

Abheetha Peiris, Ph.D., P.E.

Education

Ph.D.	Civil Engineering (Structures), University of Kentucky 2011
M.Eng.	Civil Engineering (Structures), Osaka University, Japan 2006
B.Sc. (Hons.)	Civil Engineering, University of Peradeniya, Sri Lanka 2002

Specialization

Fiber Reinforced Polymer Composites, Bridge Retrofit, Field Testing, Structural Health Monitoring, Structural Analysis and Design, Seismic Evaluation and Retrofit, Impact Forces on Bridges, Reinforced and Prestressed Concrete Structures, Fatigue of Concrete Bridge Decks.

Recent Research Awards

1. **Peiris, N.A.**, and **Harik, I.E.** "Bridge Load Posting Based on Load Testing - (SPR 20-593)", Federal Highway Administration and Kentucky Transportation Cabinet. 07/01/2019 to 6/30/2021. \$150,000
2. **Harik, I.E.**, and **Peiris, N.A.** "Retrofit of Bridge Pier Caps with CatStrong UCF - (KHIT 131)", Federal Highway Administration and Kentucky Transportation Cabinet. 07/01/2019 to 6/30/2022. \$140,000
3. **Harik, I.E.**, and **Peiris, N.A.** "Deployment of CatStrong TCW and TCF for Retrofit of Timber Pier Piles- (KHIT 128)", Federal Highway Administration and Kentucky Transportation Cabinet. 05/15/2019 to 6/30/2022. \$36,000
4. **Harik, I.E.**, and **Peiris, N.A.** "Retrofit of Cracked Ends in PC I-Girders - (KHIT 127)", Federal Highway Administration and Kentucky Transportation Cabinet. 10/15/2018 to 6/30/2022. \$60,000
5. **Harik, I.E.**, and **Peiris, N.A.**, "Retrofit of Impacted Bridge Girders (039B00017N-KY 562 over I-71, Gallatin County, D06 - KHIT 126)," Kentucky Transportation Cabinet. 10/01/2018 to 6/30/2022. \$120,000
6. **Harik, I.E.**, and **Peiris, N.A.** "KY 1057 Bridge Girder Retrofit Using CatStrong UCF and TCF - (KHIT 123)", Federal Highway Administration and Kentucky Transportation Cabinet. 06/25/2018 to 6/30/2022. \$38,200
7. **Harik, I.E.**, and **Peiris, N.A.** "Deployment of CatStrong UCF for Retrofit of PC Box Beams - (KHIT 119)", Federal Highway Administration and Kentucky Transportation Cabinet. 05/01/2018 to 6/30/2021. \$44,000
8. **Harik, I.E.**, and **Peiris, N.A.** "Deployment of Catstrong UCF & TCF to Retrofit Deteriorated Pier Cap - (KHIT 116)", Federal Highway Administration and Kentucky Transportation Cabinet. 07/01/2017 to 6/30/2020. \$40,600
9. **Harik, I.E.**, and **Peiris, N.A.** "Initial CatStrong Deployment for Bridge Retrofit Three KYTC Districts - (KHIT 113)", Federal Highway Administration and Kentucky Transportation Cabinet. 07/01/2017 to 6/30/2020. \$76,950
10. **Harik, I.E.**, and **Peiris, N.A.** "First Deployment of Multi-Layered CatStrong UCF to Retrofit Impacted PC I-Girder- (KHIT 104)", Federal Highway Administration and Kentucky Transportation Cabinet. 10/15/2016 to 6/30/2020. \$53,950
11. **Harik, I.E.**, and **Peiris, N.A.** "High Performance CatStrong CRP Deployment to Retrofit a RCDG Bridge for Over-height Impact- (KHIT 100)", Federal Highway Administration and Kentucky Transportation Cabinet. 11/01/2015 to 6/30/2018. \$72,400
12. **Harik, I.E.**, and **Peiris, N.A.**, and **Gutierrez Soto, M.** "Load Rating of Bridge Size Culverts (FRT 198)", Federal Highway Administration and Kentucky Transportation Cabinet. 05/01/2013 to 10/31/2019. \$700,000

Recent Journal Publications

1. **Peiris, A.**, and **Harik, I.E.**, "Improving the durability of impact damaged PC Bridge girders using CFRP Rod Panel retrofit." *American Concrete Institute, ACI Special Publication*. 2019, Vol. 331, pp. 80-100.
2. **Peiris, A.**, and **Harik, I.E.**, "FRP-steel bond study of IM and UHM CFRP strips." *Construction and Building Materials*. 2018, Vol. 185, pp. 628-637. <https://doi.org/10.1016/j.conbuildmat.2018.07.109>
3. **Peiris, A.**, and **Harik, I.E.**, "Design and Construction of CFRP Rod Panel Retrofit for Impacted RC Bridge Girders." *J. Compos. Sci*. 2018, Vol. 2(3), 40. <https://doi.org/10.3390/jcs2030040>

