harik, I.E., "Bridge Repair Using Steel Reinforced Polymer Sheets (SRP) on the US 150 Bridge Over Cartwright Creek, (KHIT 52)" Federal Highway Administration and Kentucky Transportation Cabinet. 6/2006-12/31/2011.
\$214,500
13. Harik, I.E., "Temperature Movement in Bridges at Expansion Joints, (SPR 379)" Federal Highway Administration and Kentucky Transportation Cabinet. 7/1/2008-6/30/2011.
\$150,000
14. Harik, I.E., "Rapid Bridge Evaluation and Repair," Kentucky Transportation Cabinet. 6/1/2006-6/30/2011.
\$25,000

15. Harik, I.E., "Remote Monitoring of Bridge Piers for Barge Impact," Federal Highway Administration and Kentucky Transportation Cabinet. 7/1/2005-6/30/2011.
\$125,000
16. Harik, I. E., "High Performance Materials for Structural Repair," Kentucky Science and Technology Corporation (KSTC - COMMFUND-09-RFP-010). 11/2010-1/31/2011.
\$75,000
17. Harik, I.E., Davis, D.B., Grace, N.F., and Palmquist, S.M., "Development of New Materials/Coatings for Application in the Transportation Sector—Phase 1", Managed by the National Institute for Hometown Security (NIHS), Department of Homeland Security (DHS), and Funded through the Kentucky Critical Infrastructure Protection Program (KCI). This Grant is for Phase 1 funding of a 3-phase project. 2/1/2010-9/30/2011
\$130,000
18. Harik, I. E., "Carbon Fiber Reinforced Polymer Bonded Repair of I-65 Bridges in Louisville," Federal Highway Administration and Kentucky Transportation Cabinet. 11/1/2003-12/31/2010.
\$445,000
19. Rister, B.W., Graves, R.C., and Harik, I.E., "Cumberland Gap Tunnel Inspection, (KHIT 58)" Federal Highway Administration and Kentucky Transportation Cabinet. 1/1/2007-6/30/2010.
\$121,390 (Harik's portion is \$18,000)
20. Harik, I.E., "Implementation of Remote Sensing Technology," Federal Highway Administration and Kentucky Transportation Cabinet. 7/1/2002-6/30/2010.
\$70,500
21. Harik, I. E., "Development and Deployment of Innovative Aluminum Bridge Deck Panels," Federal Highway Administration and Kentucky Transportation Cabinet. 11/1/2003-10/31/2009.
\$400,000
22. Harik, I.E., "Heat Straightening of Impacted Steel Bridge Girder, (SPR 335)" Federal Highway Administration and Kentucky Transportation Cabinet. 7/1/2006-6/30/2009.
\$120,000
23. Harik, I.E., "Seismic Evaluation of the Parkways in Western Kentucky," Federal Highway Administration and Kentucky Transportation Cabinet. 7/1/2001-6/30/2008.
\$364,500.

Recent Refereed Journal Articles

1. Sun, L., and Harik, I.E., "ASM Solution to Antisymmetric Laminated Plates," Journal of Engineering Mechanics, American Society of Civil Engineers. Vol. 136, No. 10, October 2010, pp. 1293-1298.
2. Yuan, P., and Harik, I.E., "Equivalent Barge and Flotilla Impact on Bridge Piers," Journal of Bridge Engineering, American Society of Civil Engineers. Vol. 15, Issue 5, September/October 2010, pp. 523-532.

3. Zatar, W.A., Harik, I.E., Sutterer, K., and Dodds, A., "Bridge Embankments: Part I - Seismic Risk Assessment and Ranking," *Journal of Performance of Constructed Facilities*, American Society of Civil Engineers. Vol. 22, Issue 3, May/June 2008, pp. 171-180.
4. Zatar, W.A., and Harik, I.E., "Bridge Embankments: Part II - Seismic Risk for I-24 in Kentucky," *Journal of Performance of Constructed Facilities*, American Society of Civil Engineers. Vol. 22, Issue 3, May/June 2008, pp. 181-190.
5. Yuan, P., and Harik, I.E., "One Dimensional Model for Multi-Barge Flotillas Impacting Bridge Piers," *Computer-Aided Civil and Infrastructure Engineering*, Volume 23, 2008, pp. 437-447.

Recent Conference Articles

1. Harik, I.E., and Peiris, A., "Applications of High Performance Materials in Bridges," *International Symposium on Life-Cycle Performance of Bridge and Structures (ISLPBS)*, Changsha, China, June 27-29, 2010. pp. 366-370.
2. Harik, I.E., and Peiris, A., "FRP Composites Applications in Civil Infrastructure," 14th European Conference on Composite Materials (ECCM14), Budapest, Hungary, June 7-10, 2010. 9 pages.
3. Peiris, A., Harik, I.E., and Steele, D., "Bridge Strengthening With Post Installed Shear Studs", *Federal Highway Administration Bridge Engineering Conference: Highways for Life and Accelerated Bridge Construction*, Orlando, Florida, April 8-9, 2010, 10 pages.
4. Choo, C.C., Harik, I.E., and Gesund, H., "Concrete Columns Reinforced With FRP Bars: Extending the Life of RC Structures," *The 34th Conference on Our World in Concrete & Structures*, Singapore, 16-18 August 2009, pp. 15-22.
5. Harik, I.E., and Peiris, A., "Twelve Years of Field Applications of FRP Materials in Kentucky," 9th *International Symposium on Fiber Reinforced Polymer Reinforcement for Concrete Structures (FRPRCS-9)*, July 13-15, 2009, Sydney, Australia. 14 pages.
6. Simpson, J. W., II, and Harik, I.E., "Shear Repair of P/C Box Bridge Girders Using CFRP Fabric," *Ninth International Symposium on Ferrocement*, May 18-20, 2009, Bali, Indonesia. Pp. 285-294.

Awards and Honors

University of Kentucky, Raymond-Blythe Professor of Civil Engineering, 2000-present.

- University of Kentucky, Raymond-Blythe Professor of Civil Engineering, 2000-present.
- Kentucky Society of Professional Engineers, KSPE 2003 Achievement in Education Award, 2003.
- University of Kentucky, Henry Lutes Award for Undergraduate Engineering Education, 1997.
- University of Kentucky, Chancellor's Award for Outstanding Teaching, 1996.
- University of Kentucky, Alumni Association, Great Teacher Award, 1995.
- Outstanding Civil Engineering Teacher in 1983, 1988, 1992, and 1994, Dept. of Civil Eng., Univ. of Kentucky.
- Outstanding College of Engineering Professor in 1991, College of Engineering, University of Kentucky.

Summary of Accomplishments

- Since joining the University of Kentucky in August 1982, Dr. Harik has directed or co-directed the research on more than 80 funded projects. He is currently directing or co-directing 20 research projects.
- He has directed or is currently directing the research of more than 30 visiting professors/scholars, 80 graduate students, 40 undergraduate students, and 15 high school.

- He serves currently as a member of 11 societies and 12 committees, he chairs the Transportation Research Board Committee on Structural Fiber Reinforced, and is a Council Member of the International Institute for Fiber Reinforced Polymers in Construction. He has organized and chaired national and international conferences, workshops, and technical sessions.
- He has authored or co-authored more than 260 technical publications.
- He is invited on a regular basis as a "Key Note" Speaker at international and national conferences and workshops.