

MARK F. GREEN, Ph.D, P.Eng.
Professor, Civil Engineering

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Full Professor: July 2002

Professional Status: P.Eng.

EDUCATION

- 1991 **Commonwealth Scholar**, Ph.D. in Engineering, **Queens' College, Cambridge University**, England "*The Dynamic Response of Short-Span Highway Bridges to Heavy Vehicle Loads*"
- 1987 B.Sc. in Mathematics and Engineering (Structures Option), **Queen's University**, Kingston, Ontario, Canada Rank: **1st** in Faculty of Applied Science

EMPLOYMENT HISTORY

- Jul. 2014 to present **Acting Head**, Department of Civil Engineering, Queen's University, Kingston, Ontario
- Jul. 2009 to Jun. 2013 **Associate Head**, Department of Civil Engineering, Queen's University, Kingston, Ontario
- Jan. 2013 to Mar 2013 **Acting Associate Dean (Academic)**, Faculty of Engineering & Applied Science, Queen's University, Kingston, Ontario
- Jul. 2002 to present **Professor**, Department of Civil Engineering, Queen's University, Kingston, Ontario
- Jan. 1993 to present **Consulting Activities:** FRP Strengthening: Parking Garage, Toronto; Highway Overpass, Winnipeg, (Halsall Associates, Toronto; Vector Construction, Winnipeg; Manitoba Department of Transportation and Government Services.); Bridge Dynamics (CN Rail, Montreal; Stantec, Windsor); Developed computer program for design of transmission and telephone poles (Power-Lite Industries).

HONOURS and AWARDS

Leverhulme Visiting Professor, 2014
 Royal Academy of Engineering (UK) Distinguished Visiting Fellow, 2013
 Professional Engineers of Ontario (PEO) Medal for Research and Development, 2013
 Queen's University Employment Equity Award, 2012
 National Research Council (NRC) Award for the project:
 “*Fire Resistance of FRP Reinforced Concrete Structures.*” 2010
 Best Materials Paper, *Structural Faults and Repair* 2008
 Civil Engineering Teaching Award, 1997-1998
 Premier's Research Excellence Award (PREA), 2000
 Pratley Award for the Best Canadian Paper on Bridge Engineering, 1999
 Best paper award *Composite's Institute's 50th Annual Conference and Expo '95*, 1995
 Queen's National Scholar, 1993
 NSERC Postdoctoral Fellowship, 1991-92
 Commonwealth Scholarship, 1987-90
 Governor-General's Gold Medal, 1987
12 invited papers and presentations
Keynote Speaker: *5th International Conference on Advanced Composite Materials for Bridges and Structures (ACMBS-V)*, Winnipeg, MB, Sept. 2008.

CONFERENCE ORGANIZATION: Co-chair of ACMBS-VI, Kingston 22-25 May 2012

TOTAL LIFETIME PUBLICATIONS: 253 (86 Refereed Journal Papers; 80 Refereed Conference Papers; 41 Conference Papers; 46 Theses and Technical Reports)

SELECTED PUBLICATIONS (in last 6 years 2008-2014: 88 publications)**REFEREED JOURNAL PUBLICATIONS (38 papers published in last 6 years)**

1. Adelzadeh, M.; Hajiloo, H.; **Green, M.F.** 2014, “Numerical Study of FRP Reinforced Concrete Slabs at Elevated Temperature,” *polymers*, **6**(2), 408-422. **invited**
2. **Green, M.F.**; Hollingshead, K.; and Bénichou, N. 2014, “Performance in Fire of Fibre Reinforced Polymer Strengthened Concrete Beams and Columns: Recent Research and Implications for Design,” *Journal of Structural Fire Engineering*, **3** (in press)
3. Bénichou, N.; Mostafaei, H.; **Green, M.F.**; Hollingshead, K. 2013, “The impact of fire on seismic resistance of fibre reinforced polymer strengthened concrete structural systems,” *Canadian Journal of Civil Engineering*, 2013, **40**(11): 1044-1049, 10.1139/cjce-2012-0521
4. Rameshni, R.; Arcovio, S.; **Green, M.F.**; MacDougall, C. 2013 “Experimental and numerical study of adhesively bonded glass fibre-reinforced polymer – to-steel double-shear lap splices,” *Canadian Journal of Civil Engineering*, **40**(11): 1140-1149, 10.1139/cjce-2012-0508
5. DeRosa, D.; Hoults, N.A.; **Green, M.F.** 2013 “Effects of Varying Temperature on the Performance of Reinforced Concrete,” *Materials and Structures*, **Accepted** (Oct).
6. Cree, D.; **Green, M.F.**; Noumowé, A. 2013 “Residual strength of concrete containing recycled materials after exposure to fire: a review,” *Construction and Building Materials*, **45**(Aug): 208-223.
7. Burke, P.J.; Bisby, L.A.; **Green, M.F.** 2013 “Effects of elevated temperature on NSM and externally bonded FRP strengthening systems for concrete,” *Cement and Concrete Composites* **35**(1): 190-199.
8. Saiedi, R.; **Green, M.F.**; & Fam, A.Z. 2013, “Behavior of CFRP-Prestressed Concrete Beams under Sustained Load at Low Temperature.” *ASCE Journal of Cold Regions Engineering* **27**(1): 1-15
9. Cree; Chowdhury; **Green**; Bisby; Bénichou, 2012, “Performance in fire of FRP-strengthened and