4. Jawdhari, A., **Peiris, A.**, and **Harik, I.E.**, “Experimental Study on RC Beams Strengthened With CFRP Rod Panels,” *Engineering Structures*, Vol. 173, 15 October 2018, pp. 693–705.
<https://doi.org/10.1016/j.engstruct.2018.06.105>
5. **Peiris, A.**, and **Harik, I.E.**, “Carbon fiber-reinforced polymer rod panels for strengthening concrete bridges” *Advances in Structural Engineering Journal*. 2018, Vol. 21(4).
<https://doi.org/10.1177/1369433217732665>
6. Jawdhari, A., **Peiris, A.** and **Harik, I.**, “Bond Study on CFRP Rod Panels Externally Adhered to Concrete” *ASCE Journal of Composites for Construction*. 2017, Vol. 21(4).
[http://dx.doi.org/10.1061/\(ASCE\)CC.1943-5614.0000765](http://dx.doi.org/10.1061/(ASCE)CC.1943-5614.0000765)
7. **Peiris, A.**, and **Harik, I.E.**, “Steel Bridge Girder Strengthening using Post installed Shear Connectors and UHM CFRP Laminates” *ASCE Journal of Performance of Constructed Facilities*. 2015, Vol. 29(5). [https://doi.org/10.1061/\(ASCE\)CF.1943-5509.0000625](https://doi.org/10.1061/(ASCE)CF.1943-5509.0000625).

Recent Conference Articles

1. **Peiris, A.**, and **Harik, I.** (2019). “Heavy CFRP Fabric Deployment for Repair of Impacted PC Bridge Girder on Interstate 64 in Kentucky” Proceedings of Bridge Engineering Institute Conference 2019 (BEI-2019), July 22-25, 2019, Honolulu, HI. 4 pages.
2. **Peiris, A.**, **Harik, I.**, Alexander, D., Abner, A., Waldner, D., and Rogers, J. (2019). “Truss Bridge Rehabilitation Prioritization in Kentucky” Proceedings of the Transportation Research Board (TRB) 98th Annual Meeting, Jan.13-17, 2019, Washington D.C. 4 pp.
3. **Peiris, A.**, and **Harik, I.** (2018). “CFRP Rod Panel Retrofit of Impact Damaged RC Bridge Girders” Proceedings of 25th Australasian Conference on Mechanics of Structures and Materials (ACMSM25), Dec. 4-7, 2018, Brisbane, Australia. 8 pages.
4. **Peiris, A.**, Hudson, J., and **Harik, I.** (2018). “Load Testing and Rating of the KY 220 Road Bridge” Proceedings of 6th International Symposium on Life-Cycle Civil Engineering (IALCCE 2018), Oct. 28-31, 2018, Ghent, Belgium. 8 pages.
5. **Peiris, A.**, and **Harik, I.** (2018). “Heavy CFRP Fabric Deployment for Repair of Impacted PC Bridge Girder” 10th International Conference on Short and Medium Span Bridges (SMSB), July 31- Aug. 1, 2018, Quebec City, Quebec, Canada.
6. **Peiris, A.**, Ghanem S. H. and **Harik, I. E.** (2018). “Impact Damaged Pier Strengthening using Heavy CFRP Fabric” Proceedings of the 4th Brazilian Conference on Composite Materials (BCCM4 2018), July 22-25, 2018, Rio de Janeiro, Brazil. 8 pages.
7. **Peiris, A.**, and **Harik, I.** (2017). “Overview of the Design, Fabrication & Construction of CFRP Prestressed Concrete Girder Bridge” Proceedings of the 6th Asia-Pacific Conference on FRP in Structures (APFIS 2017), July 19-21, 2017, Singapore. 5 pages.

Recent Technical Reports

1. **Peiris, A.** and **Harik, I.** (2017). “CFRP Strengthening of KY 583 over the Bluegrass Parkway Bridge” KTC-17-19/KHIT88-06-1F, Kentucky Transportation Center.
2. **Peiris, A.** and **Harik, I.** (2017). “Bridge Substructure Retrofit with CatStrong UCF and TCF (056C00118N – Pendleton Road over Pond Creek Bridge in Jefferson Co., KY),” Research Report, Kentucky Transportation Center.
3. **Peiris, A.** and **Harik, I.** (2016). “Deployment of CatStrong UCF and TCF to Retrofit and Increase Load Rating of Reinforced Concrete Bridge (093C00029N – Centerfield Drive Bridge in Oldham Co., KY),” Research Report, Kentucky Transportation Center.

Honors and Awards

- Outstanding Presentation Award (Technical Paper- Bridge Slabs), Japan Concrete Institute Annual conference, Nagoya, Japan, 2005.
- Best Dissertation Award (Materials and Structures), Department of Civil Engineering, University of Peradeniya, Sri Lanka, 2002.

Professional Service

- Member, Transportation Research Board, Committee on Structural Fiber Reinforced Polymers (AFF80).