- insulated reinforced concrete columns” *Fire Safety Journal* **54**: 86-95
10. Adelzadeh; Green; & Bénichou, 2012, “Behav. in fire of FRP strengthened T-beams and slabs” *Struct. and Buildings, Proc. of the Instit. of Civil Eng.*, **Invited**, **165**(7): 361-371
 11. Chowdhury; Bisby; Green; Benichou; & Kodur, 2012, “Heat Trans. & Struct. Resp. Modelling of FRP Conf. Rect. Concr. Columns in Fire,” *Constr. & Build. Mat.* **32**: 77-89 (**invited**)
 12. Kim; MacDougall; Campbell; & Green, 2012, “Comput. Modeling of Fatigue Performance of a Crosstie System for ART,” *ASCE J. of Perf. of Constr. Fac.* **26**(3): 326-334.
 13. Maluk; Bisby; Terrasi; & Green, 2011, “Bond ... for CFRP and steel reinf. bars in concr. at elevated temp.,” *ACI SP-279-2 Recent Adv. in the Fire Design of Concr. Struct.*, 1-36.
 14. Kim; Wight; & Green, 2011, “Inspection techniques for a damaged prestressed concrete girder bridge: a case study,” *ACI SP-277 Recent Adv. in Bridge Maint. & Repair*, 129-142
 15. Saiedi; Fam; & Green, 2011, “Behavior of CFRP-Prestressed Concrete Beams under High-Cycle Fatigue at Low Temperature,” *ASCE J. of Comp. for Constr.* **15**(4): 482-489
 16. MacDougall; Green; & Amato, 2011, “CFRP Tendons for the Repair of Post-Tensioned, Unbonded Concrete Buildings,” *ASCE J. of Perf. of Constr. Fac.* **25**(3): 149-157
 17. Kim; Green; & Wight, 2010. “Design and Site App. of Prestressed CFRP Sheets for Strengthening Concrete Structures,” *ASCE J. of Perf. of Constr. Fac.*, **24**(6): 495-496
 18. Kodur; Bisby; Green; & Fyfe, 2010, “A review of recent research studying the fire perf. of FRP strengthening systems for concrete,” *Int. J. of 3R’s: Repair, Rest., & Ren. of Built Env.*, **1**(2): 53-62.
 19. Kim; Fam; & Green, 2010, “SRP composite sheets for retrofitting RC beams: cracking and tension stiffening” *J. of Reinf. Plast. & Comp.* **29**(17): 2647-2662.
 20. Kim; Green; & Wight, 2010 “Bond and Short-term Prestress Losses of Prestressed Composites for Strengthening PC Beams,” *J. of Reinf. Plast. & Comp.* **29**(8): 1206-1218.
 21. Kim; Green; & Wight, 2010, “Effect of Prestress Levels in PC Beams Strengthened with Prestressed CFRP: Numerical Parametric Study,” *PCI Journal*, **55**(2): 96-108.
 22. Kim; Longworth; Wight; & Green, 2010, “Punch. Shear of Two-way Slabs Retro. with Prestressed or Non-prestressed CFRP Sheets,” *J. of Reinf. Plast. & Comp.* **29**(8): 1206-1218.
 23. El-Hacha; Green; & Wight, 2010, “Effect of Severe Environmental Exposures on CFRP Wrapped Concrete Columns” *ASCE J. of Comp. for Constr.* **14**(1): 83-93.
 24. Kim; Fam; & Green, 2010, “Flexural Strengthening of RC Beams with SRP Sheets: Analytical and Computational Investigations,” *J. of Reinf. Plast. & Comp.* **29** (14): 2141-2155.
 25. Kim & Green, 2009, “Strengthening Prestressed Concrete with Prestressed CFRP,” *Proc. of the ICE: Eng. & Comp. Mech.* **162**(EM3): 167–170 (**invited**)
 26. Chowdhury; Eedson; Bisby; Green; & Benichou, 2011, “Mechanical Characterization of Fibre FRP Materials at High Temperature,” *Fire Technology*. **47**(4): 1063-1080.
 27. Kim; Campbell; MacDougall; & Green, 2009, “Hyperelastic Pad for an Integrated Cross-Tie System,” *Can. J. of Civil Eng.* **36**(1): 84-95
 28. OBrien; Rowley.; Gonzalez; & Green, 2009. “A Regularised Solution to the Bridge Weigh in Motion Equations,” *Int. J. of Heavy Vehicle Systems.* **16**(3): 310-327
 29. Kim; Longworth; Wight; & Green, 2008, “Flexure of 2-Way Slabs Strengthened with Prestressed or Non-prestressed CFRP Sheets,” *ASCE J. of Comp. for Const.*, **12**(4): 366-374
 30. Kim; Shi; & Green, 2008, “Ductility and Cracking Behavior of PC Beams Strengthened with Prestressed CFRP Sheets,” *ASCE J. of Comp. for Const.*, **12**(3): 274-283.
 31. Williams.; Kodur.; Green; & Bisby, 2008. “Fire Endurance of FRP Strengthened Concrete T-Beams,” *ACI Struct. J.*, **105**(1): 60-67.
 32. Kim; Green; & Fallis, 2008, “Repair of Bridge Girder Damaged by Impact Loads with Prestressed CFRP Sheets,” *ASCE J. of Bridge Eng.*, **13**(1): 15-23.
 33. Kim; Green; & Wight, 2008, “Live Load Distributions on an Impact-Damaged Bridge Repaired Using Prestressed CFRP Sheets,” *ASCE J. of Bridge Eng.*, **13**(2): 202-210.
 34. MacDougall; Fitzwilliam; & Green, 2008, “Floor Beam Testing Laboratory for Teaching Beam

Bending Mechanics,” *Int. J. for Eng. Educ.*, **24**(3): 529-539.

35. Chowdhury; Bisby.; **Green**; & Kodur, 2008, “Residual Behavior of Fire Exposed RC Beams Prestrengthened with FRP Sheets,” *ASCE J. of Comp. for Const.*, **12**(1): 61-68.
36. Fam; Kong; & **Green**, 2008, “Effects of Freezing and Thawing Cycles and Sustained Loading on Compressive Strength of Precast Composite Piles,” *PCI Journal*, **53**(1): 109-120.
37. Kim; Wight; & **Green**, 2008, “Flex. Strength. of RC Beams with Prestressed CFRP Sheets: Using Nonmetallic Anchor Systems,” *ASCE J. of Comp. for Const.*, **12**(1): 44-52.
38. Kim; Wight; & **Green**, 2008, “Flex. Strength.of RC Beams with Prestressed CFRP Sheets: Dev. of Nonmetallic Anchor Systems,” *ASCE J. of Comp. for Const.*, **12**(1): 35-43.

REFEREED CONFERENCE PROCEEDINGS: (29 refereed conference papers last 6 years.)

39. Adelzadeh; **Green**; Khalifa; Li; Bao; & Bénichou, 2011 “Fibre Optic Sensors for High Temp. and Fire,” Smart Mon., Assess. and Rehab. of Civil Struct. (SMAR 2011) Dubai, Feb. 2011 (CD 8p).
 40. Landherr; Wight; **Green**; & Erki, 2009 “Vib. Char. of a Damaged FRP Vehicle Bridge”. *Struct. Health Mon. of Intel. Infrastr. (SHMII-4)*, Zurich, 22-24 July. **Nominated for Best Paper Award**
 41. Burke; Bisby; & **Green**, 2008, “Struct. Perf. of NSM FRP Strengthened Concr. Slabs at Elev. Temp.,” *Struct. Faults and Repair*, 9–12 Jun., Edinburgh, UK (CD 11p.). **Best Materials Paper**
- 42-67. Twenty-six (26) papers.

CONFERENCE PROCEEDINGS, THESES AND TECHNICAL REPORTS

68-88. Four (4) papers, Thirteen (13) M.Sc. Theses; Two (2) Ph.D. Theses, and Two (2) reports.